LOS ANGELES
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6/7–6/10
2017

USC Marshall
School of Business

ISMS
INFORMS Society for Marketing Science

39TH ANNUAL ISMS MARKETING SCIENCE CONFERENCE



40TH ISMS MARKETING SCIENCE CONFERENCE

Hosted by	Temple University Fox Business School Global Center for Big Data in Mobile Analytics
Conference Chair	Xueming Luo
Location	Temple University
June 13, 2018	ISMS Doctor Consortium
June 14-16, 2018	Main Conference



USC Marshall
School of Business

Dear Participant,

Welcome to the 39th ISMS Marketing Science Conference held on the beautiful campus of the University of Southern California (USC).

It's going to be an exciting conference. We received a record of about 850 papers for presentation. We organized these into 19 tracks over three days, with four sessions a day and about four papers per session. Newer tracks include sharing economy, crowdsourcing, social media, user generated data, mobile marketing, online markets, online auctions, digital marketing, and others. Traditional tracks include advertising, new products, pricing, channels, retailing, and many others.

USC is a premier research university in the United States. It has about 19,000 undergraduate and 25,000 graduate and professional students. They are served by over 4,000 faculty and 14,000 staff. About 24% of the student body is international. USC annually awards about 5,000 bachelor's degrees and 10,000 advanced degrees. It is one of the top five universities in fundraising in the last few years. Its campus has been growing steadily with graceful buildings and cutting-edge facilities.

The USC Marshall School of Business is one of the top business schools in the country. It serves about 1,000 graduate and professional students and about 4,000 undergraduate students in many quality programs.

The USC Marketing Department has about 25 tenure-track faculty and nine clinical faculty. It is ranked in the top 10 research departments based on the UT Dallas ranking of publications in premier marketing journals.

Los Angeles is a large, diverse, exciting city with a variety of attractions including museums, beaches, entertainment parks, hiking trails, wine tasting, and dining options.

On behalf of the organizing committee– S. Siddarth, Dina Mayzlin, Lan Luo, Sha Yang, Linda Hagen, Anthony Dukes, and Shantanu Dutta–I thank you for attending and presenting at the conference.

Enjoy the conference, campus, and city!

Sincerely,

Gerry

Gerard J. Tellis
Chair, 2017 Marketing Science Conference

INFORMS Society for Marketing Science

The Institute for Operations Research and Management Sciences (INFORMS) is an international not-forprofit scientific society with 10,000 members, including Nobel Laureates, dedicated to applying scientific methods to help improve decision making, management and operations. The INFORMS Society for Marketing Science (ISMS) sub-branch sponsors the Marketing Science Conference. Now in its 39th year, the Marketing Science Conference aims to foster the development, dissemination, and implementation of knowledge, basic and applied research, and science and technologies that improve the understanding and practice of marketing.

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Oded Koenigsberg, INFORMS Liasion	okoenigsberg@london.edu	2017–2019
K.Sudhir Editor, Marketing Science (ex officio)	k.sudhir@yale.edu	2017–

Wednesday, June 7, 2017

7–8am	Breakfast & Consortium Registration - Suryan Plaza
8–9am	Plenary Session/ Doctoral Consortium - Fertitta Hall-105
9–9:30am	Coffee Break - Suryan Plaza
9:30–10:30am	Session 1, Doctoral Consortium - Fertitta Hall-125, 233, 236
10:30–11am	Coffee Break - Suryan Plaza
11am–1pm	Session 2, Doctoral Consortium - Fertitta Hall-125, 233, 236
12noon–1pm	Consortium Lunch - Town & Gown
12noon–5pm	Conference Registration - Fertitta Hall Lounge
1–2pm	Session 3, Doctoral Consortium - Fertitta Hall-125, 233, 236
2–2:30pm	Coffee Break - Suryan Plaza
2:30–3:30pm	Session 4, Doctoral Consortium - Fertitta Hall-125, 233, 236
3:30–4pm	Break - Suryan Plaza
4–5pm	Session 5, Doctoral Consortium - Fertitta Hall-125, 233, 236
5–7:30pm	Reception - USC Penthouse, South Park Center (Pre-Registration Required)

Thursday, June 8, 2017

7:30am–5pm	Registration - Fertitta Hall Lounge
7:30–8:30am	Breakfast - Suryan Plaza
8:30–10am	Session TA - Fertitta Hall & Popovich Hall
10–10:30am	Coffee Break - Suryan Plaza
10:30am–12noon	Session TB - Fertitta Hall & Popovich Hall
12noon–1:30pm	Lunch - McCarthy Quad
1:30–3pm	Session TC - Fertitta Hall & Popovich Hall
3–3:30pm	Coffee Break - Suryan Plaza
3:30–5pm	Session TD - Fertitta Hall & Popovich Hall
7–10pm	Gala Dinner - Samuel Oschin Pavilion, California Science Center

Friday, June 9, 2017

7:30am–5:00pm	Registration - Fertitta Hall Lounge
7:30–8:30am	Breakfast - Suryan Plaza
8:30–10am	Session FA - Fertitta Hall & Popovich Hall
10–10:30am	Coffee Break - Suryan Plaza
10:30–12noon	Session FB - Fertitta Hall & Popovich Hall
12noon–1:30pm	Lunch - McCarthy Quad
1:30–3pm	Session FC - Fertitta Hall & Popovich Hall
3–3:30pm	Coffee Break - Suryan Plaza
3:30–5pm	Session FD - Fertitta Hall & Popovich Hall
5–6pm	USC Campus Tour - Informal Walk of University with Guide
5–7pm	Reception - Suryan Plaza

Saturday, June 10, 2017

7:30am–3pm	Registration - Fertitta Hall Lounge
7:30–8:30am	Breakfast - Suryan Plaza
8:30–10:00am	Session SA - Fertitta Hall & Popovich Hall
10–10:30am	Coffee Break - Suryan Plaza
10:30–12noon	Session SB - Fertitta Hall & Popovich Hall
12noon–1:30pm	Lunch - McCarthy Quad
1:30–3pm	Session SC - Fertitta Hall & Popovich Hall
3–3:30pm	Coffee Break - Suryan Plaza
3:30–5pm	Session SD - Fertitta Hall & Popovich Hall
5–7pm	Closing Reception - Fertitta Hall

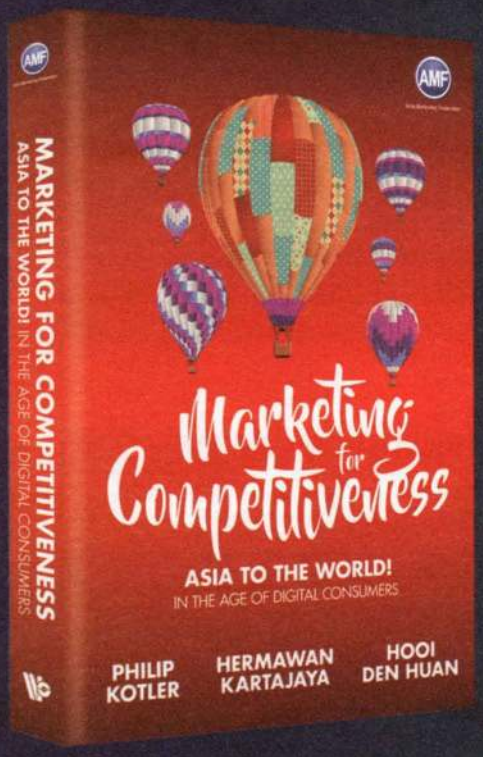
	TRACK	1	2	3	4	5	6	7	8	9
	ROOM	FERTITTA 101	FERTITTA 102	FERTITTA 105	FERTITTA 125	FERTITTA 233	FERTITTA 236	FERTITTA 239	FERTITTA 240	FERTITTA 241
WED.	Preconference Reception at USC Penthouse, 5–7:30pm, 30th Floor, 1150 South Oliver Street, LA.									
THURSDAY	Breakfast 7:30–8:30am									
	TA 8:30am–1pn	Channels: Multichannels I	Online Search & Advertising	Moble Apps for Marketing	Social Media & Negative Information 1	User Generated Content: Uses	The Sharing Economy I	Big Data in Doing Research at Scale in Adobe	Game Theory Models in Ad. & Mkt. Spillover	Machine Learning Appl. in Marketing I
	Coffee Break 10–10:30am									
	TB 10:30am–12:00noon	Channels: Multichannels II	Online Auctions I	Mobile Marketing & Advertising	Social Media & Customer Service	UGC Bias, Incentives & Conformity	Sharing Economy II	Digital Marketing I	Game Theory of Platforms	Machine Learning Appl. in Marketing II
	Lunch 12noon–1:30pm | ISMS Board Lunch, Vineyard Room, Davidson Conference Center									
	TC 1:30–3pm	Channels: Multichannels III	Online Auctions II	Digital & Mobile Learning	Social Media & Gaming	User Generated Content & Brand Maps	Sharing Economy III	Digital Marketing II	Game Theory in Marketing I	Statistical Learning for Big Data
	Coffee Break 3–3:30pm									
	TD 3:30–5pm	Channels: Competition I	Online Retailing I	Panel on Digital Mobile Mktg. Analytics	Social Media & Social Influence	User Generated Content & LDA	Innovation & Crowdsourcing I	Digital Photos in Social Media & Consumer Livses	Game Theory in Marketing II	Experiments, Models & Marketing Sci.
	Plenary Session & Awards Ceremony 5:15–6pm, Town & Gown									
	Mini Reception 6–6:30pm, Town & Gown									
	Gala Dinner 7–10pm, Samuel Oschin Pavilion in California Science Center									
FRIDAY	Breakfast 7:30–8:30am | MKS ERB - (7:30–9am)									
	FA 8:30–10am	Channels: Competition II	Online Communities & Newspapers	Mobile Marketing: Usage	Social Media Network Analysis	User Generated Content & Managerial Response	Crowdfunding I	Digital Mktg. II: Content & Price Mgmt.	Game Theory in Marketing III	Struct. Models & Online Marketplaces
	Coffee Break 10–10:30am									
	FB 10:30am–12noon	Channels: Competition III	Online Design	Mobile Mktg. & Advertising	Social Media Networks I	User Generated Content & Market Structure	Crowdfunding II	Digital Media Strategy	Game Theory in Marketing IV	Struct. Learning Models
	Lunch 12noon–1:30pm | Women's Luncheon, Vineyard Room, Davidson Conference Center									
	FC 1:30–3pm	Channels: Governance	Online Retailing II	Mobile Mktg.: Discounts	Social Media WOM	User Generated Content & Performance I	Crowdsourcing & Crowdfunding III	Digital Mktg.: Field Experiments I	Game Theory in Marketing V	Dynamic Struct. Models
	Coffee Break 3–3:30pm									
	FD 3:30–5pm	Channels: Strategy	Online Auctions III	Mobile Mktg.: Technology	Advertising & Social Media	User Generated Content & Performance II	Crowdsourcing & Crowdfunding IV	Digital Mktg. Field Experiments II	Customer Analytics	Method: Bayesian Models I
	USC Campus Tour 5–6pm | Main Reception 5–7pm, Suryan Plaza									
SATURDAY	Breakfast 7:30–8:30am									
	SA 8:30–10am	Retailing: Technology	Online Search I	Mobile Mktg.: Adoption	Social Media Sharing I	User Generated Content & Social Influence	Crowdsourcing V	Digital Mktg. Information & Media I	No Session	Advances in Structural Models
	Coffee Break 10–10:30am									
	SB 10:30am–12noon	Retailing: General	Online Search II	Mobile Mktg. with Customer Psychology	Social Media Sharing II	User Generated Content Social Influence & Authenticity	Sharing Economy IV	Digital Mktg., Information & Media II	Market Frictions & Consumer Welfare	Structural Models V
	Lunch 12noon–1:30pm | ISMS Fellows Luncheon									
	SC 1:30–3pm	Retailing: Store Choice	Online Search III	Darkside of Retargeting & Consumer Annoyance	Social Media Networks II	User Generated Content Negativity	Innovation II	No Session	Game Theory of Info. & Online Economy I	Method: Bayesian Models II
	Coffee Break 3–3:30pm									
	SD 3:30–5pm	Retailing: Assortment	Platform-based Marketing	No Session	Social Media Referrals	User Generated Content General	Innovation III	No Session	Game Theory Models of Info.	Method: Bayesian Models III
	Closing Reception 5–7pm, Fertitta Hall									

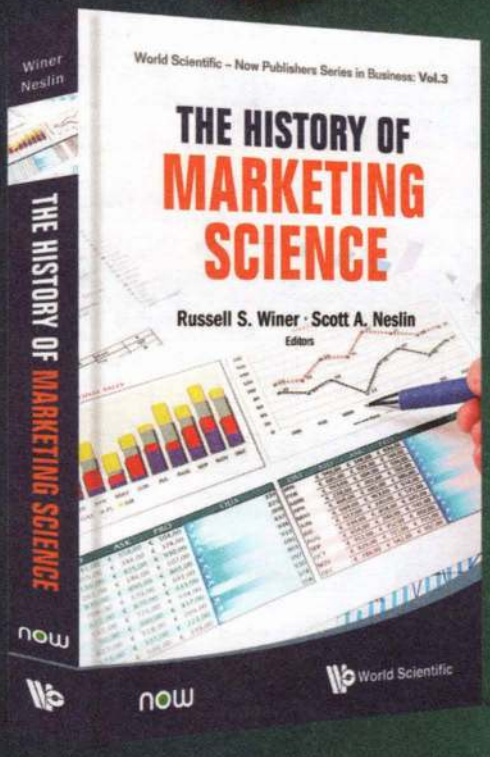
10	11	12	13	14	15	16	17	18	19
FERTITTA 313	FERTITTA 316	FERTITTA 322	FERTITTA 327	FERTITTA 328	FERTITTA 331	FERTITTA 414	FERTITTA 416	FERTITTA 417	POPOVICH 300
Preconference Reception at USC Penthouse, 5–7:30pm, 30th Floor, 1150 South Oliver Street, LA.									
Breakfast 7:30–8:30am									
Competition: Competitive Strategy I	New Product: Design I	Choice Models I	Price Discrim.	Marketing & Finance I	Customer Churn: Adv., Challenges & New Directions	Advertising on TV	Brand Metrics	Consumer Behavior & Context Effects	ISMS Doctoral Disseration Winners I
Coffee Break 10–10:30am									
Competition: Competitive Strategy II	New Product: Design II	Choice Models II	Pricing Automobiles	Marketing & Finance II	CRM: Customer Churn	TV Viewing	Brand Equity	Consumer Behavior & Gender	ISMS Doctoral Disseration Winners II
Lunch 12noon–1:30pm | ISMS Board Lunch, Vineyard Room, Davidson Conference Center									
Competition: Entry & Exit	New Product: Design III	Choice Models III	Pricing: Freemium	Marketing & Finance III	CRM: Customer Lifetime Value I	Advertising Display Ads I	Brand Performance	Consumer Behavior & Loyalty	JMR AE (3–3:45pm)
Coffee Break 3–3:30pm									
Competition: Performance of Comp. Markets	New Product: Design Movies & Digital	Choice Models IV	Pricing: Reference Points	Marketing & Finance: IPOs I	CRM: Customer Lifetime Value II	Advertising Display Ads II	Branding: Generics	Consumer Behavior, Brand & Luxuries	JMR ERB (3:45–5pm)
Plenary Session & Awards Ceremony 5:15–6pm, Town & Gown									
Mini Reception 6–6:30pm, Town & Gown									
Gala Dinner 7–10pm, Samuel Oschin Pavilion in California Science Cente									
Breakfast 7:30–8:30am | MKS ERB - (7:30–9am)									
Sales Force: General	New Product Diffusion Takeoff & Technology	Choice Models V	Pricing: Tariffs	Mktg. & Finance: Advertising & Brands	CRM: Customer Loyalty I	Advertising Content Design	Brands & Social Media I	Consumer Behavior Anomalies	No Session
Coffee Break 10–10:30am									
Sales Force: Incentives	New Product Diffusion: Bass Model	Product Recalls	Pricing: Warranties	Mktg. & Finance: Advertising	CRM: Customer Loyalty II	Advertising Models	Brands & Social Media II	Consumer Behavior Culture	No Session
Lunch 12noon–1:30pm | Women's Luncheon, Vineyard Room, Davidson Conference Center									
Sales Force: Relationship	New Product Diffusion: Forecasting	Method: Markov Model	Promotion: Brand Switching	Marketing & Finance: IPOs II	CRM: Customer Retention	Advertising: Hierarchy of Effects	Branding & Social Media III	Consumer Behav. Donating & Health	Meet Editors I
Coffee Break 3–3:30pm									
Sales Force: Scheduling	New Product Diffusion: Social Influence I	Feedback Loops, Mktg. Commun. & Inequality	Promotion: EDLP	Mktg. & Finance 8: Loans, Lending, & Savings	CRM: Customer Satisfaction	Advertising & Consumer Behavior I	Brands, Retailing, & WOM	Consumer Behavior Emotion	Meet Editors II
USC Campus Tour 5–6pm | Main Reception 5–7pm, Suryan Plaza									
Breakfast 7:30–8:30am									
No Session	New Product Diffusion: Movies	Internet & Marketing	Promotion: Redemptions	Health & Insurance	Marketing Measurement	Advertising Optimization	Value Creation & Appropriation	Consumer Behav. Feedback & Momentum	No Session
Coffee Break 10–10:30am									
Mktg. Alliances	New Product Diffusion: Game Theory	Internet Consumer Behavior	Promotion: Retail	Healthcare in Marketing	Mktg. Metrics	Advertising & Consumer Behavior II	Managing Human Capital in Marketing	Consumer Behavior Shopping	No Session
Lunch 12noon–1:30pm | ISMS Fellows Luncheon									
International	New Product Diffusion: Social Influence II	Method - Conjoint Analysis	Eye Tracking in Advertising	Sustainability	Segmentation: General	Advertising & Consumer Behavior III	Entrepreneurship	Consumer Behavior to Price & Product	No Session
Coffee Break 3–3:30pm									
International Consumer Behavior	New Products General	Not for Profit	Eye Tracking in Retail	Corporate Social Responsibility	No Session	Advertising: General	No Session	Consumer Behavior General	No Session
Closing Reception 5–7pm, Fertitta Hall									

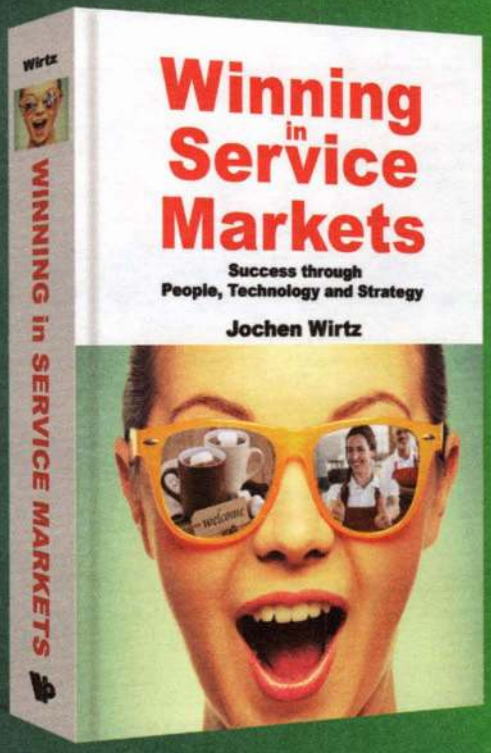
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Session Rules

- Bring slides on thumb drive
- Do not change order of presentation
- Q&A immediately after each presentation
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- Load presenation slides before session starts
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- Session updates outside classrooms
- Keep presenters on time
- Collect & use time-left-signs

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- 1-213-740-3000

ISMS Women in Marketing Science Luncheon

- Friday, June 9, 12noon–1:30pm
- Vineyard Room, Davidson Conference Center
- 3415 South Figueroa Street

A Discussion with Journal Editors

- Inclusion, Women, and Leadership in Quantitative Marketing

Organizers

- Lan Luo, USC
- Dina Mayzlin, USC
- Sha Yang, USC

Moderator

- Gerard Tellis, USC

Panelists

- K. Sudhir,
  Yale University
- Rajdeep Grewal,
  University of North Carolina
- V. Kumar,
  Georgia State University
- Miguel Villas-Boas,
  University of California, Berkeley
- Christine Moorman,
  Duke University
- Catherine Tucker,
  MIT
- Anja Lambrecht,
  London Business School

Meet the Editors I

› FC19: Friday, June 9
1:30–3pm

› Popovich Hall, Room 300

› **Chair:**
Sivaramakrishnan Siddarth,
University of Southern California

› **Management Science**

Eric Anderson,
Northwestern University

› **Quantitative Marketing and Economics**

Pradeep Chintagunta,
University of Chicago

› **Journal of Marketing Research**

Rajdeep Grewal,
University of North Carolina

› **Marketing Science**

K. Sudhir,
Yale University

› **Journal of Marketing**

V. Kumar,
University of North Carolina

› **International Journal of Research in Marketing**

Roland Rust,
University of Maryland

Meet the Editors II

› FD19: Friday, June 9
3:30–5pm

› Popovich Hall, Room 300

› **Chair:**
Shantanu Dutta,
University of Southern California

› **Journal on Consumer Research**

Darren Dahl,
University of British Columbia

› **Journal of Retailing**

Murali K. Mantrala,
University of Missouri

› **Journal of Interactive Marketing**

Brian T. Ratchford,
University of Texas, Dallas

› **Customer Needs and Solutions**

Min Ding,
Pennsylvania State University

› **Journal of Consumer Psychology**

Amna Kirmani,
New York Universitya

› **JPIM**

Shikhar Sarin,
Boise State University

› **Marketing Letters**

Peter Golder,
Dartmouth University

1979- Stanford University
David B. Montgomery, Dick Wittink

1980 - University of Texas, Austin Robert Leone

1981 - New York University
John Keon

1982 - University of Pennsylvania
Vijay Mahajan, Yoram Wind

1983 - University of Southern California Fred Zufryden

1984 - University of Chicago
Steven Shugan

1985 - Vanderbilt University
Russell Winer, Allan Shocker

1986 - University of Texas, Dallas Ram Rao

1987 - HEC, France
Dominique Hanssens, Gilles Laurent

1988 - University of Washington Allan Shocker, Robert Jacobson

1989 - Duke University
John McCann, Richard Staelin

1990 - University of Illinois
S. Sudharshan

1991 - University of Delaware/ Dupont Meryl Gardner, John Frey

1992 - London Business School Mark Uncles, Gerald Goodhardt

1993 - Washington University
Chakravarthi Narasimhan

1994 - University of Arizona
Dipankar Chakravarti, Ambar Rao

1995 - University of New South Wales John Roberts, Pamela Morrison

1996 - University of Florida
Steven Shugan, Barton Weitz

1997 - University of California, Berkley Tulin Erdem, Miguel Villas-Boas, Russell Winer

1998 - INSEAD, France
Erin Anderson, Hubert Gatignon

1999 - Syracuse University
Amiya Basu, T. Mazumdar, S. P. Raj

2000 - University of California, Los Angeles
Randolph Bucklin, Donald Morrison

2001 - University of Mainz
Oliver Heil

2002 - University of Alberta
Peter T. L. Popkowski Leszczyc

2003 - University of Maryland
Brian Ratchford, Roland Rust, Venky Shankar

2004 - Erasmus University, Rotterdam Stefan Stremersch

2005 - Emory University
Sundar Bharadwaj, Douglas Bowman, Sandy Jap

2006 - University of Pittsburgh Rabi Chatterjee, Jeff Inman, R. Venkatesh

2007 - Singapore Management University Sundar Bharadwaj, Jin K. Han, David B. Montgomery, Chin Tiong Tan

2008 - University of British Columbia Charles B. Weinberg, Darren Dahl, Daniel Putler

2009 - University of Michigan
Eugene Anderson, Fred Feinberg

2010 - University of Cologne
Werner Reinartz, Karen Gedenk, Franziska Völckner

2011 - Rice University
Richard R. Batsell, Sharad Borle, Ajay Kalra, Amit Pazgal

2012 - Boston University
Shuba Srinivasan, Patrick Kaufmann

2013 - Ozyegin University
Erhan Erkut, Tulin Erdem (NYU), Koen Pauwels

2014 - Emory University
Douglas Bowman, Sandy Jap

2015 - Johns Hopkins University Dipankar Chakravarti, Jian Ni, Shubhranshu Singh

2016 - Fudan University
Ming Ding, Xiongwen Lu

2017 - University of Southern California Gerald J. Tellis

2018 - Temple University
Xueming Luo

USC Marshall School of Business

The University of Southern California is a premiere private research university. Located in the heart of Los Angeles and founded in 1880, USC has grown alongside the city to become a leading educational and cultural force at the gateway to the Pacific Rim. Today it educates 43,000 students and employs more than 25,000 faculty and staff. USC is the chosen destination of more international students than any other U.S. university.

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MSI

Founded in 1961, the Marketing Science Institute is a nonprofit, membership-based organization dedicated to bridging the gap between academic marketing theory and business practice. MSI is unique as the only research-based organization with a network of practically-minded marketing academics from the best business schools all over the world as well as thoughtful practitioners from leading companies.

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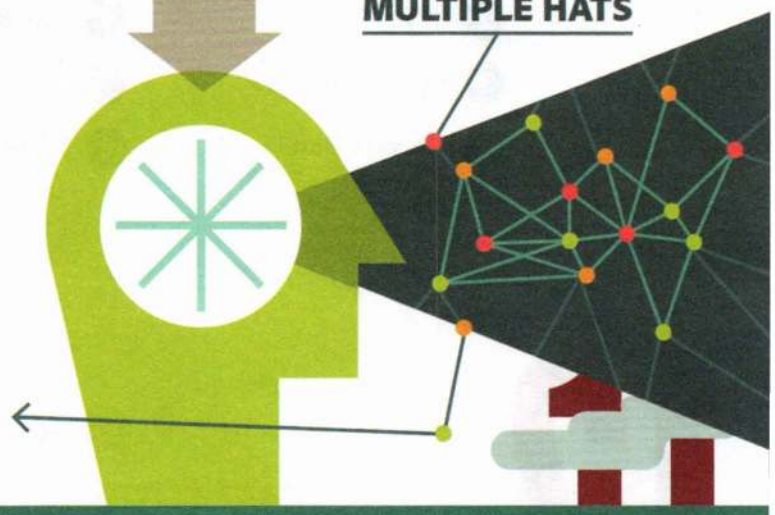
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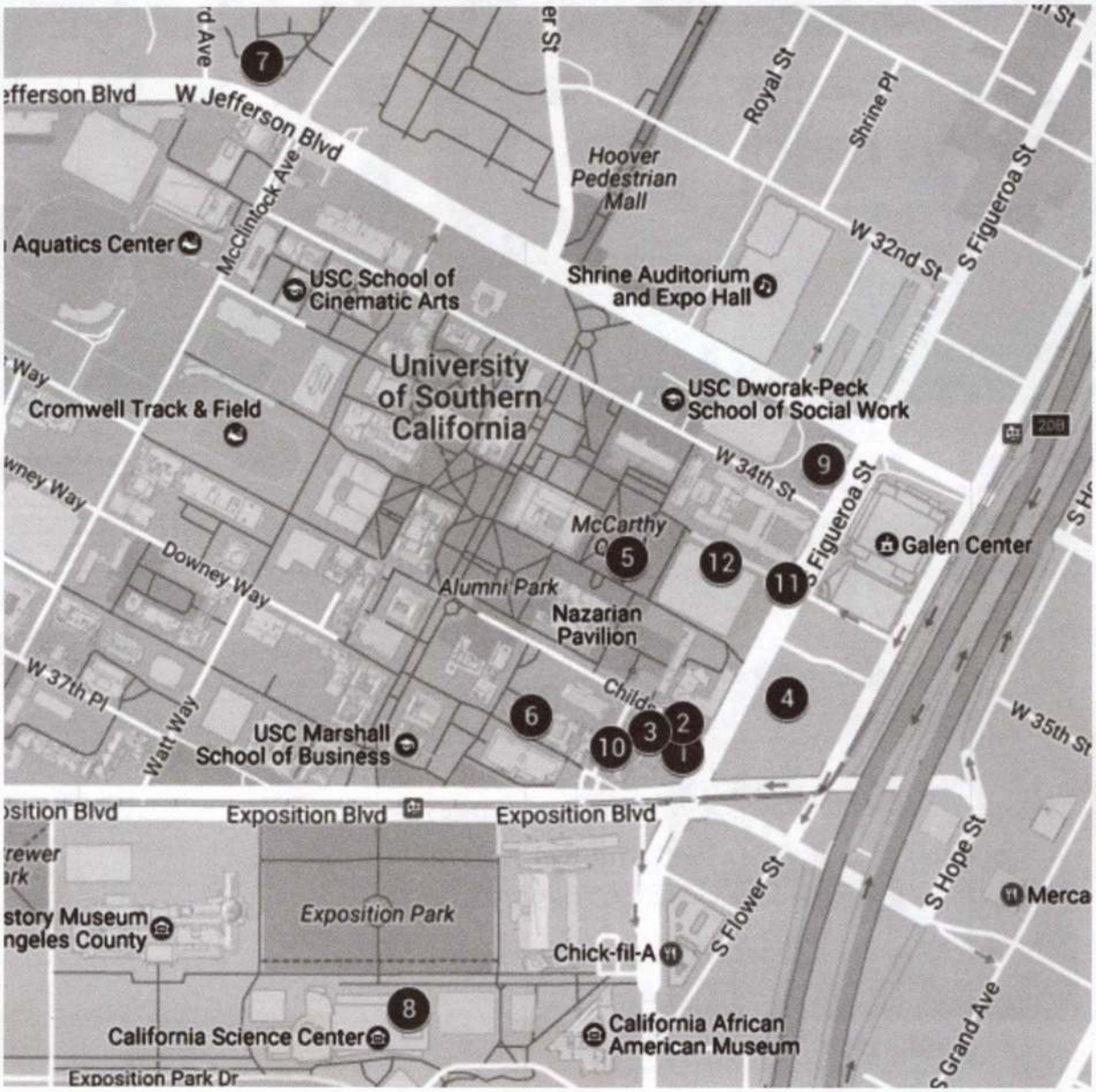
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2. Suryan Plaza
3. Popovich Hall (JKP)
4. Radisson Hotel
5. McCarthy Quad
6. Town & Gown
7. Cardinal Garden
8. California Science Center
9. Davidson Conference Center
10. Pardee Way (Entrance #2)
11. USC McCarthy (Entrace #3)
12. Parking Structure (PSX)

Shuttle Service to Omni Los Angeles/USC

Shuttle services are being supplied through Kushner & Associates (K&A Transport) and through USC Transport. Services will be offered during peak times of the conference between the Omni Los Angeles, USC, and for off-site special events. Buses will start boarding at posted times and will leave when full.

The drop off for all shuttles at USC will be Gate 2. See campus map on page 12.

If shuttle service is not available during a time when you need to return to the Omni or USC, we recommend using Uber or a taxi service.

Departing Omni Los Angeles
Service to USC-Gate 2

- **Wednesday, June 7** - 6:30am, 1pm, & 3pm
- **Thursday, June 8** - 7am
- **Friday, June 9** - 7am
- **Saturday, June 10** - 7am

Departing USC-Gate 2
Service to Omni Los Angeles

- **Wednesday, June 7** - 1:45pm, 3:45pm, & 6pm
- **Thursday, June 8** - 5:15pm
- **Friday, June 9** - 6:30pm & 6:45pm
- **Saturday, June 10** - 5:10pm & 6pm

Shuttle Service to Offsite Special Events

Service will also be offered for the two off-site events. Attendees staying at the Radisson Midtown at USC or Cardinal Gardens student housing should utilize the Gate 2 pick-up/drop- off.

Pre-Conference Reception

- (attendees must have pre-registered for this event)
- USC Penthouse, 30th Floor (1150 S. Olive Street)
- Wednesday, June 7, 5–7:30pm

Inbound shuttle service will be provided to the USC Penthouse South Park Center from USC-Gate 2 and the Omni Los Angeles. Return service will be provided to USC-Gate 2 and the Omni Los Angeles with a final departure at approximately 8pm.

Departing USC-Gate 2
Service to USC Penthouse

- 5:15pm & 5:45pm

Departing Omni Los Angeles
Service to USC Penthouse

- 5:30pm & 5:45pm

Departing USC Penthouse
Service to USC-Gate 2

- 7pm, 7:30pm, & 8pm

Departing USC Penthouse
Service to Omni Los Angeles

- 7pm, 7:30pm, 7:45pm, & 8pm

2017 ISMS Gala Dinner

- Samuel Oschin Pavilion in the California Science Center (700 Exposition Park)
- Thursday, June 8, 7–10pm

Inbound shuttle service will be provided to the California Science Center from the Omni Los Angeles. Return service will be provided to the Omni Los Angeles with a final departure at approximately 9:30pm.

Please note that the California Science Center is within walking distance from the USC Campus. Attendees staying at the Radisson or in Student Housing should plan on walking to the Gala Dinner.

Departing Omni Los Angeles
Service to California Science Center

- 6:30pm

Departing California Science Center
Service to Omni Los Angeles

- 8:30pm & 9pm

Service to Radisson Hotel & Dorms

- 8:30pm & 9pm

Campus & Off-Site Event Parking

USC Penthouse
(for pre -conference reception)

- Street parking along Hill, Olive, 12th and 11th Streets
- Surface lot at corner of 11th and Olive $12/day
- Olive Garage, 1133 S Olive St, $20 per day.
- Broadway Garage, 150 W. 12th. Street, $20 per day.
- Street parking is abundant in the area and would be the cheapest option.

USC Campus (for conference)

- PSX, Entrance 3, $12 per day

Thursday - Gala Dinner

- California Science Center: $15 per day

Dorm Rooms

- Campus Housing Residents (at Cardinal Gardens complex): $12 per day

Fine Dining

71Above, American
(213) 712-2683
633 W. 5th Street, 71st Floor,
Los Angeles, CA 90071

Blue Cow Kitchen & Bar, American
(213) 621-2249
350 S Grand Ave, Los Angeles, CA 90071

Cole's, American
(213) 622-4090
118 E 6th St, Los Angeles, CA 90014

Otium, American
(213) 935-8500
222 S Hope St, Los Angeles, CA 90012

Redbird, American
(213) 788-1191
114 E 2nd St, Los Angeles, CA 90012

Wexler's Deli, American
(213) 620-0633
317 S Broadway, Los Angeles, CA 90013

Zinc, American
(323) 825-5381
580 Mateo St, Los Angeles, CA 90013

BierBeisl Imbiss, Austrian
(213) 935-8035
541 S Spring St, Los Angeles, CA 90013

Chinese Friends Restaurant, Chinese
(213) 626-1837
984 N Broadway, Los Angeles, CA 90012

Fortune Gourmet, Chinese
(213) 628-8188
727 N Broadway, Los Angeles,
CA 90012

Paul's Kitchen, Chinese
(213) 749-5004
1012 S San Pedro St, Los Angeles, CA 90015

Peking Tavern, Chinese
(213) 988-8308
806 S Spring St, Los Angeles, CA 90014

The New Moon, Chinese
(213) 624-0186
102 W 9th St, Los Angeles, CA 90015

Yang Chow Restaurant, Chinese
(213) 625-0811
819 N Broadway, Los Angeles, CA 90012

Zen Mei Bistro, Chinese
(213) 626-7113
800 Yale St, Los Angeles, CA 90012

RiceBar, Filipino
(213) 807-5341
419 7th St, Los Angeles, CA 90014

Café Pinot, French
(213) 239-6500
700 W 5th St, Los Angeles, CA 90071

Church & State, French
(213) 405-1434
1850 Industrial St, Los Angeles, CA 90021

Perch, French
(213) 802-1770
448 Hill St, Los Angeles, CA 90013

Wurstkuche, German
(213) 687-4444
800 E 3rd St, Los Angeles, CA 90013

Badmaash, Indian
(213) 221-7466
108 W 2nd St #104, Los Angeles, CA 90012

Bestia, Italian
(213) 514-5724
2121 E 7th Pl, Los Angeles, CA 90021

Bottega Louie, Italian
(213) 802-1470
700 S Grand Ave, Los Angeles, CA 90017

Casa Nostra, Italian
(213) 362-3311
825 W 9th St, Los Angeles, CA 90017

Maccheroni Republic, Italian
(213) 346-9725
332 S Broadway, Los Angeles, CA 90013

B.S. Taqueria, Mexican
(213) 622-3744
514 W 7th St, Los Angeles, CA 90014

Bar Ama, Mexican
(213) 687-8002
118 W 4th St, Los Angeles, CA 90013

Border Grill, Mexican
(213) 486-5171
Union Bank Plaza, 445 S Figueroa St #100, L.A., CA 90071

Baco Mercat, MidEast
(213) 687-8808
408 S Main St, Los Angeles, CA 90013

Broken Spanish, Spanish
(213) 749-1460
1050 S Flower St, Los Angeles, CA 90015

Fogo de Chaa, Steakhouse
(213) 228-4300
800 S Figueroa St, Los Angeles, CA 90017

Nick & Stef's Steakhouse, Steakhouse
(213) 680-0330
330 S Hope St, Los Angeles, CA 90071

Grand Central Market, Various
(213) 624-2378
317 S Broadway, Los Angeles, CA 90013

Café Gratitude, Vegan
(213) 929-5580
300 S Santa Fe Ave, Los Angeles, CA 90013

Katsuya, Japanese
(213) 634-4637
800 W Olympic Blvd, Los Angeles, CA 90015

KazuNori Hand Roll Bar, Japanese
(213) 493-6956
421 S Main St, Los Angeles, CA 90013

KINJIRO, Japanese
(213) 229-8200
424 E 2nd St, Los Angeles, CA 90012

Maragame Monzo, Japanese
(213) 346-9762
329 E 1st St, Los Angeles, CA 90012

Men Oh Tokushima Ramen, Japanese
(213) 687-8485
456 E 2nd St, Los Angeles, CA 90012

Orsa & Winston, Japanese
(213) 687-0300
90055, 122 W 4th St, Los Angeles, CA 90013

Q, Japanese
(213) 225-6285
521 W 7th St, Los Angeles, CA 90017

hin-Sen-Gumi Ramen, Japanese
(213) 687-7108
132 S Central Ave, Los Angeles, CA 90012
SUGARFISH, Japanese
(213) 627-3000
600 W 7th St #150, Los Angeles, CA 90017

Sushi Gen, Japanese
(213) 617-0552
422 E 2nd St, Los Angeles, CA 90012

Ethnic Dining

Little Tokyo, Japanese
E 2nd Street, between Central Ave and San Pedro Street

Chinatown, Chinese
N Broadway, between W College St and Bamboo Ln

Koreatown, Korean
Wilshire Blvd, between Vermont Ave and S Western Ave

Little Ethiopia, Ethiopian
S Fairfax Ave, between Whitworth Dr and Olympic Blvd

Little India, Indian
Pioneer Blvd, between 183rd St and 188th St

Little Saigon, Vietnamese
Bolsa Ave, between N Euclid St and Brookhurst St

Casual Dining/USC

Blaze Pizza, American
(213) 222-0298
3335 S Figueroa St, Los Angeles, CA 90007

California Pizza Kitchen, American
(213) 821-3481
3607 Trousdale Pkwy, Los Angeles, CA 90089

Dirt Dog, American
(213) 749-1813
2528 S Figueroa St, Los Angeles, CA 90007

Figeroa Philly Cheesesteak, American
(213) 748-9073
3850 S Figueroa St, Los Angeles, CA 90037

Food Haus Café, American
(213) 741-0007
2106 S Olive St, Los Angeles, CA 90007

Lemonade, American
(213) 821-3491
3601 Trousdale Pkwy, Los Angeles, CA 90089

Study Hall, American
(213) 493-4363
2827 S Hoover St, Los Angeles, CA 90007

The Habit Burger & Grill, American
(213) 740-2311
3607 Trousdale Pkwy, Los Angeles, CA 90089

The Lab Gastropub, American
(213) 821-1797
3500 S Figueroa St, Los Angeles, CA 90007

Ebaes, Asian
(213) 747-6888
2314 S Union Ave, Los Angeles, CA 90007

Jacks N Joe, Breakfast
(213) 748-4565
2498 S Figueroa St, Los Angeles, CA 90007

Nature's Brew, Breakfast
(213) 741-9393
2316 S Union Ave, Los Angeles, CA 90007

Dog Haus Biergarten, German
(213) 748-4287
3335 S Figueroa St, Los Angeles, CA 90007

Himalayan House, Indian
(323) 766-9775
1277 W Jefferson Blvd, Los Angeles, CA 90007

Rosso Oro's, Italian
(213) 743-2077
3522 S Figueroa St, Los Angeles, CA 90007

Chichen Itza, Mexican
(213) 741-1075
3655 S Grand Ave, Los Angeles, CA 90007

La Barca, Mexican
(323) 735-6567
2414 S Vermont Ave, Los Angeles, CA 90007

Revolutionario, Mexican
(424) 223-3526
1436 W Jefferson Blvd, Los Angeles, CA 90007

Bacaro LA, Tapas
(213) 748-7205
2308 S Union Ave, Los Angeles, CA 90007

Trio House, Thai
(213) 741-0101
3031 S Figueroa St, Los Angeles, CA 90007

Downtown Los Angeles Restaurants (Reserve Early. Check Yelp for Prices & Reviews

University of Southern California
PUBLIC SAFETY

USC University of Southern California

USC has one of the largest university public safety departments in the United States. The USC **Department of Public Safety** (DPS) has an authorized strength of more than 300 full-time members who provide a wide variety of law enforcement, security, and public safety services to the USC community.

Safety and Security
USC is located in the heart of the City of Los Angeles, a vibrant, diverse, modern city with all the benefits of a major metropolitan area. Being near the center of a major urban area provides the campus community with many cultural, professional, recreational, historical and educational opportunities. In order to take full advantage of your stay at USC and to make it as safe as possible, the Department of Public Safety would like you to consider the following information:

Campus Contacts
- Report crimes and/or suspicious activities to DPS EMERGENCY: (213) 740-4321 [program this number in your cell phone]
- For non-emergencies and general information, call (213) 740-6000
- If you are outside the USC area, dial 911 for urgent assistance.
- TROJANSALERT is an alert system that allows University Officials to contact you during an emergency by sending messages to your cell phone. To learn more and register this free service go to https://trojansalert.usc.edu/
- LiveSafe Mobile App, managed by DPS, is a free downloadable app that users can use to initiate contact with emergency responders around the University Park and Health Science campuses. Here are instructions:
  - Download the "LiveSafe" app from the Google Play Store or Apple iTunes Store.
  - Create a user profile to log in.
  - Select "University of Southern California" from the drop down menu.

Campus Access Policy
- From 9:00pm to 6:00am, only persons with USC identification or who are registered guests with photo ID may enter the University Park campus. For more information, visit: http://visitor.usc.edu
- All summer conference guests must display or show their USCard to the security personnel when entering the campus after between the hours of 9pm to 6am.

Campus Resident Halls
- Keep your doors and windows locked, even if you are leaving your room for a short time.
- Do not prop open building entryway or stairwell doors. Most university residential halls are equipped with electronic access control. Propping open doors in residential halls can often damage the mechanical mechanisms that automatically close them.

Visiting off the Campus
- Pay attention to your surroundings.
- Avoid walking alone, especially at night.
- USC offers transportation within the campus surrounding area. For more information, visit http://transnet.usc.edu/transit/transit.aspx for hours of operation.

Campus Emergency "Blue Light" Phones
- Are located throughout the campus grounds and inside building elevators.
- Provide direct connection with campus police operators.
- Should be use for urgent matters only. Improper use may result in disciplinary action up to and including expulsion from campus.
- Familiarize yourself with the campus emergency phone locations.
- For faster service, program the DPS phones (listed above) into your cell phone.

Your Vehicle
- Lock your car doors.
- When parking on the street, avoid parking next to large shrubs. At night, park in well lighted areas.
- Don't leave books, bags, CD's or other valuables visible in your car.
- Have your car keys handy as you approach your vehicle.
- Equip your car with a steering wheel lock.

Protecting Your Property
- Keep your books, bags, and electronic devices with you. Don't leave them unattended in the library, dining facilities, or other public places.
- Lock your bike to a bike rack.
- Lock it, hide it, and keep it!

University Park Campus Business: (213) 740-6000, Emergency: (213) 740-4321
Health Sciences Campus Business: (323) 442-1200, Emergency: (323) 442-1000
3667 McClintock Avenue, Los Angeles, CA 90089-1912, Parking Structure A

2017 INFORMS Marketing Science Conference

Thursday, June 8th, 2017 **1.30-3.00 (TC)**

TC09 – Fertitta Hall, 241, 2nd Floor

Statistical Learning for Big Data

Chair: Jinchi Lv

Large-scale Sparse Orthogonal Factor Regression Y
Yingying Fan

Stein's Method and Practical Machine Learning: Bridging the Gap
Qiang Liu

Permuted and Augmented Stick-Breaking Multinomial Regression
Mingyuan Zhou

Sparse Orthogonal Factor Regression
Jinchi Lv

TC10 – Fertitta Hall, 313, 3rd Floor

Competition: Entry & Exit

Chair: Xiang Hui

Who Benefits from Brand Exits? Why?
Baris Depecik, Berk Ataman

Aggressive Growth in Retail: A Trade-off Between Deterrence and Survival?
Limin Fang, Nathan Yang

Certification, Reputation and Entry: An Empirical Analysis
Xiang Hui, Maryam Saeedi, Giancarlo Spagnolo, Steve Tadelis

TC11 – Fertitta Hall, 316, 3rd Floor

New Product: Design III

Chair: Taewan Kim

The Role of Design Quality vs. Perceived Quality in Consumer Return Behavior
Xiaojing Dong, Necati Ertekin

Product Line Design with Expert Review
Chenxi Liao, Dmitri Kuksov

The Impact of Product Concept Demonstration on Product Line Design
Taewan Kim, Ji-Hung (Ryan) Choi

Value-added Resellers Participation in the Design of a Firm New Generations of Products
Skander Essegaier

TC12 – Fertitta Hall, 322, 3rd Floor

Choice Models III

Chair: Prithwiraj Mukherjee

Dealing with Intra-household Heterogeneity
Pameet Pahwa, B.P.S. Murthi, Nanda S. Kumar

Modeling Intra-household Heterogeneity to Explain Multiple Discrete Continuous Demand
Vedha Ponnappan, Avadhoot Jathar, Srinivas Prakhya

Explaining Preference Heterogeneity with Mixed Membership Modeling
Marc R. Dotson, Joachim Buschken, Greg M. Allenby

A Unified Model of Anchoring and Context-dependent Preferences
Prithwiraj Mukherjee, Arnaud De Bruyn, Ayse Onculer

TC13 – Fertitta Hall, 327, 3rd Floor

Pricing: Freemium

Chair: Reo Song

Augmenting One-shot Field Experiments with Longitudinal Customer Data: An Application to Menu-based Subscription Pricing
Longxiu Tian, Fred M. Feinberg

Uncovering Price Elasticities for Fiction Books in the Presence of Endogeneity
Cord Otten, Sonke Albers, Michel Clement

Free-to-paid Transition of Online Content Providers: An Empirical Analysis of Newspapers' Paywall Rollout
Reo Song, Ho Kim, Youngsoo Kim

TC14 – Fertitta Hall, 328, 3rd Floor

Marketing & Finance III

Chair: Tetsuo Horiguchi

Ceo's Marketing Experience and Firm Performance
Hooman Mirahmad, Venkatesh Shankar

How to Pay Your Executives to Build Stronger Brands?
Hanieh Sardashti, Hang Nguyen, Roger J. Calantone

The Varying Advantage of Focus and Diversification Along the Value Chain: The Case of the Motion Picture Industry
Can Uslay, Ekaterina Karniouchina, Stephen J. Carson, William L. Moore

Strategic Frameworks Lead to Myopic Decision Making?: Deliberate Decision Making of a Boundedly Rational Decision Maker
Tetsuo Horiguchi

TC15 – Fertitta Hall, 331, 3rd Floor

CRM: Customer Lifetime Value I

Chair: Nhat Quang Le

A Generalized Customer Lifetime Value Framework for the Health and Fitness Industry
Angeliki Christodoulopoulou, V. Kumar

Extending the Customer Lifecycle: Optimal Resource Allocation Throughout the Customer Journey
Agata Leszkiewicz, V. Kumar, Angeliki Christodoulopoulou

Finding the Right Balance for CRM Activities between New and Reacquired Customers
Christian Schlereth, Josephine Sueptitz, Christina Hofmann-Stölting

The Dynamic Relationships between Marketing Communication, Customer Commitment, and Customer Spending: A Study on Donation Behavior
Nhat Quang Le, Bram Foubert, Barbara Briers, Kathleen Cleeren

TC16 – Fertitta Hall, 414, 4th Floor

Advertising Display Ads I

Chair: Lara Lobschat

Spillover Effect of Online Display Advertising: Brand Portfolio and Attribution Implications
Lin Boldt, Neeraj Arora

The Impact of Display Ad Viewability on Advertising Effectiveness
Christina Uhl, Nadia Abou Nabout, Klaus Miller

Assessing The Effectiveness of Display Advertising on Ecommerce Websites
Jyoti Jagasia

Making online Ads Great Again - The Effects of Message Content and Ad Executional Elements on Display Ad Effectiveness Along the Purchase Funnel
Lara Lobschat, Norris Ignatiius Bruce, Ram C. Rao, Niels Holtrop

2017 INFORMS Marketing Science Conference

Thursday, June 8th, 2017 **1.30-3.00 (TC)**

TC01 – Fertitta Hall, 101, Lower Level

Channels: MultiChannels III

Chair: Jeeyeon Kim

Multichannel Shopper Segments Consisted of Purchase Channels and Media Touchpoints using Single Source Panel Data
Satoshi Nakano, Fumiyo Kondo

Is Tmall the Right Gateway to China's E-commerce Market? The Value of Marketplace Channels to Manufacturers
Zhiling Bei, Katrijn Gielens

Multichannel Sales and Store Accessibility: How Store Accessibility Influences Multichannel Sales Across Regions
Jeeyeon Kim, Sue Ryung Chang, Jeonghye Choi, Minakshi Trivedi

TC02 – Fertitta Hall, 102, Lower Level

Online Auctions II

Chair: Simha Mummalaneni

Position as an Imperfect Signal in Search Advertising
Taylor Bentley, Tat Y. Chan, Young-Hoon Park

Affirmative Action as a Cost Cutting Tool in Procurement Markets
Simha Mummalaneni

TC03 – Fertitta Hall, 105, Lower Level

Digital and Mobile Learning

Chair: Xueming Luo

The Impact of Device Selection on the Digital Path to Purchase and Consumer Price Sensitivity
Meheli Basu, Kirk Wakefield, Jeff Inman

Does Mobile Improve Learning? An Empirical Analysis of Student Engagement and Academic Achievement in Massive Open online Courses (MOOCs)
Sang-Pil Han, Mi Hyun Lee, Sungho Park, Sunghoon Kim

When Online Reviewers Meet Mobile Devices
Mina Jun, Jongmin Kim, Chung Koo Kim

Mining E-Book Reading Patterns: Applications in Segmentation and Recommendation Systems
Sungho Park, Sang Pil Han, Wonseok Oh, Jae Yun Moon

TC04 – Fertitta Hall, 125, Lower Level

Social Media & Gaming

Chair: Sarang Sunder

Keep Winning or Stop Losing? The Effect of Consumption Outcomes on Variety-seeking in Online Video Games
Tong Lu, Liangbin Katie Yang

The Competitiveness of Social Interactions as a Marketing Variable in Social Gaming
Huazhong Zhao, Haibing Gao, Jinhong Xie

Social Structure, Entrepreneurship and Consumption in Video Game Community
Peng Liu

Unintended Consequences of Policy Interventions. Assessing the Impact of Usage Restriction on Online Game Usage and Spending
Sarang Sunder, Wooyong Jo, Jeonghye Choi, Minakshi Trivedi

TC05 – Fertitta Hall, 233, 2nd Floor

User Generated Content & Brand Maps

Chair: Sungha Jang

Unsupervised Concept Mapping for Big Data Marketing Strategic Analysis: A Word Embedding Approach
Wenjing Duan, Yang Yu, Ezekiel Leo

Embedding Products in Latent Attribute Spaces: Implications for Managing Product Assortments in Retailing
Sebastian Gabel, Daniel Klapper

Brand Map: A Spatial and Dynamic Analysis of Brand Associations using Social Media
Hyunhwan Lee, Joseph Johnson, Gerard J. Tellis

How do Consumers Evaluate Identical Products on Competing online Retailers? A Text Mining Approach using Consumer Reviews
Sungha Jang, Ji Hye Kang, Tian Liu

TC06 – Fertitta Hall, 236, 2nd Floor

Sharing Economy III

Chair: Shunyuan Zhang

Measuring Consumer Surplus in theon-Demand Economy: The Case of Ride Sharing
Mengze Liu, Tom Lam

Running an Airbnb Hotel - A New Business Model of Sharing Economy
Xi Li, Mengze Shi, Xin (Shane) Wang

Professional Versus Amateur Images: Investigating Differential Impact on Airbnb Property Demand
Shunyuan Zhang, Dokyun Lee, Param Vir Singh, Kannan Srinivasan

TC07 – Fertitta Hall, 239, 2nd Floor

Digital Marketing II

Chair: Garrett A. Johnson

Co-Chair: Ayelet Israeli

How Reliable is Programmatic Audience Targeting with Third-party Data? Lessons from Three Field Tests
Nico Neumann, Timothy Whitfield

Privacy Choice in internet Advertising: Who Opts Out and at What Cost to Industry?
Garrett A. Johnson, Shaoyin Du, Scott Shriver

Green Marketing in Social Media: An Empirical investigation of Strategy, Sincerity, and Relationship to Brand Image
Jennifer Cutler, Aron Culotta

The Pop-Over Paradox: Field Experiments atCollage.com
Ayelet Israeli, Garrett Johnson

TC08 – Fertitta Hall, 240, 2nd Floor

Game Theory in Marketing I

Chair: Amirreza Fazli Salehi

Persuasive Advertising in Vertically Differentiated Markets
W. Jason Choi, Kinshuk Jerath, Miklos Sarvary

Exploring the Impact of Artificial Intelligence: Prediction Versus Judgment
Avi Goldfarb, Ajay Agrawal, Joshua Gans

The Scale of Economy and Endogenous Multi-dimensional Product Differentiations
Jungju Yu, Jiwoong Shin, Michelle (Yi) Lu

The Effects of Autoscaling in Cloud Computing on Entrepreneurship
Amirreza Fazli Salehi, Amin Sayedi, Jeffrey D. Shulman

2017 INFORMS Marketing Science Conference

Thursday, June 8th, 2017 10.30-12.00 (TB)

TB17 – Fertitta Hall, 416, 4th Floor	TB18 – Fertitta Hall, 417, 4th Floor	TB19– Popovich Hall, 300, 3rd Floor	
Brand Equity	**Consumer Behavior & Gender**	**ISMS Doctoral Dissertation Winners II**	
Chair: Anthony Koschmann	**Chair**: Youngjee Han	**Chair:** Olivier Toubia	
Do Layoffs Hurt a Firm's Brand? An Event Study with Consumer Mindset Metrics *Max Philipp Backhaus, Alexander Himme*	Constituting, Testing and Validating Gender Based Learner Profiles *Lawrence L. Garber, Eva M. Hyatt, Ünal Ö. Boya, Bibek Banerjee*	Demand for (Un)Biased News:The Role of Government Control in Online News Markets *Andrey Simonov, Justin Rao*	
Close the Plant, Lose the Brand? Sales and Advertising Consequences of Collective Factory Layoffs *Vardit Landsman, Stefan Stremersch*	Are the Brand Choice Considerations of Men and Women Really Different? *Enav Friedmann*	Identifying Customer Needs from User Generated Content *Artem Timoshenko, John Hauser*	
Brand Alliances and Brand Equity: Doing More Harm Than Good? *Anthony Koschmann*	Female Data Scientists: How Can We Increase Their Ranks? *Graciela Carrasco*	Targeted Search and Platform Design *Zachary Zhong*	
An Integrated Model for Dynamic Brand Equity *Elea McDonnell Feit, Tung Phan, Eric T. Bradlow*	Better Possible Self or Better Other? Gender Affects Who is More Inspirational *Youngjee Han, Myungwoo Nam*		

2017 INFORMS Marketing Science Conference

Thursday, June 8th, 2017 10.30-12.00 (TB)

TB09 – Fertitta Hall, 241, 2nd Floor

Machine Learning Applications in Marketing II

Chair: Eric Schwartz

Co-Chair: Daria Dzyabura

Recommending Products when Consumers Learn Their Preferences
John R. Hauser, Daria Dzyabura

Visual Listening in: Measuring Brand Perception from Consumer-Created Images
Liu Liu, Daria Dzyabura, Natalie Mizik

Mixed Integer Programming Approaches for Adaptive Choice-based Conjoint Analysis
Juan Pablo Vielma, Denis Saure

Dynamic Online Pricing with Incomplete Information using Multi-Armed Bandit Experiments
Eric Schwartz

TB10 – Fertitta Hall, 313, 3rd Floor

Competition: Competitive Strategy II

Chair: Sungtak Hong

Brand Competition in Attribute Space: An investment Perspective
Aharon Hibshoosh

Competitive Strategies for Duopoly Firms with Highly Differentiation
Chi-cheng Wu, Yung-Jan Cho

The Impact of Commodity Taxation on Firm's Product Portfolio and Market Structure
Sungtak Hong

TB11 – Fertitta Hall, 316, 3rd Floor

New Product: Design II

Chair: Shan-Yu Chou

Cyber Empathic Design - Using Sensor Enabled Products to Improve New Product Design
Arun Lakshmanan, Junghan Kim, Dipanjan Ghosh, Andrew Olewnik, Kemper E. Lewis

Creativity Templates for Radical Innovation
Maria Saaksjarvi, Gerard J. Tellis

Design Innovativeness and Product Design Evolution
Svetlana Khimina, Gaia Rubera

New Product Development and Transaction-based Pricing Scheme with Consumer Deliberation
Shan-Yu Chou, Chyi-Mei Chen

TB12 – Fertitta Hall, 322, 3rd Floor

Choice Models II

Chair: Narine Yegoryan

Discrete Spatial Choice Model
Jing Zhou, Lu Liu, Hansheng Wang

The Impact of Nutrition Claims on SKU Choice
Niels Holtrop, Kathleen Cleeren, Kelly Geyskens, Peter C. Verhoef

A Simultaneous Model of Multiple-discrete Choice of Variety and Quantity
Ralf van der Lans

Understanding the Consequences of Attribute Non-attendance in Discrete Choice Models
Narine Yegoryan, Daniel Guhl, Daniel Klapper

TB13 – Fertitta Hall, 327, 3rd Floor

Pricing: Automobiles

Chair: Umut A. Guler

A Bayesian Structural Model for Designing Financial incentive Offers to Automotive Dealerships
Wenyi Wu, Peter J. Lenk

Hold Back to Help Dealers?: Obfuscation in Bargaining
Preyas Desai, Sriram Venkataraman

On Factors of Consumer Heterogeneity in (MIS) - Valuation of Future Energy Costs: Evidence for The German Automobile Market
Vlada Pleshcheva, Daniel Klapper, Till Dannewald

Heterogeneous Price Effects of Consolidation: Evidence from the Car Rental Industry
Umut A. Guler, Kanishka Misra, Vishal P. Singh

TB14 – Fertitta Hall, 328, 3rd Floor

Marketing & Finance II

Chair: Mehdi Nezami

Innovation Recalls and Firm Value and Firm Stock Risk
Nukhet Harmancioglu, Ismail Erzurumlu

Supplier Relations: Effects on Product Recalls and Firm Performance
Wonjoo Yun

Service Transition Strategies and Firm-idiosyncratic Stock Returns: An Empirical Investigation of the Software Industry
Mehdi Nezami, Kapil R. Tuli, Shantanu Dutta

TB15 – Fertitta Hall, 331, 3rd Floor

CRM: Customer Churn

Chair: Yashar Bashirzadeh

Essays in Customer Acquisition
Frederica Vecchioni

Effects of Customer Credits as Service Failure Recovery Solution on Customer Churn and Purchases
Stanislav Stakhovych, Ali Tamaddoni

Target the Ego or Target the Group
Rodrigo Belo, Pedro M.Ferreira, Miguel Godinho de Matos

Once You Churn, You Never Return: A Study of E-mail Retention and Reacquisition Effectiveness in the Context of Mobile Applications
Yashar Bashirzadeh, Ivan Guitart, Corinne Faure

TB16 – Fertitta Hall, 414, 4th Floor

TV Viewing

Chair: Steven Hoornaert

The Impact of Binge Watching on TV Viewership and on the Subscription of TV Products
Miguel Godinho de Matos, Pedro M. Ferreira

The Interplay of the First and Second Screen on Marketing Effectiveness
Lena Hoeck, Martin Spann

The Interrelationship Between Brand Actions, Customer Engagement Behaviors and Brand Consumption
Steven Hoornaert, Vijay Viswanathan, Edward C. Malthouse, Ewa Maslowska, Dirk Van den Poel

2017 INFORMS Marketing Science Conference

Thursday, June 8th, 2017 10.30-12.00 (TB)

TB01 – Fertitta Hall, 101, Lower Level

Channels: MultiChannels II

Chair: Katrijn Gielens

The Omnichannel Fulfillment Dilemma: Consumer Preferences and Manager Perceptions
Robert Rooderkerk, Santiago Gallino, Antonio Moreno-Garcia

The Impact of In-store Product Recommendation Technology on Customer Behavior: Evidence from a Multichannel Retailer
Joon Ho Lim, Rishika Rishika, Ramkumar Janakiraman, Subodha Kumar

A Consumer Behavior Typology Based on Temporal and Spatial Characteristics in an Omnichannel Retail Environment
Penelope Schoutteet, Lieselot Vanhaverbeke, Heleen Buldeo Rai, Sara Verlinde, Cathy Macharis

Navigating the Last Mile in Grocery Shopping Through the Click and Collect Format
Katrijn Gielens, Els Gijsbrechts, Inge Geyskens

TB02 – Fertitta Hall, 102, Lower Level

Online Auctions I

Chair: Paul R. Hoban

Pricing of Internet Leads: Cost Per Lead Advertising Auction Versus Affiliate Marketing
Somnath Banerjee, Pradeep Bhardwaj

Incorporating Hidden Costs of Annoying Ads in Display Auctions
Eric T. Bax, Valeria Stourm

Disclosing Information About Ad Placements in Online Display Advertising: The Effect on Demand and Price
Sila Ada, Nadia Abou Nabout

An Optimal Bidding Algorithm for Real-time Exchanges
Paul R. Hoban, Srinivas Tunuguntla

TB03 – Fertitta Hall, 105, Lower Level

Mobile Marketing and Advertising

Chair: Xueming Luo

Mobile Targeting with Traffic Jams for Higher Prosocial Responses
Xueming Luo, Zheng Fang, Cheewei Phang

The Value of Information in Mobile Ad Targeting
Omid Rafieian, Hema Yoganarasimhan

Motivating Effective Mobile App Adoption in Multi-channel Shopping: A Large Field Experiment
Tianshu Sun, Lanfei Shi, Siva Viswanathan, Elen Zheleva

Small App Nudges for Big Results: Combining Field Experiment with Machine Learning
Jack Siliang Tong, Xueming Luo, Xiaoyi Wang

TB04 – Fertitta Hall, 125, Lower Level

Social Media & Customer Service

Chair: Tarique Newaz

How to Ask and How to Respond: An Examination of Successful Customer Service Engagement on Twitter
Yuheng Hu, Ali Tafti, David Gal

Popularity of Digital Products in Online Social Tagging Systems
Jurui Zhang, Raymond Liu

Longitudinal Analysis of Online Consumer Disengagement Patterns in Times of Crisis
Chedia Dhaoui, Cynthia Webster, LayPeng Tan

An Investigation into the Role of Marketing on the Survival of Social Networking Sites
Tarique Newaz, Mayukh Dass

TB05 – Fertitta Hall, 233, 2nd Floor

UGC Bias, Incentives & Conformity

Chair: David Godes

Paid vs. Independent Product Recommendation by Bloggers
Dina Mayzlin, Amy Pei

Raindrops are Falling on My Head: The Effect of Weather Conditions on Online Reviews
Yaniv Dover, Leif Brandes

Media Bias in the Presence of Feedback
David Godes

TB06 – Fertitta Hall, 236, 2nd Floor

Sharing Economy II

Chair: Upender Subramanian

Market Structure with the Entry of Peer-to-Peer Platforms: The Case of Hotels and Airbnb
Chiara Farronato, Andrey Fradkin

Business Models in the Sharing Economy: Manufacturing Durable Goods in the Presence of Peer-to-Peer Rental Markets
Vibhanshu Abhishek, Jose A. Guajardo, Zhe Zhang

Strategic Surge Pricing and Forecast Communication on on-Demand Service Platforms
Harish Guda, Upender Subramanian

On-demand Service Platforms
Terry Taylor

TB07 – Fertitta Hall, 239, 2nd Floor

Digital Marketing I

Chair: Gil Appel

A Dynamic Model of Online Content Consumption
Inyoung Chae, David Scheidel, Da Young Kim

Stickiness and the Monetization of Apps
Gil Appel, Barak Libai, Eitan Muller, Ron Shachar

Social TV, Advertising, and Sales: Are Social Shows Good for Advertisers?
Beth Fossen, David A. Schweidel

Advancing the Knowledge on Electronic Word of Mouth: The Role of Aliases and Scholarly Communication
Ana Babic Rosario, Kristine De Valck, Francesca Sotgiu

TB08 – Fertitta Hall, 240, 2nd Floor

Game Theory of Platforms

Chair: Song Lin

Consumer Search on online Retail Platform
Baojun Jiang, Tianxin Zou

Bilateral Ratings and P2P Market Segmentation
T. Tony Ke, Monic Sun, Baojun Jiang

Two-Sided Price Discrimination
Song Lin

The Impact of Paid Inclusion on Platform Screening and Consumers' Overall Service Experience
Zibin Xu, Yi Zhu, Shantanu Dutta

2017 INFORMS Marketing Science Conference

Thursday, June 8th, 2017 **8.30-10.00 (TA)**

TA17 – Fertitta Hall, 416, 4th Floor	**TA18 – Fertitta Hall, 417, 4th Floor**	**TA19– Popovich Hall, 300, 3rd Floor**	
Brand Metrics **Chair:** Gopal Das Impact of Consumer Age on Brand Verbal Fluency: A Moderated Mediation Analysis Involving Cognitive Ability and Brand Recency *Gilles Laurent , Raphaëlle Lambert-Pandraud, Bernard Gourvennec* Brand Growth and Advertising: Latent Growth Curve Modeling Approach *Hikaru Yamamoto, Satoshi Nishida, Shinji Morioka* New Measures of Cross-cultural Affinity in Global Branding *Willem Smit, Catherine Tucker* How Does Textual Paralanguage Affect Brand Personality *Gopal Das*	**Consumer Behavior & Context Effects** **Chair**: I-Hsuan Chiu Contextual Deliberation and Procedure-dependent Preference Reversals *Liang Guo* How Defined Contribution Plans Generosity Affects Employees Contribution and Early Leakage Decisions *Muxin Zhai, Yanwen Wang, John G. Lynch* Modeling Reference Dependence Effect and Regulatory Orientation *I-Hsuan Chiu , Gary J. Russell*	**ISMS Doctoral Dissertation Winners I** Chair: Olivier Toubia China Goes Online: Opportunity or Threat for CPG brands? *Bernadette Van Ewijk, Els Gijsbrechts, Jan-Benedict Steenkamp* A Structural Model of Organizational Buying: Innovation Adoption under Share of Wallet Price Contracts *Navid Mojir, K. Sudhir* Valuing Non-Contractual Firms using Common Customer Metrics *Daniel McCarthy*	

2017 INFORMS Marketing Science Conference

Thursday, June 8th, 2017 **8.30-10.00 (TA)**

TA09 – Fertitta Hall, 241, 2nd Floor

Machine Learning Applications in Marketing I

Chair: Eric Schwartz

Co-Chair: Daria Dzyabura

Optimal Product Design by Sequential Experiments in High Dimensions
Mingyu Joo, Michael Thompson, Greg M. Allenby

Machine Learning of Successful New Product Launches
Lan Luo, Dongling Huang

Non-Metric Multidimensional Scaling and Applications to Marketing
Jacob Abernethy

Modeling Multi-Taste Consumers
Daria Dzyabura, Liu Liu

TA10 – Fertitta Hall, 313, 3rd Floor

Competition: Competitive Strategy I

Chair: Vinay Kanetkar

Competition of Content Acquisition and Distribution under Consumer Multi-purchase
Lin Tian, Baojun Jiang, Bo Zhou

When Private and Public Firms Compete
Steven Mark Shugan, Jihwan Moon

Success in Sports: Randomness or Abilities
Vinay Kanetkar

TA11 – Fertitta Hall, 316, 3rd Floor

New Product: Design I

Chair: Chen Lin

Coordinating on Design Standard: The Role of Editors
Kitty Wang, James Campbell, Avi Goldfarb

User Designed Products and New Venture Success
Miriam Lohrmann, Tomas Bayon, Martin Eisend

Designing Products for Children: When a Buyer is Not A User
Dinara Akchurina, Paulo Albuquerque

Design or Sales Leadership? Examining the Relative Importance of Design and Sales Operation Capabilities in Online
Chen Lin, Mengze Shi, Jeongwen Chiang

TA12 –Fertitta Hall, 322, 3rd Floor

Choice Models I

Chair: Ryan Webb

An Empirical Model of Screening Rule Choice
Joseph Jason Bell

Building A Choice Model of Consumer Decision States
Paul Wang, David Waller, Kyuseop Kwak

Predicting Bundle Preference using Configuration Data
Gary J. Russell, I-Hsuan Chiu, Thomas S. Gruca

Pairwise Attribute Normalization: A Theory of Multi-attribute Choice
Ryan Webb, Peter Landry

TA13 – Fertitta Hall, 327, 3rd Floor

Price Discrimination

Chair: Ossama Elshiewy

New Disneyland Dilemma: Seasonal Pricing for Emotional Mickey Mouse Fans
Matthew Selove

How do Personalized Recommendations and Price Discrimination Compare?
Xiaochen Zhang, Pedro M. Ferreira, Rodrigo Belo, Miguel Godinho De Matos

Using Obfuscation to Intensify Price Discrimination in a Monopoly
Samir Mamadehussene

Heterogeneous Willingness-to-Pay for Competitor Products
Ossama Elshiewy, Jan Schikofsky

TA14 – Fertitta Hall, 328, 3rd Floor

Marketing & Finance I

Chair: Shuba Srinivasan

Organizational Herding in Advertising Spending Disclosures: Mechanisms and Evidence
Huanhuan Shi, Rajdeep Grewal, Shrihari Sridhar

When do Marketing Executives Drive Growth in Firms?
Raji Srinivasan, Leigh McAlister

Advertising and Online Investor Search: the Role of Investor Sophistication
Abhishek Borah, Cem Bahadir, Gerard J. Tellis

How Does Digital Advertising Impact Firm Performance and Firm Value?
Bernd Skiera, Shuba Srinivasan, Emanuel Bayer, Edward Riedl

TA15 – Fertitta Hall, 331, 3rd Floor

Customer Churn: Advances, Challenges and New Directions

Chair: Roelof Hars

In Pursuit of Enhanced Customer Retention Management
Scott A. Neslin, Eva Ascarza, Oded Netzer, Zachery Anderson, Peter Fader, Sunil Gupta, Bruce G .S. Hardie, Aurelie Lemmens, Barak Libai, David Neal, Foster Provost, Rom Schrift

Generalizations on the Drivers of Customer Churn: A Meta-Analysis
Roelof Hars, Arjen Onrust, Hans Risselada, Jaap Wieringa

Whom to Target? Managing Risk when Predicting Retention
Aurelie Lemmens, Bas Donkers, Peter C. Verhoef

Short- and Long-term Effects of Price Promotions on Consumption
Daniela Schmitt, Florian Stahl, Raghuram Iyengar

TA16 – Fertitta Hall, 414, 4th Floor

Advertising on TV

Chair: Liangbin Katie Yang

Mobile Content: Understanding Drives of Engagement By Screen
Myoung-Jin Chae, Omar Rodriguez-Vila, Sundar G. Bharadwaj

Impact of Timeshift TV on TV Consumption
Filipa Reis, Pedro M. Ferreira, Rodrigo Belo, Miguel Godinho de Matos

The Evolution of Television Viewing: Social TV, Time Shifted Viewing and Advertising Avoidance
Buffy Mosley, David A. Schweidel, Robert J. Kent

The Effect of Random Slot Allocation on Advertisers' Welfare in Television Advertising
Yang Shi, Jun Beom Kim, Ying Zhao

Inferring Individual Preferences and Intragroup Dynamics with Aggregate and De-identified Data: An Application to Targeted TV Advertising
Liangbin Yang, Eric T. Bradlow, Peter Fader

2017 INFORMS Marketing Science Conference

Thursday, June 8th, 2017 **8.30-10.00 (TA)**

TA01 – Fertitta Hall, 101, Lower Level

Channels: MultiChannels I

Chair: Yongbum Choi

Customer Lifetime Value Dynamics for Multichannel Customers
Wenyu Jiao, Nicolas Glady

Which Device of Mobile or PC Would be Used for Webrooming Before Purchasing Products in Stores or Online?
Fumiyo Kondo, Takumi Osugi, Yasuyuki Mizuta, Megumi Kataoka

A Hidden Semi-markov Model of Multi-channel Customer Engagement Dynamic
Sharmistha Sikdar, Giles J. Hooker, Young-Hoon Park

Showrooming, Webrooming and Smartphones in a Multichannel Retail Market
Yongbum Choi, Eunkyu Lee

TA02 – Fertitta Hall, 102, Lower Level

Online Search & Advertising

Chair: Paulo Albuquerque

Modeling the Effects of Search Duration on Search Outcomes
Raluca Ursu, Pradeep Chintagunta, Qingliang Wang

Known Unknowns in Consumer Judgment and Information Search
Daniel Walters, Philip M. Fernbach, Craig Fox

The Effects of Advertising on Awareness, Consideration, and Choice: Evidence from the U.S. Auto Insurance Industry
Elisabeth Honka, Yi-Lin Tsai

Shocked by What People Write Online? How Uncovering Negative Reviews Impacts online Search and Purchase
Paulo Albuquerque, Marton Varga

TA03 – Fertitta Hall, 105, Lower Level

Mobile Apps for Marketing

Chair: Venkatesh Shankar

Investigating the Value of Competitive Mobile Loyalty Program Platforms for Intermediaries and Retailers
Joseph Pancras, Rajkumar Venkatesan, Bin Li

Mobile App Stickiness: The Effect of App Drop on Shopper Behavior
Unnati Narang, Venkatesh Shankar

Seizing the Commuting Moment: Contextual Targeting Based on Mobile Transportation Apps
Hyeokkoo Eric Kwon, Anindya Ghose, Dongwon Lee, Wonseok Oh

TA04 – Fertitta Hall, 125, Lower Level

Social Media & Negative Information I

Chair: Elea McDonnell Feit

Behavioral Engagement in Social Media: Measurement, Antecedents, and Purchase Consequences
Welf Hermann Weiger, Wendy W. Moe, Hauke A. Wetzel, Maik Hammerschmidt

Perils of Consumer Complaint Response in Social Media: A Natural Experiment with Facebook Conversation Policy
Yuchi Zhang, Kunpeng Zhang, Xueming Luo

No Publicity is Bad Publicity: How Negative Buzz Increases Brand Awareness and Purchase Intention
Jung Ah Han, Elea McDonnell Feit, Shuba Srinivasan

TA05 – Fertitta Hall, 233, 2nd Floor

User Generated Content: Uses

Chair: Andreas Lanz

The Pattern of Online Reviews
Verena Schoenmueller, Oded Netzer, Florian Stahl

From Zero to Hero - How to Balance Lost Returns and Wasted Investments using Predictions of Rare Events
Daniel Shapira, Andreas Lanz, Jacob Goldenberg, Florian Stahl

The Relationship Between the Multi-scale Structure and the Sustainability of Online Communities
Yaniv Dover, Daniel Shapira, Jacob Goldenberg

Climb or Jump - Status-Based Seeding in User-Generated Content Networks
Andreas Lanz, Jacob Goldenberg, Daniel Shapira, Florian Stahl

TA06 – Fertitta Hall, 236, 2nd Floor

The Sharing Economy I

Chair: Davide Proserpio

Owning, Using and Renting: Some Simple Economics of the "Sharing Economy"
John Joseph Horton

Time- and Location-based Seasonality and Flexible-capacity Firm Strategy: Airbnb and Hotels
Hui Li, Kannan Srinivasan

Discrimination with Incomplete Information in the Sharing Economy: Field Evidence from Airbnb
Dennis Zhang, Jun Li, Ruomeng Cui

Setting up Shop: The Impact of Airbnb on Hotel Entry
Uttara Ananthakrishnan

TA07 – Fertitta Hall, 239, 2nd Floor

Big Data: Doing Research at Scale in Adobe

TA08 – Fertitta Hall, 240, 2nd Floor

Game Theory Models in Advertising & Market Spillover

Chair: Michelle Y. Lu

Manufacturer and Retailer Competitions in Search Advertising
Fei Long, Kinshuk Jerath, T. Tony Ke

Real-Time Bidding in Online Display Advertising
Amin Sayedi

Unbranded Advertising — A Dishonest Act or a Credible Signal?
Michelle Y. Lu

Implications of a Negative Market Spillover
Jeffrey D. Shulman, Amir Fazli

2017 INFORMS Marketing Science Conference

Thursday, June 8th, 2017 **1.30-3.00 (TC)**

TC17 – Fertitta Hall, 416, 4th Floor	**TC18 – Fertitta Hall, 417, 4th Floor**	**TC19– Popovich Hall, 300, 3rd Floor**	
Brand Performance	**Consumer Behavior & Loyalty**	**JMR AE**	
Chair: Yupin Yang	**Chair**: Chu-Hsuan Tsao	**(3:00- 3:45pm)**	
Brand Awareness and Performance in Kenyan Banks *Jane Omwenga*	Captive vs. Non-captive Customers: Post-purchase Behavior and Drivers of Satisfaction *Biswajita Parida*		
The Impact of Brand Architecture Decisions on Portfolio Sales *Burcu Sezen, Koen Pauwels, Berk Ataman*	Asymmetrical Learning Across Categories for Consumers New to the Market *Xing Fang*		
Investigating Human Brand Value in Matching Equilibrium *Yupin Yang, Liyuan Wei*	Perceived Cost of Payment using Cash and Points *Hiromichi Nakagawa*		
	Transactional or Relational Satisfaction Leading to Customer Loyalty -A B to B Case *Chu-Hsuan Tsao, Ming-Chih Tsai, Jiana Fu Wang*		

2017 INFORMS Marketing Science Conference

Thursday, June 8th, 2017 **3.30-5.00 (TD)**

TD01 – Fertitta Hall, 101, Lower Level

Channels: Competition I

Chair: Qingyuan Zhu

Another View of Bargaining Power in the Distribution Channel: Incorporating Retailer Stackelberg
Yuichiro Kanazawa, Tomohito Kamai

Catching Friendly Fire: How Retailer Characteristics Influence the Impact of Manufacturer Direct-to-consumer Sales on Retail Sales
Michiel Van Crombrugge, Els Breugelmans, Kathleen Cleeren

Up Against the Organized Retail the Marketing Mix Strategies of the Incumbent Small Stores Against Organized Retail Entry
Prashant Mishra, Tinu Jain

Domestic or Low-cost Locations: The Impacts of Consumers' Trade Fairness Concern on Firms' Sourcing Strategy
Qingyuan Zhu, Jiong Sun, Jie Wu, Yunchuan Liu

TD02 – Fertitta Hall, 102, Lower Level

Online Retailing I

Chair: Shijie Lu

Intervention Strategies to Recover Abandoned Online Shopping Carts
Yong Chin Tan, Sandeep R. Chandukala, Srinivas Reddy

Curing the Curse of Choice: Smart Choice Sets Improve Decision Quality
Benedict G. C. Dellaert, Tom Baker, Eric J. Johnson

Impact of Synergy Between Product Descriptions and Customer Impressions on Performance
Shilpa Somraj, Dinesh Gauri

Price-based Prominence under inventory Constraint
Shijie Lu, Lin Liu, Haojun Yu

TD03 – Fertitta Hall, 105, Lower Level

Panel on Digital Mobile Marketing Analytics

Moderator: Xueming Luo

Panelist: Randolph E. Bucklin, Anindya Ghose, Xueming Luo, Sridhar Narayanan, Dominique Mike Hannssens

TD04 – Fertitta Hall, 125, Lower Level

Social Media & Social Influence

Chair: Margherita Pagani

The Impact of Audience Size on Viewer Engagement in Live Streaming
Dai Yao, Xingyu Chen, Shijie Lu

The Differential Effect of Social Reward Schemes on the form of Contribution: Monetary Donation Vs. Volunteer Work
Gil Peleg, Oded Lowengart, Daniel Shapira

I'll Have What She's Having: Identifying Social Influence in Household Mortgage Decisions
Avni Shah, W. Benedict McCartney

Privacy, Trusting Beliefs and information Disclosure in online Social Networks: A Three Market Empirical Study
Margherita Pagani, Alessandro Ferrari

TD05 – Fertitta Hall, 233, 2nd Floor

User Generated Content & LDA

Chair: Shengli Hu

Research on User Needs Mining Model Based on Online Automobile Reviews
Deyong Kong, Xin Zheng, Zhenhuan Shao

Joint Topic Models for Integrating Customer Information
Takuya Satomura

Exploring Institutional Dynamic of Consumption Practices using a Quantitative Content Analysis
Akihiro Nishimoto, Sotaro Katsumata

Information Design and Audience Experience
Shengli Hu, Shawn Mankad

TD06 – Fertitta Hall, 236, 2nd Floor

Innovation and Crowdsourcing I

Chair: Nuno Camacho

Co-Chair: Stefan Stremersch

Beating the Going-Public Effect in Firm Innovation
Simone Wies, Christine Moorman

The View from the Top: How Top Management Impacts Firms' Innovation Output
Alina Sorescu, Nooshin L. Warren, Shuba Srinivasan

Incentives, Participation, and Design Quality in Crowdsourcing Contests: A Joint Selection-Treatment Model of a Quasi-Experimental Field Study
Gerard J. Tellis, Christopher Riedl, Katja Hutter, Johann Füller

The Role of Scenario Presentation in the Selection of Innovation Ideas
Nuno Camacho, Stefan Stremersch, Wim Van der Stede, Vardan Avagyan

TD07 – Fertitta Hall, 239, 2nd Floor

Sharing of Digital Photos in Social Media and Consumer Lives

Chair: Kristin Diehl

Photos for the Future: Effects on Memory for Experiences
Kristin Diehl

Temporary Sharing, Enduring Impressions
Leslie John

How Audience Engagement (in the Form of Likes vs. Comments) on Instagram Posts influences Subsequent Self-Disclosure
Yuheng Hu, David Gal

TD08 – Fertitta Hall, 240, 2nd Floor

Game Theory in Marketing II

Chair: T. Tony Ke

The Benefit of Collective Reputation
Aniko Oery, Zvika Neeman, Jungju Yu

The Social Value of Brands and Product Line Design
Kangkang Wang, Michelle Y. Lu

Revision Games Part II: Applications and Robustness
Yuichiro Kamada, Michihiro Kandori

Informational Complementarity
T. Tony Ke, Song Lin

2017 INFORMS Marketing Science Conference

Thursday, June 8th, 2017 **3.30-5.00 (TD)**

TD09 – Fertitta Hall, 241, 2nd Floor

Experiments, Models and Marketing Science

Chair: Sanjog Misra

A Comparison of Approaches to Advertising Measurement: Evidence from Big Field Experiments at Facebook
Brett R. Gordon, Florian Zettelmeyer, Neha Bhargava, Dan Chapsky

Sponsorship Disclosure and Consumer Deception: Experimental Evidence from Native Advertising in Mobile Search
Harikesh Nair, Navdeep Sahni

Scalable Price Targeting
Sanjog Misra, Jean-Pierre Dube

Optimal Targeting with Heterogenous Treatment Effects
Sanjog Misra, Günter Hitsch

TD10 – Fertitta Hall, 313, 3rd Floor

Competition: Performance of Competitive Markets

Chair: Anna Dubiel

Silicon Envy: How Global innovation Clusters Hurt or Stimulate Each Other Across Developed and Emerging Markets
Gerard J.Tellis, Nükhet Gür

Poor but Sexy: How do Rents and Cultural Amenities Impact the Evolution of Location Specific Marketplaces?
Anna Dubiel, Sourindra Banerjee, Jaideep Prabhu, Rajesh Chandy, Jing Wang

Forced to do Good: The Effects of Mandatory Corporate Social Responsibility on Firm Behavior and Performance
Nandini Ramani, Raji Srinivasan

Blessed from Birth? Predicting Start-up Success with Twitter
Gaia Rubera, Paola Cillo, Svetlana Khimina

TD11 – Fertitta Hall, 316, 3rd Floor

New Product: Design Movies & Digital

Chair: Peter McGraw

Is this New Product a Hit or Miss?: The Role of Screenplays
JeeWon Choi, V. Kumar

Editing Entertainment: Length Constraints, Product Quality, and the Motion Picture Industry
A. Peter McGraw, Anika Stuppy, Justin Pomerance

The Impact of Competition Between Stars on Market Outcomes
Mike Lewis, Suh Yeon Kim

TD12 – Fertitta Hall, 322, 3rd Floor

Choice Models IV

Chair: Zhiguo Yang

The Perils of Ignoring the Budget Constraint in Single-unit Demand Models
Max Pachali, Peter Kurz, Thomas Otter

Uncovering Goal Structure from Consumer Purchase Histories
Yang Pan, Gary J. Russell

Generating Dynamic Nonlinear Parameters for Brand Loyalty Estimation Application to the U.S. Beer Retail Market
Roozbeh Iranikermani, Edward Jaenicke

Examining a Consumer Spending Habit Model in Cross Category Purchase Contexts
Zhiguo Yang, D. Sudharshan

TD13 – Fertitta Hall, 327, 3rd Floor

Pricing: Reference Points

Chair: Dong Soo Kim

Cross-category Spillover Effects of Reference Price: A SKU-level Model of Multiple Item Choice
Sri Devi Duvvuri, Gary J. Russell, Kyuseop Kwak

Assessing the Empirical Evidence for Loss Aversion: Errors of Omission and Commission
K. Sivakumar

The Triple Role of Price
Jochen Reiner, Julia Wamsler, Martin Natter

Reference Price and Opportunity Cost Consideration
Dong Soo Kim, Mingyu Joo, Greg M. Allenby

TD14 – Fertitta Hall, 328, 3rd Floor

Marketing & Finance: IPOs I

Chair: Minghui Ma

The Short & Long Term Impact of Customer Concentration on Firm Performance
Alok Saboo, V. Kumar, Ankit Anand

Rush to Tell? The Strategic Value of Preannouncements and Launch Announcements
Ashish Sood, Gerard J. Tellis, Ruth Maria Stock, Thomas Krueger

Insider Influence on Post IPO Marketing Activity: Self-serving or Value Enhancing?
Minghui Ma, Jian Huang, Frank Chen

TD15 – Fertitta Hall, 331, 3rd Floor

CRM: Customer Lifetime Value II

Chair: Peter Landry

Instant Customer Base Analysis: Re-assessing the Performance of Managerial Heuristics
Patrick Bachmann, Markus Meierer, Rene Algesheimer

Effect of Trust in Green Services on Consumer Brand Relationship
Abhishek Mishra

Slipping Down the Retention Reaction Curve - Some Paradoxes of Optimal Customer Retention Value
Igor Sloev, Gerasimos Lianos

Behavior-based Servicing
Peter Landry, Mengze Shi

TD16 – Fertitta Hall, 414, 4th Floor

Advertising Display Ads II

Chair: Alexander Eiting

The Moderating Impact of Clutter on Display Advertising Effectiveness
Sean Melessa

The Effects of in Site Display Advertising
Ernst C. Osinga, Sandeep R. Chandukala

Consumer Privacy, Imperfect information, and Advertising Avoidance: Evidence from Retargeting
Alexander Eiting

Advertising Response of Local Restaurants to a Better Online Rating a Regression Discontinuity Design
Ying Lei

2017 INFORMS Marketing Science Conference

Thursday, June 8th, 2017 **3.30-5.00 (TD)**

TD17 – Fertitta Hall, 416, 4th Floor **Branding: Generics** **Chair:** Anand Nandkumar Store Brands and Category Captaincy *Woochoel Shin, Wilfred Amaldoss* Branded Drugs Marketing Support Around Nonequivalent Generic Entry *Jaap Wieringa, Ernst C. Osinga, P.S.H. Leeflang* Building a Local Brand for Fresh Fruits and Vegetables: The Rule of Animosity *Amir Heiman* Change in Patent Regime and the Role of Branded and Generic Drugs on Price and Quantity: Evidence from the Indian Pharmaceutical Industry 1995-2009 *Shantanu Dutta, Anand Nandkumar, Nimay Srinivasan*	**TD18 – Fertitta Hall, 417, 4th Floor** **Consumer Behavior, Brand & Luxuries** **Chair**: Qiang Lu Consumers' Perception of Celebrity Endorsement and Celebrity Co-branding: Similarities and Differences *Olivier Reimann, Heribert Reisinger, Udo M. Wagner* You Are What You Wear: Millennials' Conspicuous Consumption *Sua Jeon, Retno Suryandari* For the Love of Luxuries: on Brand Love and Consumer Personality Traits in the Luxury Fashion and Accessories Market *Julia Finnegan, Yvonne Kreis* The Impact of Social Media Influencers on Consumer Engagement with Luxury Brands *Qiang Lu, Zhen Yi Seah, Zhiyong Wang*	**TD19– Popovich Hall, 300, 3rd Floor** **JMR ERB** **(3:45- 5:00pm)**	

2017 INFORMS Marketing Science Conference

Friday, June 8th, 2017 **8.30-10.00 (FA)**

FA01 – Fertitta Hall, 101, Lower Level

Channels: Competition II

Chair: Florentine Frentz

Trust and Betrayal Aversion in Principal-agent Settings
Zuhui Xiao, George John

Changing the Power Equation: A Structural Analysis of the Impact of Used Cars in the Distribution Channel
Sivaramakrishnan Siddarth, Dinakar Jayarajan, Jorge Mario Silva-Risso

Managing Used Products: Who Should Refurbish?
Ahmed Timoumi, Narendra Singh

Online Grocery Shopping: How Users Experience the Shopping Process and their Willingness to Return
Florentine Frentz

FA02 – Fertitta Hall, 102, Lower Level

Online Communities & Newspaper

Chair: Eunho Park

Coaches and Cheerleaders: Leaders and Followers in Online Brand Communities
Keith Smith, Scott Thompson, John Hulland

Are Breaking News Worth Paying for? Exogenous Demand Shocks and the Effect of Paywalls on Online Newspaper Readership
Kathrin Gruber, Klaus Miller

Customer Valuation in Online Community; Roles of Social Contagion and Customer Engagement
Eunho Park, Ramkumar Janakiraman

FA03 – Fertitta Hall, 105, Lower Level

Mobile Marketing: Usage

Chair: Mark Rodgers

The Impact of Mobile App Introduction on Grocery Shoppers
Boram Lim, Ying Xie, Ernan E. Haruvy

Examining Preceding Factors of User Innovation Behaviors: A Case Study on Smartphone Applications
Bosul Yoo, Sotaro Katsumata

A Hidden Markov Model of Mobile Application Usage Dynamics
Shaohui Wu, Yong Tan, Yubo Chen

Does Perceived Cyber Security Influence Moral Judgment and Purchase Intention
Waymond Rodgers, Wen-Ling Liu

FA04 – Fertitta Hall, 125, Lower Level

Social Media Network Analysis

Chair: Ke Li

A Value-in-context Service Perspective of an Online Health Community: Examining the Macro, Meso and Micro Levels with Social Network Analysis
Cynthia M. Webster, Susan Stewart Loane, Jennifer Chandler

Testing The Stability of Supply Chain Networks Exclusive Channels with Hyundai
Hyojin Song

Exploring Anti-brand Idea Flow Spread Across Brand Community Platforms in Social Networks
Jesheng Huang

Learning and Predicting the Online Community Evolution
Ke Li

FA05 – Fertitta Hall, 233, 2nd Floor

User Generated Content & Managerial Response

Chair: Chunyu Li

A Question to Big Data: When Do injured Consumers Stay Satisfied?
Sash Vaid

Dynamic Effect of Digital Badging on Content Consumption and Generation on User-generated Content Platforms
Ying Xie, Shijie Lu, Celine Chen

The Effects of Online Management Responses on Market Demands
Hui Cen, Yiwei Li, Chunyu Li, Geng Cui, Jianmin Jia

Managerial Responses to Online Word of Mouth: Its Dynamics and Impact on Sales
Chunyu Li, Yiwei Li, Peng Ling, Xiangnan Feng, Jianmin Jia

FA06 – Fertitta Hall, 236, 2nd Floor

Crowdfunding I

Chair: Jihoon Hong

Dynamics of Social Influence in Online Crowdfunding
Yiwei Li, Yuho Chung, Naiqing Gu, Jianmin Jia

Backer Networks and Their Impact on Project Outcomes on Crowdfunding Digital Platforms
Yee Heng Tan, Srinivas Reddy

Making the Product Happen: A Driver of Crowdfunding Participation
David Zvilichovsky, Shai Danziger, Yael Seinhart

Drivers of Serial Success in Crowdfunding Contests:Talent or Luck?
Jihoon Hong, Gerard Tellis

FA07 – Fertitta Hall, 239, 2nd Floor

Digital Marketing II: Content and Price Management

Chair: Michaela Draganska

Determinants of Price Sensitivity for Freemium Products
Julian Runge, Michaela Draganska, Daniel Klapper

Enhancing Freemium Model Performance: Impact of Product Line Extensions
Xian Gu, P. K. Kannan, Liye Ma

Digital Content and Customer Subscription Behavior
Michaela Draganska, Pradeep Chintagunta, George Knox

Anatomy of Gaming Communities: Value of Facilitating Social Interaction for Content Engagement
Yulia Nevskaya

FA08 – Fertitta Hall, 240, 2nd Floor

Game Theory in Marketing III

Chair: Luc R. Wathieu

Repeated Interaction in Teams: Duration and Performance
J. Miguel Villas-Boas

Vertical Probabilistic Selling under Competition: The Role of Consumer Anticipated Regret
Lin Liu, Yong Chao, Dongyuan Zhan

Informal Lending in Emerging Markets
Shubhranshu Singh, Weining Bao, Jian Ni

Over-diagnosis Equilibria: The Willful Marketing of False Positives
Luc Wathieu, Jeeva Somasundaram

2017 INFORMS Marketing Science Conference

Friday, June 9th, 2017 **8.30-10.00 (FA)**

FA09 – Fertitta Hall, 241, 2nd Floor

Structural Models and Online Marketplaces

Chair: Kosuke Uetake

Working under Search and Information Frictions: Evidence from an Experiment in an Online Crowdsourcing Platform
Kosuke Uetake, Yusuke Narita

The Non-Market Effects of Direct-to-Consumer Pharmaceutical Advertising
Bradley Shapiro

Online Marketplace Advertising
Carl F. Mela, Hana Choi

Identification of Present-biased Discount Functions in Dynamic Discrete Choice Models
Oeystein Daljord, Jaap Abbring

FA10 –Fertitta Hall, 313, 3rd Floor

Sales Force: General

Chair: Helen Si Wang

Does Empathy Improve Marketing Performance? Evidence from High Autonomy Sales Environments in Bangladesh
Sourindra Banerjee, Toby Norman, Jaideep Prabhu

Exploring the Interaction between Networking Behaviors and Marketing Communications: An Empirical Investigation
Srinath Gopalakrishna, Andrew Crecelius

Interaction Transition: How Managing Dynamics of Professional Service Conversations Influences Advice Adherence
Helen Si Wang, Chi Kin Bennett Yim

FA11 – Fertitta Hall, 316, 3rd Floor

New Product Diffusion Takeoff & Technology

Chair: Herbert Bucheli

Zooming in on the International Takeoff of New Products
Margot Loewenberg, Markus Meierer, Rene Algesheimer

Situated Technology Acceptance
Herbert Bucheli, Joachim Scholderer

FA12 – Fertitta Hall, 322, 3rd Floor

Choice Models V

Chair: Arun Gopalakrishnan

Solving Large Linear-ordering Problems
Khaled Boughanmi, Rajeev Kohli

Latent Class Random Regret Minimization for Market Structure Analysis
Jooyoung Lim, Minhi Hahn

When do Consumers Prefer to Resolve Uncertainty: Theory and Empirical Evidence
Arun Gopalakrishnan, Raghuram Iyengar, Robert J. Meyer

FA13 – Fertitta Hall, 327, 3rd Floor

Pricing: Tariffs

Chair: Haojun Yu

How Many Pricepoints? Theoretical Model and Empirical Evidence
Katerina Kormusheva

An Analysis of Menus of Multi-part Tariffs
Ji-Hung (Ryan) Choi, Taewan Kim

On the Optimality of Three-part Tariff Plans
Manish Gangwar, Hemant Bhargava

A Sequential Search Model with Partial Depth Evaluation
Haojun Yu, Lin Liu, X. H. Wang, Yuxin Chen

FA14 – Fertitta Hall, 328, 3rd Floor

Marketing & Finance: Advertising & Brands

Chair: Larisa Ertekin

Marketing in Mutual Funds Industry
Yanhao Wei, Nikolai Roussanov, Hongxun Ruan

Did Hedge Funds Circumvent the Advertising Ban?
Debanjan Mitra

Soapbox Profits: How Brand Activism Impacts Abnormal Stock Returns
Yashoda Bhagwat, Joshua Beck, Nooshin Warren, George Watson

Hands off My Brand! The Financial Consequences of Protecting Brands Through Trademark Infringement Lawsuits
Larisa Ertekin, Alina Sorescu, Mark B. Houston

FA15 – Fertitta Hall, 331, 3rd Floor

CRM: Customer Loyalty I

Chair: Filipe Sengo Furtado

Estimating the Breakage Rate of a Frequent-flyer Program using Individual Level Data
Marcel Goic, Isamar Troncoso, Ricardo Montoya

The Impact of Loyalty Reward App on Customer Behavior
Young-Hoon Park, Yupeng Chen, Raghuram Iyengar

Loyalty Programs: The Impact on Loyalty, Revenue, and Profit
Federico Bumbaca

Predicting Share of Wallet and Share of Category Requirements using Customer Loyalty Card Data
Filipe Sengo Furtado, Thomas Reutterer, Oded Netzer

FA16 – Fertitta Hall, 414, 4th Floor

Advertising Content Design

Chair: Scott Koslow

Optimal Content Monetization on Online Platforms
Christian Hotz -Behofsits, Nils Wloemert, Nadia Abou Nabout

Dynamic Team Composition and Creativity a Qualitative Study of Balancing Novelty and Usefulness in Advertising
Afra Koulaei

Co-creation or Agency Theory in Marketer-ad Agency Relationships: Do Competitive Account Reviews or Performance-based Compensation Systems Work?
Scott Koslow, Sheila Sasser, Huw O'Connor

Automatic Abstraction of Commercial
Shasha Lu, Min Ding

2017 INFORMS Marketing Science Conference

Friday, June 9th, 2017 **8.30-10.00 (FA)**

FA17– Fertitta Hall, 416, 4th Floor **Brands & Social Media I** **Chair:** Arnaud De Bruyn The Relationship Between Brand Post Characteristics and Customer Engagement on Social Media *Teerawut Techachaicherdchoo, Jos Lemmink, Ko de Ruyter, Tapanan Yeophantong* Effects of Branded Celebrity Posts on Customer Engagement in Social Media *Goetz Greve, Andrea Schlüschen, Claudia Fantapié Altobelli* The Charitable Giving and Market Entry of Walmart *Jinghui Qian, Andrew Ching* The Spillover Effects of Online Word-of-Mouth on Rival Brands *Arnaud De Bruyn, Anatoli Colicev*	**FA18 – Fertitta Hall, 417, 4th Floor** **Consumer Behavior Anomalies** **Chair**: Kangjun Choi Evaluation of Multistage Service Experience using Experimental Design *Sheila Roy, Indrajit Mukherjee* Pain of Payment and the Moral Tax: The Neural Basis of the Credit Card Effect *Sachin Banker, Derek Dunfield, Alex Huang, Drazen Prelec* Is Time Money and Money Time? Mindset as Moderator *Dipankar Chakravarti, Debjit Gupta* Can Foods Nearing Expiration Look More Attractive?: The Effect of Nearing Expiration Date on Purchase Intention for Vice and Virtue *Kangjun Choi, Jaeyoung Lee, Byeongkyu Kim, Keunwoo Kim*	**FA19– Popovich Hall, 300, 3rd Floor** **No Session**	

2017 INFORMS Marketing Science Conference

Friday, June 9th, 2017 10.30-12.00 (FB)

FB01 – Fertitta Hall, 101, Lower Level

Channels: Competition III

Chair: Lingling Zhang

Cooperative Advertising for Competing Manufacturers: The Impact of Long-term Promotional Effects
Salma Karray, Guiomar Martin-Herran, Simon-Pierre Sigue

The Factors Associated with Consumer Accessing E -commerce Sites: Pre-purchase Search and Selecting Other Channels
Naoki Akamatsu

Channel Contracts Among Asymmetric Players with Incomplete Information: The Role of Marketing Interventions under Preference Heterogeneity and Quality Differentiation
Shameek Sinha

Strategic Channel Selection with Online Platforms: An Empirical Analysis of the Daily Deal Market
Lingling Zhang, Doug J. Chung

FB02 – Fertitta Hall, 102, Lower Level

Online Design

Chair: Alexander Bleier

The Effects of Digital Payments Adoption on Charitable Giving
Subroto Roy, K. Sudhir

Improving Engagement with Firm-generated Social Media Content through Computer Vision
Eugene Pavlov, Natalie Mizik

Digital Marketing on Enterprises
Maria Gomes

Effective Selling on the Web: How Content Factors Influence the Performance of Online Product Listings
Alexander Bleier, Colleen Harmeling, Robert Palmatier

FB03 – Fertitta Hall, 105, Lower Level

Mobile Marketing & Advertising

Chair: Kaiquan Xu

Personalizing Ad for Mobile Targeting
Zhuping Liu, Vijay Mahajan

The Effects of Volume and Valence of Communication, Service and Earned Touchpoints on Customer Satisfaction: A Real Time Attribution Approach
Umut Konus, Jing Li, Hugh Wilson, Emma MacDonald, Fred Langerak

Effectiveness of Location-based Behavioral Ads
Christine Eunyoung Sung

What Happens When TV Advertisement Meets Mobile? The Impacts of Mobile App in TV Shopping
Kaiquan Xu, Xi Chen

FB04 – Fertitta Hall, 125, Lower Level

Social Media Networks I

Chair: Juliana Huppertz

Can an Advertising Message Impact the Content of Mass Media? An Examination of the Dove Campaign for Real Beauty
Jun Bum Kwon, Avi Goldfarb

Financial Constraints and Word of Mouth
Stephanie Tully, Anna Paley, Eesha Sharma

Driving Demand by Managing Network Structure and Network Communication
Juliana Huppertz, Mark Heitmann, Florian Stahl

FB05 – Fertitta Hall, 233, 2nd Floor

User Generated Content & Market Structure

Chair: Marco Vriens

Dynamic Market Structure Modeling Using Online Data in High Velocity Industries
Gaurav Sabnis

Novel Machine Learning Approach to Brand Differentiation
James Hale

An Lab Taxonomy-based Classifier for Categorizing High Volume Noisy Data of User Generated URLS
Peng Wang, Karun Arora, Roger Brooks, Mudit Jain, Prateek Jain, Sahil Jain, Zainab Jamal, Kuldeep Jiwani, Shipra Kapadia, Nisha Vashist

Mapping and Visualizing using Stochastic Neighbor Embedding
Marco Vriens, Song Chen

FB06 – Fertitta Hall, 236, 2nd Floor

Crowdfunding II

Chair: Peter T. Popkowski Leszczyc

The Power of Small: The Dynamic Effect of Small Donations on the Success of Crowdfunding Projects
Tingting Fan, Yiwei Li

Puppeteers Holding the Strings: The Dominant Role of Angel investors in Equity Crowdfunding
Wanxin Wang, Ammara Mahmood, Catarina Sismeiro, Nir Vulkan

Supply Side Social Learning in Online Crowdfunding Platforms
Baek Jung Kim, Masakazu Ishihara, Vishal Singh

The Influence of Social Media on Charitable Fundraising
Peter T. Popkowski Leszczyc, Eman E. Haruvy

FB07 – Fertitta Hall, 239, 2nd Floor

Digital Media Strategy

Chair: Ron N. Borkovsky

An Experimental Investigation of the Effects of Retargeted Advertising - the Role of Frequency and Timing
Navdeep S. Sahni, Sridhar Narayanan, Kirthi Kalyanam

Optimizing Content and Pricing Strategies for Digital Video Games
Scott Shriver, Hema Yoganarasimhan

The Effects of Binge-Watching on Media Franchise Engagement
Mina Ameri, Elisabeth Honka, Ying Xie

FB08 – Fertitta Hall, 240, 2nd Floor

Game Theory in Marketing IV

Chair: Tianxin Zou

The Role of Regulatory Disclosure in Cause Marketing
Yu Wang, Aradhna Krishna, Uday Rajan

Certification of Quality and Seller Profits: An Experimental Study
Sung Ham, David Seung Huh, Dmitry Shapiro

On the Marketing of Experience Goods: The Case of Movies
Sridhar Moorthy, Tirtha Dhar

Anticipated Regret and Product Line Design
Tianxin Zou, Baojun Jiang, Bo Zhou

2017 INFORMS Marketing Science Conference

Friday, June 9th, 2017 **10.30-12.00 (FB)**

FB09 – Fertitta Hall, 241, 2nd Floor

Structural Learning Models

Chair: Andres I. Musalem

Co-Chair: Andrew Ching

A Heuristic Approach to Explore: Value of Perfect information
Shervin Shahrokhi Tehrani, Andrew T. Ching

Delegation and Productivity in a Retail Business
Kohei Kawaguchi

An Empirical Study of Customer Spillover Learning about Service Quality
Andres I. Musalem, Yan Shang, Jing-Sheng Song

FB10 – Fertitta Hall, 313, 3rd Floor

Sales Force: Incentives

Chair: Siddharth S. Singh

Group Versus Individual Incentives and Selling Performance
Wenshu Zhang, Subramanian Balachander, Jia Li

Selling Platforms
Olivier J. Rubel, Hemant Bhargava

Uniform Commission Contract and Sales Agent Identification
Ying Bao, Mengze Shi

Gamified Sales Training and Salesperson Performance
Siddharth S. Singh, Ravi Sen, Sharad Borle

FB11 – Fertitta Hall, 316, 3rd Floor

New Product Diffusion: Bass Model

Chair: Kanoko Go

Dynamic Pricing for New Products: Utility-based Generalization of the Bass Diffusion Model
Koray Cosguner, Seethu Seetharaman

Leapfrogging Adoption in Technology Triplets
Deepa Chandrasekaran, Gerard J. Tellis, Gareth James

An Analysis of Consumer Adoption of a New Product Incorporating Case-based Decision Theory
Kanoko Go, Yutaka Hamaoka

On the Stochastic Foundations of Diffusion Modeling
Ulrich Mueller-Funk, Robert Wilken, Max Philipp Backhaus, Klaus Backhaus

FB12 – Fertitta Hall, 322, 3rd Floor

Product Recalls

Chair: Koushyar Rajavi

A Structural Model of Bad Debt and Product Return With Implications for Return Policies
Nian Wang, Joseph Pancras, Hongju Liu, Malcolm Houtz

Recalled But Not Repaired: The Role of Customer orientation and Dealer Quality on Product Recall Efficacy
Vivek Astvansh, Kersi Antia, Xin (Shane) Wang

How Does the Effect of Product Recalls Extend Beyond Country Boundaries? A Study of the Automobile Market in China and The United States
Qi Sun, Fang Wu, Yong Liu, Qian Wang

Role of Trust and Technological Connectivity in Managing Product Recalls: A Cross-category and Cross-country Perspective
Koushyar Rajavi, Tarun Kushwaha, Jan-Benedict Steenkamp

FB13 – Fertitta Hall, 327, 3rd Floor

Pricing: Warranties

Chair: Eddie Ning

Price Optimization Under Product Environment Considerations
Francisco Orlando Cisternas Vera

How do Changes to Manufacturer-backed Warranties Impact Demand for Extended Warranties?
Hyeong-Tak Lee, Sriram Venkataraman, Pranav Jindal

Price and Warranty Competition with Informed and Uninformed Consumers
Fabio Caldieraro, Dongsoo Shin

How to Make an Offer? Optimal Selling under Stochastic Learning
Eddie Ning

FB14 – Fertitta Hall, 328, 3rd Floor

Marketing & Finance: Advertising

Chair: Kyuhong Han

When Marketing Strategy Meets Capital Markets: Marketing Spending and Market Feedback From Securities Analysts
Jacob Do-Hyung Cha, Esther Lee

Investor Uncertainty and Disclosure of Advertising Spending
Sungkyun Moon, Kapil R. Tuli, Anirban Mukherjee

The Market Value of Voluntarily Disclosed Marketing Information
Cong Feng, Scott A. Fay

Value Appropriation and Firm Shareholder Value: Role of Advertising and Receivables Management
Kyuhong Han, Carly Frennea, Vikas Mittal

FB15 – Fertitta Hall, 331, 3rd Floor

CRM: Customer Loyalty II

Chair: Hyung Sup (Zack) Bhan

Unmasking New Behavioral Effects Resulting From Reward Redemption for a Coalition Loyalty Program
Peter Danaher

The Effects of Customer Perceived Benefits on Loyalty Program Effectiveness While Moderated by Type and Timing of Rewards in the Financial Industry
Sonja Fourie

Investigating Satisfied but Disloyal Business Customers - Case of Air Express Market
Shiau-Chi Lin, Ming-Chih Tsai, Mei-Ting Tsai

Decomposing the Long Term Impacts of Backorder Delays: A Quasi Experimental Approach
Hyung Sup (Zack) Bhan, Eric T. Anderson

FB16 – Fertitta Hall, 414, 4th Floor

Advertising Models

Chair: Tirtha Dhar

Optimal Advertising When Credibility of Film Reviews is under Challenge
Minki Kim, Hayeon Joo

Content Advertising in a Two-sided Market
Bo Zhou, Prabirendra Chatterjee

Business Cycles and Product Types as Drivers of Deceptive Advertising
Tirtha Dhar

Asymmetric Advertising Response
Maarten Gijsenberg, Julien Schmitt, Jaap Wieringa

2017 INFORMS Marketing Science Conference

Friday, June 9th, 2017 **10.30-12.00 (FB)**

FB17– Fertitta Hall, 416, 4th Floor	FB18- Fertitta Hall, 417, 4th Floor	FB19– Popovich Hall, 300, 3rd Floor	
Brands & Social Media II **Chair:** Purushottam Papatla Firm Crisis and Media Response *Piyush Anand* Rebuilding a Brand from Crisis Management to Recapturing the Image and Brand Consumption *Rajesh Kumar Srivastava, Manoj Bhide* Tell Me Who Your Brands Are and I will Tell You Who You Vote for *Oded Netzer, Verena Schoenmueller, Florian Stahl* An Empirical Investigation of Brand and Category Differences in the Engagement of Brand Communities on Facebook *Purushottam Papatla, Prashanth Ravula*	**Consumer Behavior Culture** **Chair:** *Faryal Salman* Cultural Capital and Taste Distinctions in Urban India *Tanuka Ghoshal, Rishtee Batra, Russell W. Belk* Cross-cultural Influences on Customer Evaluation of Dysfunctional Customer Behavior *Chloe Y. Qiu, Shannon X. Yi, Lisa C. Wan* A Discussion on the Connection between Consumer Culture Theory (CCT) and National CultureTheory (NCT) *Faryal Salman*	**No Session**	

2017 INFORMS Marketing Science Conference

Friday, June 9th, 2017 **1.30-3.00 (FC)**

FC01 – Fertitta Hall, 101, Lower Level

Channels: Governance

Chair: Alberto Sa Vinhas

Delegation and Consignment in Channels
Cexun (Jeff) Cai, Venkatesh Shankar

Learn to be Good or Bad. Observer Effects of Distributor Punishment; Curvilinear Relationships and Network Contingencies
Zhenxin Xiao, Maggie Chuoyan Dong, Xiaoxuan Zhu

Sharing of Distribution Functions for Customer Value Creation in B2b Markets
Alberto Sa Vinhas

FC02 – Fertitta Hall, 102, Lower Level

Online Retailing II

Chair: Raghunath S. Rao

E-tailing, Social Contagion and Chicken-egg Paradox
Guneet Kaur, Ruby Lee, Rajdeep Grewal, Shrihari Sridhar

Augmented Difference-in-differences: Practical and Consistent Estimation of Average Treatment Effects
Kathleen Li, David Bell

E-Commerce Mail Order Fraud: Feature Analysis of B2C Transaction Data
Tobias Knuth, Dennis Ahrholdt

Online Competitor Referral and Entry-deterrence
Raghunath S. Rao, Jianqiang Zhang, Zhuping Liu

FC03 – Fertitta Hall, 105, Lower Level

Mobile Marketing: Discounts

Chair: Gabor Darvasi

When Institutional Change Meets a Mobile App - An Empirical Study of a Coalition Loyalty Program
Rebecca Jen-Hui Wang, Lakshman Krishnamurthi, Edward C. Malthouse

Advance Selling Cancellation under Valuation Uncertainty
Tianfu Wang

QR Codes Make Location Matter Even More: The Mere Exposure Effect of QR Codes
Wenbo Wang

The Effect of Physical Context on Social Contagion in the Usage of Mobile Promotions
Gabor Darvasi, Martin Spann

FC04 – Fertitta Hall, 125, Lower Level

Social Media WOM

Chair: Giwoong Bae

Investigating the Effectiveness of Integrating Amplified Word of Mouth into the Marketing Plan
Florian Dost, Ulrike Phieler

Group Consumption and Word of Mouth in Experiential Goods
Irit Nitzan, Talia Rymon, Jehoshua Eliashberg

The Interplay of Information from Friends Versus Crowds in Consumer Digital Shopping Journey
Baojiang Yang, Miguel Godinho de Matos, Pedro M. Ferreira

Dynamic Relation Between E-word of Mouth, Media Coverage, and TV Viewership
Giwoong Bae, Yuwon Kim, Hye-jin Kim

FC05 – Fertitta Hall, 233, 2nd Floor

User Generated Content & Performance I

Chair: David M. Muir

Impact of Social Media on the Relationship Between Customer Shopping Experience and Impulse Buying
Gursimranjit Singh, Maninder Singh, Priyanka Singh

Prominence in Performance Reporting: The Case of the Automobile industry
Rajdeep Grewal, Guneet Kaur

The Effects of Shared Information Distance on New Product Sales: Insights from New Automobile Sales in the U.S.
Kyung-Ah Byun, Kevin Kim, Minghui Ma, Taeghyun Kang

Predicting Online Dynamic Consumer Search and Choice with Reinforcement Learning: Evidence from Clickstream Data
David M. Muir

FC06 – Fertitta Hall, 236, 2nd Floor

Crowdfunding & Crowdsourcing III

Chair: Christian Schulze

How Social Media Can Drive Business Outcome: A Signaling Theory Perspective
Alireza Golmohammadi, Taha Havakhor, Dinesh Gauri

Explaining Social Dynamics in Coopetition Networks using Trust Awareness
Amine Louati, Mehdi Alexandre Elmoukhliss, Christine Balagué

Consumer Protection and the Lack of Regulation of Innovative Enterprises
Christian Schulze, Daniel Blaseg, Bernd Skiera

FC07 – Fertitta Hall, 239, 2nd Floor

Digital Marketing: Field Experiments I

Chair: Alexander Bleier

Co-Chair: Maik Eisenbeiss

Promoting Customer Search and Cross-Category Purchasing
Nathan Fong, Yuchi Zhang, Xueming Luo, Xiaoyi Wang

The Impact of Hard- and Soft-Floors in Real-Time Advertising Auctions on Publisher's Profit
Steffen Foersch, Marc Heise, Bernd Skiera

Personalizing Mental Fit for Online Shopping Applications - How the Success of Recommendations Depends on Mental Categorization and Mental Budgeting
Oliver Thomas Emrich, Thomas Rudolph, Catherine Tucker

The Role of Retargeting in Shaping Consumers' Shopping Behavior
Maik Eisenbeiss, Alexander Bleier, Sylvia Hristakeva

FC08 – Fertitta Hall, 240, 2nd Floor

Game Theory in Marketing V

Chair: Yu-Hung Chen

Managerial Optimism in a Vertically Differentiated Market with Demand Uncertainty
Chang Liu

Privacy Concern and Quality Competition
Yue Wang, Joicey Wei

Probabilistic Selling in Quality-differentiated Complementary Goods Markets
Feiqiong Wei, Zelin Zhang

Who Benefits from Big Data Collected by In-vehicle Data Recorders
Yu-Hung Chen, Baojun Jiang

2017 INFORMS Marketing Science Conference

Friday, June 9th, 2017 **1.30-3.00 (FC)**

FC09 – Fertitta Hall, 241, 2nd Floor

Dynamic Structural Models

Chair: Ron N. Borkovsky

Brand Building to Deter Entry and its Impact on Brand Value
Ron N. Borkovsky, Avery Haviv

Transitional Industry Dynamics in Complex Environments
Przemyslaw Jeziorski, Lanier Benkard, Gabriel Weintraub

Dynamic Product Sequencing Strategy
Vineet Kumar, Tim Derdenger

FC10 – Fertitta Hall, 313, 3rd Floor

Sales Force: Relationship

Chair: James Reeder

Do Angry Customers Definitely Impair First-line Employees' Cognitive Performance? Employees' Emotion Response Strategies Matter
Xinyan Liu, Xingyao Ren, Xin Zheng

Success Beyond Self-performance: Collective Performance Lift from Inter-agent Effects
Nuo Xu, Yuping Liu-Thompkins, Yi Zhao

Evaluating the Drivers of Salespeople'S Farming Effectiveness
Ashutosh R. Patil, Srinath Gopalakrishna, Andrew Crecelius

Quantifying the Effect of a Long-term Salesforce Relationship
James Reeder, Sangwoo Shin, Wreetabrata Kar

FC11 – Fertitta Hall, 316, 3rd Floor

New Product Diffusion: Forecasting

Chair: Oliver Schaer

Pre-launch Diffusion Model Parameter Estimation using Online Search Traffic Data
Oliver Schaer, Nikolaos Kourentzes, Robert Fildes

Adoption of New Preannounced Products and Services: The Case of Motion Pictures
Vahideh Sadat Abedi, Adrian Woo

Recommend Your Next Launch: A Collaborative Filtering Approach to Pre-launch Prediction of Multinational New Product Diffusion
Kejia Yang

FC12 – Fertitta Hall, 322, 3rd Floor

Method: Markov Model

Chair: Amirali Kani

A Hidden Markov Model to Detect on-shelf Out-of Stocks using Point-of-sales Data
Ricardo Montoya, Carlos Gonzalez

A New Hidden Markov Model for Modeling Competitive Group Dynamics
Amirali Kani, Duncan K. H.Fong, Wayne DeSarbo

FC13 – Fertitta Hall, 327, 3rd Floor

Promotion: Brand Switching

Chair: Ayman Farahat

Marketing Indonesia: How Effective Indonesia Promotion Agency's Strategy in Attracting Foreign Investment
Ayu Widya Murti, Alessandro Biraglia

The Effect of Price Promotions and Tariff Structure on Revenue and Churn
Fereshteh Zihagh, Brian T. Ratchford

The Effect of Sales on Consumers Buying Behavior in the Yogurt Market
Rezgar Mohammed

Does A Daily Deal Promotion Signal A Distressed Business? An Empirical Investigation of Small Business Survival
Ayman Farahat

FC14 – Fertitta Hall, 328, 3rd Floor

Marketing & Finance: IPOs II

Chair: Leon Gim Lim

Does Founders' Marketing Experience Help Venture Funding
Ye Cheng, Rui Wang

Does Top Managers' Marketing Experience Help IPO Financing? Marketing Upper Echelon and Firms' IPO Underpricing
Rui Wang, Ye Cheng

The Financial Impact of Ancillary Fees
Leon Gim Lim, Kapil R. Tuli

FC15 – Fertitta Hall, 331, 3rd Floor

CRM: Customer Retention

Chair: Luxi Shen

Gamification and Customer Retention
Zhe Han, Mike Lewis, Michelle Andrews

Service Guarantee and Relationship investments as Moderating Variables Between Consumer Relationship-vulnerability and Likelihood of Switching
Sadrac Cénophat, Martin Eisend, Tomas Bayon

The Fun and Function of Uncertainty: Field Experiments on the Effectiveness of Uncertain Incentives
Luxi Shen

FC16 – Fertitta Hall, 414, 4th Floor

Advertising: Hierarchy of Effects

Chair: Shuba Srinivasan

Co-Chairs: Koen Pauwels & Kay Peters

Understanding the Role of Synergy Dynamics in the Process of Hierarchy of Effect
Ceren Kolsarici, Kay Peters, Prasad Naik, Johannes Wenzel

Advertising's Long-term Impact on Brand Price Elasticity Across Brands and Categories
Berk Ataman, Koen Pauwels, Shuba Srinivasan, Marc Vanhuele

Communicating Brands in Television Advertising
Maren Becker, NorrisIgnatiius Bruce, Werner J. Reinartz

The Hierarchy of Effects Model: Dead or Alive
Shuba Srinivasan, Koen Pauwels, Gokhan Yildirim, Marc Vanhuele, Albert Valenti

2017 INFORMS Marketing Science Conference

Friday, June 9th, 2017 **1.30-3.00 (FC)**

FC17– Fertitta Hall, 416, 4th Floor	**FC18- Fertitta Hall, 417, 4th Floor**	**FC19– Popovich Hall, 300, 3rd Floor**	
Branding & Social Media III **Chair:** Vanitha Swaminathan Harvesting Brand information from Social Tags *Hyoryung Nam, Yogesh Joshi, P.K.Kannan* Mapping Brand Personality using Social Media *Vanitha Swaminathan, H. Andrew Schwartz, Shawndra Hill* Capturing Changes in Social Media Content: A Latent Changepoint Topic Model *David A. Schweidel, Ning Zhong* Perverse Spillover in Branding: How Social Media Amplify Negatives that then Hurt Focal and Competing Brands *Abhishek Borah, Gerard Tellis*	**Consumer Behavior Donating & Health** **Chair:** Mayu Fujimura Deferral Management to Reducing Negative Consequences on Subsequent Blood Donations *Martha Wegner, Michel Clement, Nina Mazar, Ann-Christin Langmaack* The Effect of Pre-giving Incentives on Relationship Norms and Donation Behavior *Bingqing Yin, Yexin Li, Surendra N. Singh* Demand for Medical Testing: The Role of Anticipatory Emotions and Probability Distortion *Jeeva Somasundaram, Luc R. Wathieu* The Relationship Between Health Awareness and Consumer Behavior *Mayu Fujimura*	**Meet Editors I** **Chair:** Sivaramakrishnan Siddarth Management Science *Eric Anderson* Quantitative Marketing and Economics *Pradeep Chintagunta* Journal of Marketing Research *Rajdeep Grewal* Marketing Science *K. Sudhir* Journal of Marketing *V. Kumar* International Journal of Research in Marketing *Roland Rust*	

2017 INFORMS Marketing Science Conference

Friday, June 9th, 2017 **3.30-5.00 (FD)**

FD01 – Fertitta Hall, 101, Lower Level

Channels: Strategy

Chair: Liping Qian

Manufacturer Sharing of Customer information with Retailers
Xingyao Ren, Gary Frazier, Xin Zheng, Xinyan Liu

Clustering, Governance, and Individual Outlet Sales: A Multi-year Analysis of an Evolving Franchise System
Moeen Naseer Butt, Kersi Antia, Brian Murtha, Vishal Kashyap

Reverse-fixed Payments in Distribution Channels with a Dominant Retailer
Sreya Kolay, Greg Shaffer

Do Business and Political Ties Differ in Cultivating Structure Capital for Firm Performance in China?
Liping Qian, Pianpian Yang, Jiaqi Xue

FD02 – Fertitta Hall, 102, Lower Level

Online Auctions III

Chair: Ernan E. Haruvy

Irrational Commitment and Aggressiveness of Bidders a Case of Online Penny Auctions
Wenche Wang, Richard Boampong

Integrating Buy-it-Now into Sequential Auctions: Evidence from Lab and Field Experiments
Yixin Lu, Alok Gupta, Wolfgang Ketter, Eric van Heck

Futility of Soft Floors in Ad Exchange Auctions
Robert Zeithammer

On the Reference Price Effect of Reserve and Buy-it-Now Prices
Ernan E. Haruvy, Peter T. Popkowski Leszczyc, Zelin Zhang

FD03 – Fertitta Hall, 105, Lower Level

Mobile Marketing: Technology

Chair: Yiting Deng

Big Data Location Analytics - Predicting Purchase Location With Mobile Location Data
Karthik Babu Nattamai Kannan, Sridhar Narasimhan

Driving Towards Purchase: Investigating Consumers' Search Patterns on an Automobile Mobile App
Jingcun Cao, Pradeep Chintagunta, Shibo Li

Uncovering Offline Conversion Funnel with Big Data: The Case of Mobile Wifi Tracking in Retail industry
Xing Lan, Tianshu Sun, Jun Duan

Spillover Effects and Freemium Strategy in Mobile App Market
Yiting Deng, Yongdong Liu

FD04 – Fertitta Hall, 125, Lower Level

Advertising & Social Media

Chair: Yakov Bart

Retailer Social Media and Consumer Purchase Decision Journey
Ashwin Malshe, Anatoli Colicev

How Celebrity Endorsement Effects Differ by Channel
Meltem Kiygi Calli, Koen Pauwels

Online Media Advertising Effectiveness: Evidence from a Large-scale Multi-country Field Study
Yakov Bart, Gui Liberali, Glen L. Urban, Benedict G. C. Dellaert, Catherine Tucker, Stefan Stremersch

Informative Advertising and Brand Differentiation in the High-end Fashion Industry
Yu-San Lin, Cuicui Chen, Jorge Alé Chilet

FD05 – Fertitta Hall, 233, 2nd Floor

User Generated Content & Performance II

Chair: Yeji Lim

Does Online Rating Affect Companies' Financial Performance? Evidence from Hotels in Singapore
Ding Ding, Chong Guan, Zheng Fang, Pui Mun Lee

Competition and the Impact of Online Reviews on Product Performance: Evidence from the Hotel industry
Hulya Karaman

Interacting User Generated Content Technologies and Their Effects in the Context of Online Shopping
Shrabastee Banerjee, Chrysanthos Dellarocas, Georgios Zervas

A Picture Worth a Thousand Words: Do Thematic Representations of Online Reviews Improve Performance?
Andrea Ordanini, Raji Srinivasan, Anastasia Nanni

Spatial Variations in the Sales Effects of User Generated Ratings
Yeji Lim, Murali K. Mantrala, Purushottam Papatla

FD06 – Fertitta Hall, 236, 2nd Floor

Crowdsourcing and Crowdfunding IV

Chair: Jian Ni

Co-Chair: Weining Bao

Modeling Consumer Crowdfunding Behaviors under Effort-Based Incentive
Xiaoqian Yu, Sha Yang, Yi Zhao

Does it Pay to Pay? The Impact of Incentive Modes on Crowdsourcing Effectiveness
Debjit Gupta, Juncai Jiang, Ying Xie

Does Restricting Information Make the Crowd More Accurate?
Vineet Kumar

Cheap Talk in the Crowdfunding Market
Weining Bao, Jian Ni

FD07 – Fertitta Hall, 239, 2nd Floor

Digital Marketing Field Experiments II

Chair: Tianshu Sun

Assessing the Impact of Ad Frequency in Programmatic online Display Retargeting: A Large-Scale Randomized Field Experiment
Ranjit Magendra Christopher, Bradley Fay, Sungho Park, Sang-Pil Han

To Integrate or Not? Social Media Integration and E-Commerce Platform Performance: A Large Field Experiment
Ni Huang, Tianshu Sun, Pei-yu Chen, Joseph Golden

Are Online Referrals Local? Offline Factors in Online Sharing
Yanhao Max Wei, Tianshu Sun, Joseph Golden

When do Recommender Systems Work the Best? The Moderating Effects of Product Attributes and Consumer Reviews on Recommender Performance
Dokyun Lee, Kartik Hosanagar

FD08 – Fertitta Hall, 240, 2nd Floor

Customer Analytics

Chair: Eva Ascarza

The Impact of Referral Coupons on Customer Behavior and Firm Revenues
Raghuram Iyengar, Young-Hoon Park

Retention Futility: Targeting High Risk Customers Might be Ineffective
Eva Ascarza

Salesperson vs. Model of the Salesperson: A B2B Pricing Application
Yael Karlinsky, Oded Netzer

Gremlins in the Data: Identifying the information Content of Research Subjects
John Howell, John Liechty, Peter Ebbes

2017 INFORMS Marketing Science Conference

Friday, June 9th, 2017 **3.30-5.00 (FD)**

FD09 – Fertitta Hall, 241, 2nd Floor

Method: Bayesian Models I

Chair: Sunghoon Kim

Linking Credit and Cash Transactions Using Bayesian Imputation
Yi Zhao, Sarang Sunder

Uncovering Latent Consumption Occasions from Observational Data on Brand and Quantity Choices
Masakazu Ishihara, Makoto Mizuno

A New Hierarchical Bayes Geographically Weighted Regression Spatial Model for Customer Service and Satisfaction Measurement in Marketing Research
Sunghoon Kim, Wayne DeSarbo

FD10 – Fertitta Hall, 313, 3rd Floor

Sales Force: Scheduling

Chair: Vamsi Krishna Kanuri

Sales Force Scheduling in Service-intensive Retail Stores: A Frontier Approach
Chien-Ming Chen

The Effects of Quota Frequency on Sales Force Performance: Evidence from a Field Experiment
Doug J. Chung, Das Narayandas

Optimal Scheduling of Field Service Personnel with Stochastic Service Times
Vamsi Kanuri, Christos Zacharias

FD11 – Fertitta Hall, 316, 3rd Floor

New Product Diffusion: Social Influence I

Chair: Masataka Yamada

Peer Effects and the Spatio-temporal Diffusion of Hybrid Electric Vehicles
David Keith, Jeroen Struben, John D. Sterman

New Product Adoption with Observed Heterogeneity: Evidence from the Beer Industry
Shuo Zhang, Tat Y. Chan, Seethu Seetharaman

Developing an Organic Influencer Scale in ICT Environment and an Extracting Method of the Influencers
Masataka Yamada, Toshihiko Nagaoka

FD12 – Fertitta Hall, 322, 3rd Floor

Feedback Loops, Marketing Communications & Inequality

Chair: Catherine Tucker

Algorithmic Bias? An Empirical Study into Apparent Gender-Based Discrimination in the Display of STEM Career Ads
Anja Lambrecht, Catherine Tucker

The Effect of Review Position on Purchase Likelihood when Consumers Have Limited Attention
Prasad Vana, Anja Lambrecht

Does IT Lead to More Equal or More Unequal Treatment? An Empirical Study of the Effect of Smartphone Use on Social inequality
Catherine Tucker, Shuyi Yu

FD13 – Fertitta Hall, 327, 3rd Floor

Promotion: EDLP

Chair: Omid Kamran-Disfani

Groupon Fatigue: Search & Learning in a Daily Deals Site
Chu (Ivy) Dang, Mantian (Mandy) Hu, Pradeep Chintagunta

Retailer Savings Weeks: The New Promotional Mantra?
Els Gijsbrechts, Jonne Y. Guyt

Spatial and Strategic Asymmetries: The Role of the Idiosyncratic Local Market Structure on Pricing Strategies
Rahul Govind, David S. Lie, Ashish Sinha

Not Always on the Menu: The Impact of Product-based Limited Time Offers on Sales
Omid Kamran-Disfani, Murali K. Mantrala, Vamsi K. Kanuri

FD14 – Fertitta Hall, 328, 3rd Floor

Marketing & Finance 8: Loans, Lending, & Savings

Chair: Wanqi Huang

Bonus Induced Durable Goods Consumption and its Unintended Consequence
Zhenling Jiang, Tat Y. Chan, Dennis Zhang

A Dynamic Structural Model of Mental Accounting
Nicholas Pretnar, Alan Montgomery, Christopher Olivola

Credit Card Text Alerts and Spending Behavior
Jikyung Kim, Yeohong Yoon, Jeonghye Choi, Dilip Soman

Can Bad Firms Benefit Good Firms? Evidence from P2p Lending Platforms in China
Wanqi Huang, Xiao Liu, Kannan Srinivasan

FD15 – Fertitta Hall, 331, 3rd Floor

CRM: Customer Satisfaction

Chair: Albert Valenti

Customer Management: A Framework for Integrating Customer Portfolio and Individual Customer Perspectives
Cleo Schmitt Silveira, Rodrigo Heldt, Fernando Bins Luce

Effect of Service Quality Management on Service Delivery in the Aviation industry
Reuben Njuguna

The Impact of Customer and Employee Satisfaction on Sales and Upselling: Role of Synergy and Heterogeneity
Albert Valenti, Shuba Srinivasan, Gokhan Yildirim

FD16 – Fertitta Hall, 414, 4th Floor

Advertising & Consumer Behavior I

Chair: Boonghee Yoo

Do Low Involved Brands Have Better Consumer Perception Due to Product Placement in Emerging Markets
Rajesh Kumar Srivastava

Measuring Addressable Advertising'S Impact: Receptivity Among Consumer Audiences
Boonghee Yoo, Veronica McMahon

The Impact of Symbolic Advertising and Symbol Affinity on Consumers' Ad Processing and Evaluations
Eliza K. Pott, Jan R. Landwehr

2017 INFORMS Marketing Science Conference

Friday, June 9th, 2017 **3.30-5.00 (FD)**

FD17- Fertitta Hall, 416, 4th Floor	FD18- Fertitta Hall, 417, 4th Floor	FD19– Popovich Hall, 300, 3rd Floor	
Brands, Retailing, and WOM Chair: Pianpian Kong Putting the Horses before the Cart: Harnessing the Power of Partner Brands *Pianpian Kong, Paul Ellickson, Mitchell Lovett* Competition Among Retail Formats *Chaoqun Chen* There's No Free Lunch Conversation: The Effect of Brand Advertising on Word of Mouth *Linli Xu, Mitchell Lovett, Renana Peres*	**Consumer Behavior Emotion** **Chair:** Songting Dong Peas in a Pod? Distinct Effects of Pride and Gratitude on Self- Versus Other-focused Appeals *Nitika Garg, Felix Septianto* The Impact of Power on Reliance on Feelings in Decision Making *Hannah H. Chang, Yunhui Huang, Jiewen Hong* The Impact of Emotionality of EWOM on Consumer's Purchasing intension *Zhenhuan Shao, Xin Zheng, Deyong Kong* The Role of Emotions Across Different Industries *Songting Dong, John H. Roberts, Elaine Saunders*	**Meet Editors II** **Chair:** Shantanu Dutta Journal of Consumer Research *Darren Dahl* Journal of Retailing *Murali K. Mantrala* Journal of Interactive Marketing *Brian T. Ratchford* Customer Needs and Solutions *Min Ding* Journal of Consumer Psychology *Amna Kirmani* JPIM *Shikhar Sarin* Marketing Letters *Peter Golder*	

2017 INFORMS Marketing Science Conference

Saturday, June 10th, 2017 **8.30-10.00 (SA)**

SA01 –Fertitta Hall, 101, Lower Level

Retailing: Technology

Chair: Andre Bonfrer

The Effects of Self-service Technology Discontinuance on Customer Response Behavior
Ashish Kumar

Digitally Integrated Experiential Retail How Interactive Displays Increase Product Happiness
Dominique Braxton

How Package Renewal Change Consumer Product Purchase
Haruka Kozuka

The Effect of Plain Packaging of Tobacco Products on Sales
Andre Bonfrer, Pradeep Chintagunta, David Corkingdale, John H. Roberts

SA02 – Fertitta Hall, 102, Lower Level

Online Search I

Chair: Xiaomeng Chen

How Platform Firms Can Accelerate Purchases: insights from Consumer Search
Jessica Babin, John Hulland, Anindita Chakravarty, Sara Loughran Dommer

Filtering for Less or Browsing for More: Why Consumers Adopt Different Search Strategies
Boshuo Guo, Catarina Sismeiro, Ammara Mahmood

Search Cost for Price Information and Hotel Booking: A Large-scale Randomized Field Experiment in a Mobile App
Xiaomeng Chen, Xitong Li, Yu Jeffrey Hu

Consumer Search and Choice under Limited information
Qiang Zhang, Jun Beom Kim

SA03 – Fertitta Hall, 105, Lower Level

Mobile Marketing: Adoption

Chair: Meghan Pierce

Going Mobile; The Effect of Mobile App Adoption on Customers' Multichannel Shopping Behavior
Rishika Rishika, Eunho Park, Joon Ho Lim, Ramkumar Janakiraman

Exploring the Usage of Touch Features and Their Impact on Engagement
Wei Shi, Kirthi Kalyanam

A Multi-method Investigation of Millennial Mobile Marketing Acceptance
Meghan Pierce, Pingjun Jiang

SA04 – Fertitta Hall, 125, Lower Level

Social Media Sharing I

Chair: Vishnu Menon

For Whom to Tweet? Evidence from a Large-scale Social Media Platform
Zaiyan Wei, Mo Xiao

How can Companies Get their Social Media Campaigns Rebroadcast. The Role of Fit Between Online Contents and Corporate Fan Pages
Elisa Montaguti, Sara Valentini, Federica Vecchioni

Consumer Social Sharing and Brand Competition
Jane Gu, Xinxin Li

From Likes to Shares: Factors Influencing Consumer Engagement Behaviors on Facebook and Twitter
Vishnu Menon, Valdimar Sigurdsson, Herborg Sørensen, Helena Gunnars Marteinsdóttir, Asle Fagerstrøm, Gordon R. Foxall

SA05 – Fertitta Hall, 233, 2nd Floor

User Generated Content & Social Influence

Chair: Joon Ro

The Power of Words: A Speech Act Analysis of the Effect of Word of Mouth on Online Ratings
Clarissa Spiess-Bru, Daniel Kaimann, Bernd Frick

Influencing the Influencers: Bandwagon Effect of Online Product Review Behaviour
Shah Snehal, Ashish Kumar Jha

Estimating the Impact of User Personality Traits on Word-of-mouth: Text-mining Microblogging Platforms
Panagiotis Adamopoulos, Anindya Ghose, Vilma Todri

Measuring the Impact of Biases in Online Reviews on Consumers' Usage of Online Information
Joon Ro, Burcu Tan

SA06 – Fertitta Hall, 236, 2nd Floor

Crowdsourcing V

Chair: Masoud Moradi

Crowdsourcing Ideas for Innovation - Fixation or Talent?
Christian Pescher, Gerard J. Tellis, Füller Johann

Threads of Success: New Empirical Generalizations from a Large Crowdsourcing Dataset
Anirban Mukherjee

Incentives and Collaborations: Applications of One-sided Matching in a Crowdsourcing Platform
Yijun Chen, Chunhua Wu, Tat Y. Chan

An Investigation of the Effects of Rhetoric and Dynamic Characteristics on Crowdsource Funding Formation
Masoud Moradi, Mayukh Dass, Dennis Arnett

SA07 – Fertitta Hall, 239, 2nd Floor

Digital Marketing Information & Media I

Chair: Dean Eckles

Learning about Peer Effects from Many Experiments: Regularized Instrumental Variable Methods for Massive Meta-Analysis
Dean Eckles, Alex Peysakhovich

Optimal Experimentation: Theory and Evidence from Search Engines
Justin Rao, Eduardo Azevedo, Alex Deng, José Luis Montiel, Olea E. Glen Weyl

Social Media and Political Donations: New Technology and Incumbency Advantage in the United States
Pinar Yildirim, Ananya Sen, Maria Petrova

Lead Offer Effects in Consumer Couponing: Evidence from Field Experiments
Matthew McGranaghan, Kenneth C. Wilbur, Jura Liaukonyte

SA08 – Fertitta Hall, 240, 2nd Floor

No Session

2017 INFORMS Marketing Science Conference

Saturday, June 10th, 2017 **8.30-10.00 (SA)**

SA09 – Fertitta Hall, 241, 2nd Floor

Advances in Structural Models

Chair: Brett Hollenbeck

A Lagrange Multiplier Test of Discount Factors in Dynamic Discrete Choice Models
Avery Haviv

Innovation and Distribution: A General Equilibrium Model of Manufacturing and Retailing
Bart J. Bronnenberg

Learning to Set Prices in the Washington State Liquor Market
Yufeng Huang, Paul Ellickson, Mitch Lovett

Vertical Structure and Pricing: Evidence from the Washington Cannabis Industry
Brett Hollenbeck, Kosuke Uetake

SA10 – Fertitta Hall, 313, 3rd Floor

No Session

SA11 – Fertitta Hall, 316, 3rd Floor

New Product Diffusion: Movies

Chair: Youseok Lee

Moment of Truth: A Study of WOM Dynamics Two Days Before and After a New Movie Release
Robert Krider, Jason Ho, Andrew Fogg

The Influence of Violence and Profanity on Reviews and Sequel Performance
Sanjay Sisodiya, Steven Shook, Berna Devezer

Predicting Movie Watching Behavior using Facebook Data and Information-fusion Sensitivity Analysis
Matthias Bogaert

Diffusion Patterns of Movies: The Differences Between U.S. and Korean Market
Youseok Lee, Sang-Hoon Kim, Kyoung Cheon Cha

SA12 – Fertitta Hall, 322, 3rd Floor

Internet & Marketing

Chair: Sonika Singh

Visualizing Emergent Identity of Assemblages in the Consumer Internet of Things: A Topological Data Analysis Approach
Tom Novak, Donna Hoffman

Economic Consequences of Cookie Deletion
Klaus Miller, Bernd Skiera

How Adoption and Diffusion of a Smart Product May be Affected by Referring to Customer Empowerment Activities or the Status as a Start-Up Company
Maria Kaldewei, Christian Stummer

The Internet's Impact on Market Efficiency
Sonika Singh, Ellen Garbarino

SA13 – Fertitta Hall, 327, 3rd Floor

Promotion: Redemptions

Chair: Daniel Guhl

Price Adjustment Policy With Partial Refunds
Amit Pazgal, Dinah Cohen-Vernik

Consumer Curiosity in Promoted Prices
Keith A. Botner, Arul Mishra, Himanshu Mishra

Role of Endogenous Consumption in Counter-cyclical Pricing
Minjung Kwon, Tülin Erdem, Masakazu Ishihara

How Individualization of Product Recommendations and Price Discounts Impacts Coupon Redemption: Insights from a Large-scale Field Experiment
Daniel Guhl, Sebastian Gabel, Daniel Klapper

SA14 – Fertitta Hall, 328, 3rd Floor

Health & Insurance

Chair: Jong Yeob Kim

Impact of Lifestyle Diseases on Consumption and Role of Insurance in an Emerging Economy
Saravana Jaikumar, Shantanu Dutta, Neeraj Sood, Om Narasimhan

How Insurance Coverage Policy Affect Use of Medical Obesity Treatment in Low Income Level Patients
Junghwa Yu, Kyuhong Park

Obesity and Self Control: Evidence from Food Purchase Data
Matthew Osborne, Ying Bao, Emily Wang, Edward Jaenicke

Evaluating Sugary Drinks Tax using Dynamic Addiction Model
Jong Yeob Kim, Masakazu Ishihara

SA15 – Fertitta Hall, 331, 3rd Floor

Marketing Measurement

Chair: Leonard Paas

Exploring The Relations Between Needs, Positioning, and Satisfaction
Alexander Anokhin, Aharon Hibshoosh

How to Measure the Customer Experience Along the Customer Journey
Markus Gahler, Michael Paul, Jan F. Klein

A Novel Method for Detecting Careless Respondents in Survey Data
Volkan Dogan

Inter-rater Reliability: The Challenge of Highly Unequal Category Sizes
Rutger van Oest

Instructional Manipulation Checks: A Longitudinal Analysis
Leonard Paas, Sara Dolnicar, Logi Karlson

SA16 – Fertitta Hall, 414, 4th Floor

Advertising Optimization

Chair: Liwu Hsu

Causal Attribution Modeling and Media Investment Optimization
Saeed Bagheri, Joong Rhim

Impact of Economic Cycles on Consumer Oriented Media Synergy: Choice Between individual and Multiple Media Selection for Marketers
Abhishek Nayak, Shameek Sinha

Delusion in Attribution: Caveats in using Attribution for Multimedia Allocation
Harald J. van Heerde, Peter Danaher

The Impact of Advertising Expenditures on Profitability in Franchised Outlets
Liwu Hsu, Benjamin Lawrence, Jie Zhang

2017 INFORMS Marketing Science Conference

Saturday, June 10th, 2017 **8.30-10.00 (SA)**

SA17- Fertitta Hall, 416, 4th Floor	SA18- Fertitta Hall, 417, 4th Floor	SA19– Popovich Hall, 300, 3rd Floor	
Value Creation & Appropriation **Chair:** Chen Zhou Contracting to Dis-incentivize *Desmond Lo, Giorgio Zanarone, Mrinal Ghosh* Contract and Interorganizational Learning *Yi Zheng, Qiong Wang* Value Creation and Appropriation in the Services: A Study of Airlines *Chen Zhou, Rajdeep Grewal*	**Consumer Behavior Feedback & Momentum** **Chair:** JaeEun Baek Will Observers Blame a Service Failure That Happens to Others? The Role of Incidental Similarity *Lisa C. Wan* Using Regulatory Fit and Unfit to Adjust Front-line Service Providers' Work Engagement When Facing Customer Feedbacks *Shannon X. Yi, Chloe Y. Qiu, Lisa C. Wan* The Carry Over Effect of Irreversible Decision Making *JaeEun Baek, Jung Min Jang*	**No Session**	

2017 INFORMS Marketing Science Conference

Saturday, June 10th, 2017 **10.30-12.00 (SB)**

SB01 – Fertitta Hall, 101, Lower Level

Retailing: General

Chair: Xu Zhang

Shocks in Cash Supply and Retail Consumption Patterns
Ranjan Banerjee, Ashita Aggarwal

Spending Money and Saving Loyalty Points: A Construal Level Perspective
Alina Nastasoiu, Bendle Neil, Mark Vandenbosch

Meet Me Halfway the Value of Bargaining
Junhong Chu, Xu Zhang, Puneet Manchanda

SB02 – Fertitta Hall, 102, Lower Level

Online Search II

Chair: Georg von Graevenitz

Emotion in Search Adverting: An Empirical Study
Pengyuan Wang, Anindita Chakravarty, Phi Cong Hoang

Price in Online Ads
Michelle Andrews, Ting Li

Role of Face Presence and Dominance on Product Exploration from Visual UGC
Purushottam Papatla

Does Online Search Predict Sales? Evidence from Big Data for Car Markets in Germany and the UK
Georg von Graevenitz, Christian Helmers, Valentine Millot

SB03 – Fertitta Hall, 105, Lower Level

Mobile Marketing with Customer Psychology

Chair: Xueming Luo

Personality Matching to Improve Mobile Ad Effectiveness
Rajiv Garg, Raj Raghunathan, Frenkel Terhofstede

The Good, Bad, and Ugly of Omnichannel Promotions
Fue Zeng, Yuchi Zhang, Xueming Luo

Consumption-based Mobile Analytics in e-Book Markets: Reading Patterns, Review Ratings, and Promotional Engagement
Wonseok Oh, Angela Aerry Choi, Jae Yun Moon, Paul Merage

SB04 – Fertitta Hall, 125, Lower Level

Social Media Sharing II

Chair: Haris Krijestorac

Social Media and Mental Health: Investigating Behavioral Contagion from Celebrity Suicides
Srabana Dasgupta, Dianne Cyr, Nilesh Saraf

What Gives "Real-time Marketing" its Bite? A Byte of Humor
Yuting Lin, Andreas Eisingerich, Sourindra Banerjee, Abhishek Borah

Understanding Virality of Online Videos Using Spillover Effects
Haris Krijestorac

SB05 – Fertitta Hall, 233, 2nd Floor

User Generated Content Social Influence & Authenticity

Chair: Jiaxiu He

Strategic Behaviors in Online Reviews: A Study of Yelp.com
Tianyu Gu, Yong Liu, Madhu Viswanathan

Understanding the Drivers of Online Rating Behavior in Collaborative Content Communities
Kihyun Hannah Kim, Sarang Sunder, Eric Yorkston

The Oz Effect: How Does Information Credibility Affect Healthcare Choices?
Zijun Shi, Xiao Liu, Kannan Srinivasan

The Importance of Authenticity and Experience in Online Rating Systems
Jiaxiu He, Xin Wang, Mark Vandenbosch

SB06 – Fertitta Hall, 236, 2nd Floor

Sharing Economy IV

Chair: Daniel Kaimann

The Evil Necessity: The Role of Surge Pricing in Sharing Economy
Xinying Hao, Garrett Sonnier

The Strategic Impact of Collaborative Consumption on Product Marketers
Myounghee Moon, Subramanian Balachander

Behind the Review Curtain: Decomposition of Online Consumer Ratings in Peer-to-peer Markets
Daniel Kaimann

SB07 – Fertitta Hall, 239, 2nd Floor

Digital Marketing, Information and Media II

Chair: Xiao Liu

The Effects of Short-run and Long-run Goals on Customer Motivation: Evidence from a Behavior Tracking App
Nathan Yang, Kosuke Uetake

Large Scale Cross Category Analysis of Consumer Review Content on Sales Conversion Leveraging Deep Learning
Xiao Liu, Dokyun Lee, Kannan Srinivasan

Does the Media Bias News in Favor of Advertisers? Evidence from Coverage of Car Safety Recalls
Ananya Sen, Graham Beattie, Ruben Durante, Brian Knight

The Regulatory Power of Crowdsourced Reviews: Evidence from New York Restaurants
Chiara Farronato, Georgios Zervas

SB08 – Fertitta Hall, 240, 2nd Floor

Market Frictions and Consumer Welfare: Multi-Market Contact, Liquidity Constraints and Entry Barriers

Chair: Ahmed Khwaja

Liquidity Constraint and Household Shopping Behavior
Srinivasaraghavan Sriram, Puneet Manchanda, Kanishka Misra

Efficiency Gains from Removing Entry and Price Controls: Evidence from a Change in Regulation
Maria Ana Vitorino, Katja Seim

The Collusive Effect of Multimarket Contact on Prices: Evidence from Retail Lumber Markets
Ahmed Khwaja, Beomjoon Shin

2017 INFORMS Marketing Science Conference

Saturday, June 10th, 2017 **10.30-12.00 (SB)**

SB09 – Fertitta Hall, 241, 2nd Floor

Structural Models V

Chair: Ron N. Borkovsky

Large-scale Demand Estimation with Search Data
Stephan Seiler, Tomomichi Amano

Private Labels and Retailer Profitability: Bilateral Bargaining in the Grocery Channel
Mitchell Lovett, Paul Ellcikson, Pianpian Kong

How does Sugar Tax Affect Demand
Song Yao, Stephen Seiler

SB10 – Fertitta Hall, 313, 3rd Floor

Marketing Alliances

Chair: Kiran Pedada

Distribution Strategies of Complementary Products and Financial Performance: The Impact of Exclusive, Partially Exclusive, or Non Exclusive Models
Richard T. Gretz, Carlos Bauer, Suman Basuroy

Role of Network Ties in Selecting Partners for Marketing Alliances: Implications for Firm Risk
Ashish Sharma, Anindita Chakravarty, Chen Zhou

Implication of Market Facing Corporate Social Responsibility for Strategic Alliance: Rub-off Effects
Sean Yim, U.N. Umesh

Determinants of International Marketing Joint Venture Dissolutions in Emerging Markets
Kiran Pedada, Venkatesh Shankar, Mayukh Dass

SB11 – Fertitta Hall, 316, 3rd Floor

New Product Diffusion: Game Theory

Chair: Mahmood Pedram

Analyzing Cross-platform Information Propagation
Christine Balagué, M. Mohamad Ghassany

Demonstration Strategy for Innovators in Markets with Consumer Learning Effect
Chenchen Di, Yunchuan Liu

A Market Structure Analysis on the Launch of New Products and Asymmetric Growth of Existing Products: How Does the 80/20 Law Emerge?
Hiroshi Kumakura

Competitive Product Release Timing
Mahmood Pedram

SB12 – Fertitta Hall, 322, 3rd Floor

Internet Consumer Behavior

Chair: Qilin Ma

The Influence of Observational Learning on Consumer Behavior Through Visible Trends
Leonard Rackowitz, Nadja S. Grabenströer, Olaf Maecker, Mark Heitmann, Michel Clement

An Empirical Investigation of Internet Addiction and Repeat Purchase Intention: Moderating Roles of intrinsic Motivation, Brand Trust and Risk Aversion
Qin Sun, Vincent Havrilko, Atefeh Yazdanparast Ardestani, Indira Guzman

Customer Engagement and Online Reviews
Rakhi Thakur

The Role of Online Reviews in Mainland Chinese Visitors' Food and Beverage Related Behavioral Intentions - The Case of Macau
Qilin Ma, Ying Ho

SB13 – Fertitta Hall, 327, 3rd Floor

Promotion: Retail

Chair: Andrea Kuennen

Measuring the Effect of Retail Promotions on Conversion Rates: A New Prediction Approach
Leonardo David Epstein, Maria-Ignacia Vicuña

Price Promotion Strategy and Retailer Performance
Ruohao Sun, Fred Selnes, Auke Hunneman

Using Rewards Programs in Public Policy: Some Success from a Field Experiment on Subway Trains
Nan Yang, Wai Yan Leong

Looking Beyond Sales - Promotion Impact on E-tailer Profit, Loyalty, and Growth
Andrea Kuennen, Dominik Papies

SB14 – Fertitta Hall, 328, 3rd Floor

Healthcare in Marketing

Chair: Jia Ni

Co-Chair: Manuel Ignacio Hermosilla

Can Viagra Advertising Make More Babies?
Tongil Kim, Diwas KC

Money-Back Guarantees and Service Quality: The Marketing of In-Vitro Fertilization
Madhu Viswanathan, Shan Yu, Mrinal Ghosh

Clinical and Commercial Impacts of Drug Availability
Manuel Ignacio Hermosilla, Jian Ni

Optimal Investment in Support of Current Drugand Development of New Drug
Yi Qian, Zhili Tian

SB15 – Fertitta Hall, 331, 3rd Floor

Marketing Metrics

Chair: Namig Nurullayev

How Managers Make Trade-offs Between Metrics When Making Marketing Budgetary Decisions
Ofer Mintz, Yakov Bart, Peter J. Lenk, David Reibstein

A Model for Evaluating Metric Effectiveness: Correcting for Endogenous Selection Effects and Ex-ante Expectations
Peter J. Lenk, Ofer Mintz, Timothy J. Gilbride, Imran S. Currim

A Comparison of Methods to Calculate Return Rates: Evidence from 16 Retailers
Namig Nurullayev, Siham El Kihal, Bernd Skiera, Christian Schulze

SB16– Fertitta Hall, 414, 4th Floor

Advertising & Consumer Behavior II

Chair: Ji Yoon Kim

Should Charities use Photos of 'People in Need' in Charity Advertising? Anthropomorphism, Donor Fatigue and Haptic Cues
Harsh Maheshwari

Does Distance Make it Beautiful? Spatial Distance and Consumers' Product Evaluations
Ming-Tsung Kung, Xing-Yu Chu, Chun-Tuan Chang

Cosmetic Surgery Beauty in Advertisements: Reactions of Female Consumers to Female Advertising Models Who have Undergone Cosmetic Surgery
Pornchanoke Tipgomut, Leo Paas, Angela McNaught

The Effect of Brand Personification in Advertising
Ji Yoon Kim, Kyounghee Chu

2017 INFORMS Marketing Science Conference

Saturday, June 10th, 2017 **10.30-12.00 (SB)**

SB17- Fertitta Hall, 416, 4th Floor	SB18- Fertitta Hall, 417, 4th Floor	SB19- Popovich Hall, 300, 3rd Floor	
Managing Human Capital in Marketing **Chair:** Christine Moorman Does the Presence of a Customer in the Boardroom Matter? *Raghu R. Bommaraju, Michael Ahearne* Marketing CEOs: Where are They, and How are They Different? *Stephen J. Anderson, Frank Germann, Rajesh Chandy* Highways and Rural Household Expenditure on Education *Thomas Zhang, Rajesh Chandy, Om Narasimhan* Is Employee-based Brand Equity a Double-Edged Sword? *Christine Moorman, Nader T. Tavassoli, Alina Sorescu*	**Consumer Behavior Shopping** **Chair:** Atanu Adhikari The Effect of Consumer Confusion on Satisfaction Using GPS Data in a Shopping Mall *Ryunosuke Nagai* Making Mystery Shoppers Count: An Empirical Study *Mengze Shi* An Experiment to Examine the Effectiveness of Augmented-reality in Marketing Communication Strategy on Attitude and Purchase Intention *Akihiro Inoue, Felicia Chou* Congruence or Conflict? How Cognitive and Affective Store Image Effect Hedonic and Utilitarian Reasons for Purchase *Atanu Adhikari*	**No Session**	

2017 INFORMS Marketing Science Conference

Saturday, June 10th, 2017 1.30-3.00 (SC)

SC01 – Fertitta Hall, 101, Lower Level

Retailing: Store Choice

Chair: Francesca Sotgiu

Retail Competition on a Salop Circle Under Linear Demand and Implications for a Monopolistic Manufacturer
Amiya K. Basu, Charles A. Ingene, Atasi Basu

Measuring the Agglomeration Effect on Consumers' Store Choice
Heemok Park, A. Yesim Orhun, Joseph Pancras, Srinivasaraghavan Sriram

What Factors Drive Overall Store Price Image
Rajagopalan Sethuraman, Richard Briesch, William Russell Dillon

Growing Private Label Share: Importance of Shelf Position and Proximity Relative to National Brands
Francesca Sotgiu, Murali K. Mantrala, Manfred Krafft, Sebastian Tillmans

SC02 – Fertitta Hall, 102, Lower Level

Online Search III

Chair: Nima Jalali

Brand Competition within Online Keyword Search Process
William J. Allender, Ruhai Wu, Jie Jian

The Role of Personalization and Position Effects in Paid Search Advertising
Sebastian Schubach, Jan H. Schumann, Alexander Bleier

Charting The Path-to-purchase Using Topic Models
Hongshuang (Alice) Li, Liye Ma

Consumer Search in online Retail: Relative Roles of Product and Context Content in Visual User Generated Content
Nima Jalali, Purushottam Papatla

SC03 – Fertitta Hall, 105, Lower Level

Darkside of Retargeting and Consumer Annoyance

Chair: Xueming Luo

Trade-offs in Online Advertising: Modeling and Measuring Advertising Effectiveness and Annoyance Dynamics
Anindya Ghose, Vilma Todri, Param Vir Singh

When Retargeting Ads Work and Backfire
Takeshi Moriguchi, Xueming Luo, Guiyang Xiong

Sensor Data, Privacy and Behavioral Tracking: Does Usage Based Auto insurance Benefit Drivers
Charles Weinberg, Ting Zhu, Miremad Soleymanian

SC04 – Fertitta Hall, 125, Lower Level

Social Media Networks II

Chair: Russ Nelson

Manipulation of Online Forums by Firms: Implications for Equilibrium Outcomes
Sreyaa Guha, Shameek Sinha

Company's Marketing Strategies and Opinion Leaders in Network
Zhuo Zhang, Weihe Gao

The Evolution of Cooperation in Social Networks
Russ Nelson

SC05 – Fertitta Hall, 233, 2nd Floor

User Generated Content Negativity

Chair: Nikolaos Korfiatis

Does The Negativity of Negative Reviews Inform the Helpfulness of Online Reviews More than the Positivity of Positive Reviews?
Morris George

Semantic Characteristics of Spam Reviews and the Financial Incentives
Eun Hee Ko, Douglas Bowman

The First-review Effect: Interdependence Between Volume and Valence of Online Consumer Reviews
Sungsik Park, Woochoel Shin, Jinhong Xie

Temporal Characteristics of Review Valence: Do Online Reviews Reflect True Product Quality?
Nikolaos Korfiatis, Panagiotis Stamolampros, Vasileios Sagiadinos, Efthymia Symitsi

SC06 – Fertitta Hall, 236, 2nd Floor

Innovation II

Chair: Sudhir Voleti

How, Why and to What Extent do Chief Marketing Officers Matter in Firms' Radical Service Innovations? An Empirical investigation of Contingent Effects
Ping-Jen Kao, Scott Dacko, Yansong Hu

Don't Do it Right, Do it Fast? Speed and Quality of Innovation in Digital Markets
Ming-Hui Huang, William Rand, Roland T. Rust

Optimizing Strategic Orientations for Superior Firm Performance
Shekhar Misra, Abhi Bhattacharya

The Product-market Antecedents of Firms' Innovation and Marketing Focus
Sudhir Voleti, Ashish S. Galande

SC07 – Fertitta Hall, 239, 2nd Floor

No Session

SC08 – Fertitta Hall, 240, 2nd Floor

Game Theory of Information and Online Economy I

Chair: Pınar Yildirim

Tailored Cheap Talk
Pedro Gardete

Why Customer Service Frustrates Consumers: Exploiting Hassle Costs by a Tiered Customer Service Organization
Yi Zhu, Anthony Dukes

Attracting Artists to Music Streaming Platforms
Mark Bender, Tansev Geylani, Esther Gal-or

Conspicuous Consumption on the Long Tail: How Can Luxury Brands Benefit from Counterfeits?
Pınar Yıldırım, Jessie Liu, John Z. Zhang

2017 INFORMS Marketing Science Conference

Saturday, June 10th, 2017 **1.30-3.00 (SC)**

SC09 – Fertitta Hall, 241, 2nd Floor

Method: Bayesian Models II

Chair: Ty Henderson

Models of Endogenous Willingness to Respond in Choice Experiments
Tetyana Kosyakova, Thomas Otter, Felix Eggers

Selective Enforcement of Organized Retail Theft Laws
Michael H. Braun

Efficient Analysis for Multivariate Binary Data with Polya-gamma Auxiliary Variables
Ty Henderson, Qing Liu

SC10 – Fertitta Hall, 313, 3rd Floor

International

Chair: Roberta Aguzzoli

Do Corporate Reputation Dimensions Matter for Consumers' Buying Decision? A Cross-national Study
Jorge Lengler, Anne Hjortsholm, Roberta Aguzzoli

Attitude of Indian Consumers Towards International Luxury Brands
Shadma Shahid, Rahela Farooqi

Culture and Government Policies on International Market Entry
Tianjiao Qiu

The S-shaped Curve Relationship Between International Pricing Strategy and Export Performance
Roberta Aguzzoli, Jorge Lengler, Carlos Sousa, Catarina Marques

SC11 – Fertitta Hall, 316, 3rd Floor

New Product Diffusion: Social Influence II

Chair: Li Sun

Within-category Peer Effects in the Market for Hybrid Electric Vehicles
Jad Sassine, David Keith

How Social Contagion in New Product Diffusion Depends on Innovativeness of Consumers Involved
Weiyi Deng, Maciej Szymanowski, Xi Chen

Intrahousehold Peer Effects in Smartphone Adoption
Minjung Park

Are Network Externalities Chilling or Warm? A Case of the U.S. Video Game Market
Li Sun, Shanfei Feng

Opinion Leadership and New Product Adoption in Social Media
Duygu Akdevelioglu, Selcan Kara

SC12 – Fertitta Hall, 322, 3rd Floor

Method - Conjoint Analysis

Chair: Felix Eggers

Frequency Knowledge Heuristic in Binary Discrete Choice Experiments
Mauricio Ferreira, Rottem Sagi, Eugene Oh, Michael Thottam

Measuring Preferences Based on Attribute Exploration
Sebastian Hein, Christian Schlereth

Precision Matters: How Craft in Conjoint Analysis Affects Price and Positioning Strategies
Felix Eggers, John R. Hauser, Matthew Selove

SC13 – Fertitta Hall, 327, 3rd Floor

Eye Tracking in Advertising

Chair: Anocha Aribarg

An Eye Tacking Study on the Exposure Effect of Creative Ads
Jia Jia, Junzhu Li, Xiyu Chen, Yushi Jiang

Diagnostics for Ad Pretesting using Mixed Frequency Time Series
Prasad Naik, Edlira Shehu, Daniel Zantedeschi

Consumer Response to Native Advertising
Anocha Aribarg, Eric Schwartz

SC14 – Fertitta Hall, 328, 3rd Floor

Sustainability

Chair: Stav Rosenzweig

Don't Be a Big Waster! Regulating Consumer Behaviors through the Experience of Guilt and Shame
Maggie Y. Chu, Lisa C. Wan

Economic Gains Stimulate Negative Evaluations of Corporate Sustainability Initiatives
Tamar Makov, George Newman

Understanding Consumer Response to Climate Change Amelioration Policies
John H. Roberts, Pamela Morrison, Edward Wei, Aysha Brown

On Sustainability Initiatives of Firms
Sumitro Banerjee

License to Pollute: Do Car Environmental Cues increase Consumer Driving?
Stav Rosenzweig, Aviv Steren, Ofir Rubin

SC15 – Fertitta Hall, 331, 3rd Floor

Segmentation: General

Chair: Milad Darani

A Latent Class Segmentation Approach to Mapping the Investor Market
Ceren Kolsarici, Christopher Amaral, Fatma Sonmez

A New Segmentation Tool for Airlines
Luming Wang, Changmin Jiang, Tiziana D'alfonso

Dynamic Segmentation by Multiple Items Purchases using Machine Learning. Leveraging Transaction and Attitudinal Data
Milad Darani, Venkatesh Shankar

SC16 – Fertitta Hall, 414, 4th Floor

Advertising & Consumer Behavior III

Chair: Eugene Chan

The Drivers and Consequences of Ad Blocking
Evert de Haan

Is Bigger Always Better the Impacts of Product-model Size Ratio and Brand Social Role on Advertising Effectiveness
Ming-Tsung Kung, Chun-Tuan Chang, Xing-Yu Chu, Hsin-Yi Wang

Holistic Perception of Celebrity Endorsers and the Role of Unique Outline
M. Liu, Yongdan Liu

The Height of Luxury: Vertical Location Matters in Advertisements for High Status Items
Eugene Chan

2017 INFORMS Marketing Science Conference

Saturday, June 10th, 2017 **1.30-3.00 (SC)**

SC17- Fertitta Hall, 416, 4th Floor	SC18- Fertitta Hall, 417, 4th Floor	SC19- Popovich Hall, 300, 3rd Floor	
Entrepreneurship **Chair:** Zuhui Xu Consumption, Entrepreneurship and Poverty Alleviation: A Marketing Perspective *Arun Sreekumar, Saravana Jaikumar, Shantanu Dutta, Madhu Viswanathan* The Influence of Entrepreneurs' Buddhism Upon the Customer Awareness of Corporate *Zuhui Xu, Zhuo Zhang*	**Consumer Behavior to Price & Product** **Chair:** Hanyong Park Cost Transparency: Is it too Much? *Huseyin Sami Karaca, Ozlem Hesapci, N. Alican Mecit* How Does Resource Scarcity Influence Consumers' Price-quality Judgments? *Hanyong Park, David Silvera, Ashok Lalwani* Consumer Preference for Opaque Products *Lucas Stich, Martin Spann, Gerald Haeubl* The Effect of Temporary Product Unavailability on Consumer Variety Seeking *Hanyong Park, David Silvera, Dengfeng Yan*	**No Session**	

2017 INFORMS Marketing Science Conference

Saturday, June 11th, 2017 **3.30- 5.00 (SD)**

SD01 – Fertitta Hall, 101, Lower Level

Retailing: Assortment

Chair: Kris Johnson Ferreira

Heterogeneity in Consumer Response to a Conflict Delisting
Els Breugelmans, Sara Van der Maelen, *Kathleen Cleeren, Kusum L. Ailawadi, Scott Andrew Neslin*

Market Basket Analysis Insights to Support Category Management
Luis Aburto, Andres I. Musalem, Maximo Bosch

What are the Welfare Effects of Consumer Brand Deletions?
Rafael Becerril Arreola, Randolph E. Bucklin

Assortment Rotation and the Value of Concealment
Kris Johnson Ferreira, Joel Goh

SD02 – Fertitta Hall, 102, Lower Level

Platform-based Marketing

Chair: Jinzhao Du

Media Platforms' Content Provision Strategy and Source of Profits
Jinzhao Du, Wilfred Amaldoss, Woochoel Shin

Auctioneers as Market Makers: Managing Momentum in Chittagong Tea Auctions
Tanjim Hossain, Fahad Khalil, Matthew Shum

Watching People Watch TV
Matt McGranaghan, Jurate Liaukonyte, Kenneth Wilbur, Geoffrey Fisher

The Impact of Loyalty Shipping Programs on Multichannel Purchase Behavior
Qi Yu, Raghuram Iyengar, Young-Hoon Park

SD03 – Fertitta Hall, 105, Lower Level

No Session

SD04 – Fertitta Hall, 125, Lower Level

Social Media Referrals

Chair: Pedro M. Ferreira

How Customer Referral Programs Harness the Power of Your Customers' Friendships
Iris Roelens, Philippe Baecke, Dries Benoit, Christophe Van den Bulte

Matching Does Not Fully Explain How Referrals Propagate
Constant Pieters, Aurelie Lemmens, Rik Pieters

Who Will Become The Next Hub? An Early Prediction Framework for influential Users During Urgent Events
Bill Rand, Hechao Sun, Shawn Mankad

The Welfare Properties of Recommender Systems
Pedro M. Ferreira, Xiaochen Zhang, Rodrigo Belo, Miguel Godinho de Matos

SD05 – Fertitta Hall, 233, 2nd Floor

User Generated Content General

Chair: Chun-Yao Huang

Dynamics of Customer Reviews Over the Product Lifecycle
Ning Zhong, David A. Schweidel

Sentiment Mining of Regional Languages: Devising Marketing Strategy Using a Novel intelligence Approach
Prabin Kumar Panigrahi, Nishikant Bele, Shashi Kant Srivastava

Better Understanding Customer Needs: integrating online Product Reviews and Offline Sample Surveys
Xin Zheng, Xingyao Ren, Xingyao Ren, Xinyan Liu, Jisu Cao

A Holistic Exploration of Service Quality and Customer Satisfaction by Text-analyzing the Thoughts of Both the Demand and the Supply Sides
Chun-Yao Huang, Ping-Yu Liu

SD06 – Fertitta Hall, 236, 2nd Floor

Innovation III

Chair: Jinghui Qian

Exploration or Exploitation: The Impact of Innovation Practices on Firm Performances in a Post-trips Emerging Economy
Satheesh Seenivasan, Samir Gupta, Elliot N. Maltz

R&D Competition on Network Features and Vertical Features
Jinghui Qian

SD07 – Fertitta Hall, 239, 2nd Floor

No Session

SD08 – Fertitta Hall, 240, 2nd Floor

Game Theory Models of Information, Online and Offline Economy

Chair: Monic Sun

Managing Word of Mouth
Aniko Oery, Joyee Deb

Sourcing Co-created Products: Should your Suppliers Collaborate?
Dinah Vernik, Oksana Loginova, Niladri Syam

A Model of Smart Products
Monic Sun , Yuxin Chen, Xinxin Li

Formats, Channel interactions and Product Variety in Emerging Markets
Abhinav Uppal, Kinshuk Jerath, Jagmohan Raju

2017 INFORMS Marketing Science Conference

Saturday, June 11th, 2017 **3.30-5.00 (SD)**

SD09 – Fertitta Hall, 241, 2nd Floor

Method: Bayesian Models III

Chair: David M. Harman

Bayesian Analysis of Heterogeneous Mediation
Tatiana Dyachenko, Greg M. Allenby

Incorporating Model Uncertainty in the Presence of Multiple Endogenous Variables in Generalized Linear Models By Bayesian Model Averaging
Jonathan Lee, Pradeep Chintagunta, Alex Lenkoski

Dynamic Heterogeneity: A Bayesian Nonparametric Approach
Ryan Dew, Yang Li, Asim Ansari

A Zero-inflated Latent Attrition Model
David M. Harman, Thomas S. Gruca

SD10 – Fertitta Hall, 313, 3rd Floor

International Consumer Behavior

Chair: Arun Sreekumar

Buying Behavior of Active Aging Consumer in Japan
Akira Shimizu

Empirical Analysis on Distinctive Consumer Behavior of Rural Villages of Cambodia
Chan Mi Kim, Gloria JinaKim

How License Plate Lotteries Affect Car Purchase Decisions: Evidence from China's Automobile Market and the Lab
Mantian Hu, Luxi Shen, Junji Xiao

Effect of Demonetization in Subsistence Marketplaces: Understanding Consumer and Entrepreneurial Behavior
Madhu Viswanathan, Shantanu Dutta, Arun Sreekumar, Saravana Jaikumar

SD11 – Fertitta Hall, 316, 3rd Floor

New Products General

Chair: Rouven Seifert

Marketing Science in Japanese Manufacturers: 10 Years Trend
Yutaka Hamaoka

Idea Generation in The Fuzzy Front End: The Role of Strength of Associations
Laura Komish

The Effect of Cultural Subsidies on Product Quality and Market Performance
Rouven Seifert, Michel Clement, Alexa B. Burmester, Thorsten Hennig-Thurau, Marco Caliendo

SD12 – Fertitta Hall, 322, 3rd Floor

Not for Profit

Chair: Kyoungnam C. Ha

How Should One Allocate Charitable Dollars
Wei Zhang, Ajay Kalra

Political Determinants of the Commercialization of Buddhist Temples in China
Botao Yang, Qingyuan Yue, Jue Wang

Long-term Dynamic Interactions Between Marketing Expense and Revenue in a Nonprofit Art and Cultural Organization
Kyoungnam C. Ha, Hyunjung Lee

SD13 – Eye Tracking in Advertising

Eye Tracking in Retail

Chair: Ana Martinovici

The Dynamics of Shopper Engagement and Purchase Conversion at Retail Checkout
Yoonju Han, Shibo Li, Raymond R. Burke, Alex Leykin

Shelf Location Based Effects on Product Search in Crowded Scenes
Ana Scekic, A. Selin Atalay

Utility Accumulation During Brand Choice on Comparison Websites
Ana Martinovici, Rik Pieters, Ralf Van der Lans

SD14 – Fertitta Hall, 328, 3rd Floor

Corporate Social Responsibility

Chair: Hannah Oh

When and How is Corporate Social Responsibility Profitable?
Prabirendra Chatterjee

Corporate Social Responsibility and Financial Performance: Does the Chief Marketing Officer Matter?
Dionne A. Nickerson, Atanas Nikolov, Phi Hoang

Product Recall as a Way of Responsible Behavior of a Firm: The Roles of CSR Repertoires and Board Characteristics
Hannah Oh, John Bae, Ji-Hung Choi, Sang-Joon Kim

SD15 – Fertitta Hall, 331, 3rd Floor

No Session

SD16 – Fertitta Hall, 414, 4th Floor

Advertising: General

Chair: Yanwen Wang

Do Advertisement Expenditure and Familiarity Influence the Ambiguity of Perceived Quality
Serdar Yayla, Omer Cem Kutlubay, Sengun Yeniyurt

Competition and Specificity in Market Design: Evidence from Geotargeted Advertising
Bo Cowgill

Advertising Strategy of the Day in Japan, Exploring from the Actual Situation of VOD Service Users
Chihiro Totsuka

A Natural Experiment Based Analysis of Message Tone and Ad Source in Senatorial Campaigns
Yanwen Wang, Mike Lewis, David A. Schweidel

2017 INFORMS Marketing Science Conference

Saturday, June 11th, 2017 **3.30-5.00 (SD)**

SD17- Fertitta Hall, 416, 4th Floor	SD18- Fertitta Hall, 417, 4th Floor	SD19- Popovich Hall, 300, 3rd Floor	
No Session	**Consumer Behavior General** **Chair:** Sohyun Bae State of Marketing Education a Curriculum Review Template *Pravat Surya Kar* The Impact of Early Decision College Admissions on Decision Making Complexity and Students' Well-being *Eric Greenleaf* Role of Perceived Attributes n Understanding Consumer Purchase Intentions using the Theory of Planned Behavior: Case of an Economy Car Launch *Huma Amir, Wajid Rizvi* The Role of Implicit Theories in Evaluating Products with Recycled Content *Sohyun Bae, Sharon Ng*	**No Session**	

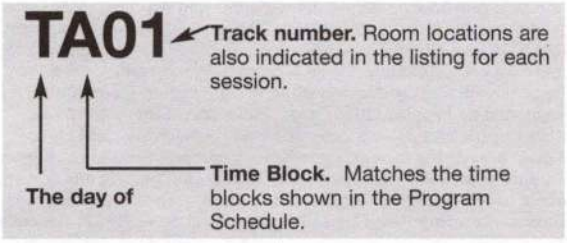
How to Navigate the Technical Sessions

There are four primary resources to help you understand and navigate the Technical Sessions:

- This Technical Session listing, which provides the most detailed information. The listing is presented chronologically by day/time, showing each session and the papers/abstracts/authors within each session.
- The Author and Session indices provide cross-reference assistance (pages 152 & 153).
- The floor plan on the back cover shows you where technical session tracks are located).

Quickest Way to Find Your Own Session

Use the Author Index (page 153) — the session code for your presentation will be shown along with the room location. You can also refer to the full session listing for the room location of your session.



Time Blocks

Thursday

A — 8:30am - 10:00am
B — 10:30pm - 12:00pm
C — 1:30pm - 3:00pm
D — 3:30pm - 5:00pm

Friday

A — 8:30am - 10:00am
B — 10:30am - 12:00pm
C — 1:30pm - 3:00pm
D — 3:30pm - 5:00pm

Saturday

A — 8:30am - 10:00am
B — 10:30am - 12:00pm
C — 1:30pm - 3:00pm
D — 3:30pm - 5:00pm

Location

Fertitta Hall, 101, Lower Level
Building **Room** **Level**

Thursday, 8:30AM - 10:00AM

■ TA01

Fertitta Hall, 101, Lower Level

Channels: MultiChannels I

Contributed Session

Chair: Yongbum Choi, 600 James St. #709, Syracuse, NY, 13203, United States, ychoi26@syr.edu

1 - Customer Lifetime Value Dynamics for Multichannel Customers
Wenyu Jiao, ESSEC Business School, 3 Avenue Bernard Hirsch, PhD Program, Cergy, 95021, France, wenyu.jiao@essec.edu, Nicolas Glady

Previous research on multi-channel customer value considers the customer heterogeneity based on her purchasing channel(s). However, it is necessary to understand how the purchasing channel impacts the customer-firm relationship and the Customer Lifetime Value (CLV) in a dynamic manner. To this purpose, we address two important research questions in the multi-channel context: (i) are the multi-channel customers who migrate from offline channels (brick and mortar stores) and those who migrate from online channels (web sites) equally valuable?; and (ii) how does customers' channel usage experience impact their CLV dynamically (i.e. transaction rate, transaction value, and propensity to keep active)? We propose a Hidden Markov model to understand the customer-firm dynamic relationship and to measure CLV dynamically in a multi-channel context. Our results show that, in contrast with the conventional wisdom, the CLV of multi-channel customers who migrate from the offline channel is different than those migrating from the online channel. Indeed, the first group tends to purchase more when active. Moreover, they have a higher propensity to transit from inactive state to active state. On the other hand, multi-channel customers who migrate from online channel purchase less when they are active, although they mostly stay active afterwards. Our findings can help businesses to have a better understanding of their customers' lifetime value, how to improve it, and how to target the customers more effectively.

2 - Which Device of Mobile or PC Would be used for Webrooming Before Purchasing Products in Stores or Online?
Fumiyo Kondo, University of Tsukuba, 1-1-1 Tennoudai, Tsukuba-shi, 305-8573, Japan, kondo@sk.tsukuba.ac.jp, Takumi Osugi, Yasuyuki Mizuta, Megumi Kataoka

In omnichannel marketing, the total sales through all channels should be maximized and consumers' touch points should be totally controlling all channels. This research focuses on the behavior of webrooming or research shopping that customers obtain information of a product before purchase it. Various researches on this area have been conducted, but there exists no research on actual purchase data and log data obtained by connected to Internet to our knowledge. This research deals with the effect of web rooming on the purchase behavior in brick-and-mortar stores and/or online by using hierarchical Bayesian binomial logit model on purchase data of consumers aged from teens to in the 60's in Japan. The analysis incorporates the access logs of various kinds of web pages through various access devices as the covariate based on single source panel data and hierarchical covariates of age to express consumer heterogeneity. The results have shown that there exist significant effects of the covariates of device usages or web page views on purchases for only the consumers in 20's, 30's, or 40's, but not in the other age ranges. Mobile device was favored to search web pages on cosmetics for consumers aged in 30's, or 40's who purchased cosmetics in brick-and-mortar store. On the other hand, PC device was favored to search web pages on cosmetics for consumers aged in 20's. 30's, or 40's who purchased cosmetics online store. This indicates general interesting implication that mobile devices had been used to search information of cosmetics who purchased them in brick-and-mortar stores and, PC device, for consumers who purchased them online. The results on also some other categories will be reported.

3 - A Hidden Semi-Markov Model of Multi-channel Customer Engagement Dynamics

Sharmistha Sikdar, PhD Student, Cornell University, 301 Sage Hall, Ithaca, NY, 14853, United States, ss3222@cornell.edu, Giles J Hooker, Young-Hoon Park

Customers are increasingly engaged with multiple channels of firms. For example, some customers prefer to visit the firm's website to find information but purchase at offline stores, while others prefer certain channels to fulfill their needs. Such preferences of customers vary between and within channels of a firm and evolve over time. In this research, we propose a hidden semi-Markov model with a Poisson dwell-time distribution which captures customer engagement dynamics in observed online visits and purchases across channels of a firm. The proposed model extends the hidden Markov models which have the Markovian property with a geometric dwell-time distribution and have been extensively applied in examining customer relationship dynamics. Using a data from a multi-channel consumer goods firm, we find that the proposed model offers superior fit and predictive performance than the benchmark models including the hidden Markov model. In particular, Poisson dwell-time distribution reflects channel-specific engagement durations better than the geometric distribution. We highlight the model's ability to explicitly infer the engagement state dwell times which can assist marketers target customers with channel-specific marketing interventions.

4 - Showrooming, Webrooming and Smartphones in a Multichannel Retail Market

Yongbum Choi, PhD Candidate, Syracuse University, 721 University Ave. Suite 311, Syracuse, NY, 13244, United States, ychoi26@syr.edu, Eunkyu Lee

This paper investigates the impact of consumers' opportunistic behavior in a multichannel retail market such as showrooming and webrooming as well as the impact of the emergence of mobile technology (e.g., smartphones) on consumer search behavior and online vs. offline retail competition. We develop a dynamic consumer decision model, which captures customers' channel switching and additional information search at offline and online retailers to deal with uncertainties regarding product fit and quality. The analysis of the model allows us to explore the impact of customers' showrooming and webrooming behavior on equilibrium prices and retailer profitability in a multichannel environment, and assess how the consumer behavior and retailer profitability are affected by the degree of fit uncertainty, quality uncertainty, return cost, search costs, and other costs related with online and offline purchase. In addition, we consider the proliferation of smartphone-equipped shoppers and the resultant increase in the ease of online information search, and investigate how this trend affects a brick-and- mortar retailer and an online retailer in different ways. Initial results suggest that, despite the widely known concerns of offline retailers, the proliferation of smartphones can increase physical stores' profits under certain conditions. Moreover, the growth of mobile search and shopping can negatively affect the Internet retailer's profit, depending on the cost of online search and purchase, as well as the degrees of fit and quality uncertainties.

■ TA02

Fertitta Hall, 102, Lower Level

Online Search & Advertising

Invited Session

Chair: Paulo Albuquerque, INSEAD, Boulevard de Constance, Fontainebleau, 77305, France, paulo.albuquerque@insead.edu

1 - Modeling the Effects of Search Duration on Search Outcomes

Raluca Ursu, Leonard N. Stern School of Business, Tisch Hall, 40 West Fourth Street, 814, New York, NY, 10012, United States, rursu@stern.nyu.edu, Pradeep Chintagunta, Qingliang Wang

Product reviews are ubiquitous: they help consumers make more informed decisions, but require a time investment to acquire this information. In this paper we quantify the effect of reviews on consumer search and purchase decisions, with an emphasis on the role that the value of time plays in the decision to search for information. Using a data set on consumer search and purchase behavior on an Asian review website, we show that the time spent searching (search duration) has a positive effect on purchases, even after controlling for consumer characteristics, their search decisions (clicks and click order), as well as product features. More precisely, we show that consumers spend more time browsing the first and last products they search, and are more likely to purchase the last product. Since this evidence is not supported by existing search models describing only the decision to search and purchase, we augment these by modeling search duration, drawing from the statistics literature on optimal sequential sampling. We use this model to quantify consumer preference and search cost parameters. An important contribution of this model is that it provides a structured way of estimating consumers' opportunity cost of time, which we then quantify. Finally, we explore how an increase in consumers' opportunity cost of time affects their search and purchase patterns, highlighting managerial implications that are relevant as consumers' alternative uses of time increase.

2 - Known Unknowns in Consumer Judgment and Information Search

Daniel Walters, M & O PhD Student, UCLA, Los Angeles, CA, United States, daniel.j.walters@gmail.com, Philip M Fernbach, Craig Fox

In this talk I explore how inferences about missing information impact consumer overconfidence and information search. Overconfidence is a phenomenon that can give rise to systematic errors in consumer choice (Alba & Hutchinson 2000) such as complacency to searching for product information (Wood and Lynch 2002). Most prior research has attributed overconfidence to people focusing disproportionately on known evidence favoring a chosen hypothesis relative to its alternatives (Koriat, Lichtenstein, & Fischhoff 1980). In contrast, my colleagues and I show the extent to which consumers are aware of the amount of information that is unknown to them affects overconfidence and information search. We show that consumers have a bias to under-appreciate unknowns. However, prompting greater consideration of "known unknowns" can succeed in de-biasing consumers by reducing confidence selectively, in situations where it is misplaced. Importantly, we show that incorporating the role of such known unknowns into models of consumer behavior can yield de-biasing techniques to help consumers and investors make better decisions. We go on to explore the effectiveness of strategies that involve prompting consideration of known unknowns to drive information search in product and investment domains. We explore these questions using a variety of research methods including incentive-compatible laboratory experiments and content analysis of archival data.

3 - The Effects of Advertising on Awareness, Consideration, and Choice: Evidence from the U.S. Auto Insurance Industry

Elisabeth Honka, UCLA Anderson School of Management, 110 Westwood Plaza, Los Angeles, CA, 90024, United States, elisabeth.honka@anderson.ucla.edu, Yi-Lin Tsai

How does advertising influence consumers' decision-making? Does advertising inform or persuade consumers? We investigate the relationship between both advertising content and quantity and each stage of the purchase funnel, namely, awareness, consideration, and choice. Understanding how the amount and content of advertisements affects consumers' decision-making is crucial for companies in effectively and efficiently using their advertising budgets. Our unique individual-level data contain information on consumers' awareness and consideration sets, purchase decisions, demographic and psychographic variables, and perceived prices for consumers between 2008 and 2015. We supplement these data with data on advertising content and quantities in four media channels: newspapers, magazines, TV, and internet. We account for the endogeneity of the advertising decision using the regression discontinuity approach suggested by Shapiro (2016). Our results reveal that advertising quantity has a larger effect on awareness than on consideration and choice. Brand and price advertising increases consumer awareness for and consideration of auto insurance companies, but has no effect on choice. Service and feature advertisements have a significant effect on each stage of the purchase funnel. These findings are consistent with those from Honka et al. (2016) in the context of retail banks and suggest that advertising has a predominantly informative effect for financial services.

4 - Shocked by What People Write Online? How Uncovering Negative Reviews Impacts Online Search and Purchase

Paulo Albuquerque, INSEAD, Boulevard de Constance, Fontainebleau, 77305, France, paulo.albuquerque@insead.edu, Marton Varga

We investigate the impact of negative reviews on consumer online search and purchase decisions. More specifically, using a large data set from an online retailer that tracks when consumers scroll down and paginate over product reviews, we quantify the effect of a 1-star review on information search about the focal product and other products in the category, and on eventual purchase. We show that when consumers scroll down to a negative review, it significantly increases browsing for other products, leading to a larger consideration set. Based on this result, we quantify two effects of the negative review on choice: the direct effect on purchase because of negative information about the product; and an indirect effect because of an increase in the choice set. The magnitude of these effects depends on (i) how unexpected the negative rating was, (ii) when in the search sequence the negative review was discovered, (iii) the type of product category, and (iv) whether search occurs on weekend. Preliminary results show that although switching between products does happen, for the retailer the net result is either insignificant or positive. This is so because consumers start their search by looking at cheaper products and a negative review may lead them to consider more expensive alternatives.

■ TA03

Fertitta Hall, 105, Lower Level

Moble Apps for Marketing

General Session

Chair: Venkatesh Shankar, Texas A&M University, Texas A&M University, College Station, TX, 77843, United States, venky@venkyshankar.com

1 - Investigating the Value of Competitive Mobile Loyalty Program Platforms for Intermediaries and Retailers

Joseph Pancras, University of Connecticut, 2100 Hillside Road Unit 1041, Storrs, CT, 06269-1041, United States, jpancras@business.uconn.edu, Rajkumar Venkatesan, Bin Li

We investigate the reasons behind differences in benefits obtained by retailers on the same competitive mobile loyalty platform. How are these benefits from the mobile intermediary affected by consumer search on the mobile platform, retailer location, and consumer response to reward design from multiple retailers? Data for the study are provided by a mobile application that offers points based loyalty programs, utilizing a sample of households and retailers in a small US city. Consumers used the intermediary's mobile application on their smartphones to collect points and redeemed rewards at each store independently, and we jointly model their store choice, trip spending, and reward redemption behavior. We identify two novel loyalty program factors; search on mobile platform and reward program design, as the biggest drivers of reward redemption and store choice, and these are moderated by spatial locations of the participating retailers. Mobile search in turn is influenced by retailer's location, popularity, reward program design, and consumers' prior experience with a retailer. These findings lead to counter-intuitive platform value implications for the retailers and the intermediary.

2 - Mobile App Stickiness: The Effect of App Drop on Shopper Behavior

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By some estimates, mobile apps contribute to over 86% of mobile device usage time and 58% of digital media time. However, the average app is not sticky. Industry estimates suggest that about 90% of users drop an app within 30 days. It is critical for researchers and managers to understand the effects of app drop and what makes an app sticky. Unfortunately, prior studies have focused primarily on text messages, coupons, and app adoption, but not on app drop. To fill this gap, we address important research questions: (a) What effect does app drop have on shopper behavior across channels? (b) What features make a mobile app more vs. less sticky, that is, make users keep using the app vs. stop using it (drop)? and (c) What in-app and out-of- app factors predict app drop? We examine app drop in the context of a large retailer of games and consumer electronics with 32 million shoppers using a difference-in-differences approach. Our empirical analysis shows that app drop reduces purchase frequency by 16.9%, quantity by 20.2%, and monetary value of purchases by 14.8%. Product search and loyalty features make apps sticky. Both in-app factors (e.g., loyalty features) and out-of-app factors (e.g., number of stores in the shopper's zip code) predict app drop well. Our findings imply that managers should mitigate app drop by enhancing the quality and engagement potential of two key sticky features, product inquiry and loyalty program access. They should actively notify users of updates and new benefits through the app.

3 - Seizing the Commuting Moment: Contextual Targeting Based on Mobile Transportation Apps

Hyeokkoo Eric Kwon, KAIST, 85 Hoegi-ro, Dongdaemun-gu, Seoul, Korea, Republic of, hkkwon7@business.kaist.ac.kr, Anindya Ghose, Dongwon Lee, Wonseok Oh

Despite the average daily commuting time of commuters increasing by the day, the way marketers can benefit from our commuting behaviors has not yet been thoroughly examined. In collaboration with one of the largest global mobile service platform providers, this study investigates how commuting is associated with responses to mobile coupons. The analysis is based on a randomized field experiment in which 14,741 mobile coupons were sent to 9,928 public transit app users on commuting routes and routes other than commuting routes (i.e. commuters and non-commuters). The key findings indicate that commuters are about four times as likely to redeem their first mobile coupon compared to non-commuters. Further analyses allowing users to receive multiple coupons provide useful insight into an effective distribution strategy for mobile coupons. The findings suggest that enhanced receptiveness to mobile coupons is more perceivable when users obtain multiple coupons. Additionally, multiple-coupon distribution strategy increases response rates more effectively among non-commuters than commuters. Moreover, coupons with short expiration dates more successfully improve the response rates of commuters than do coupons with long expiration dates. For non-commuters, however, the reverse holds true; their response rates are higher for coupons with long expiration. Finally, a user's previous redemption experience negatively influences the user's current propensity toward redemption. Both dynamic and static matching methods are adopted to address possible selection biases. By carefully exploiting commuting, which is easily identifiable and occurs throughout the world, managers may improve their mobile marketing effectiveness.

■ TA04

Fertitta Hall, 125, Lower Level

Social Media & Negative Information I

General Session

Chair: Elea McDonnell Feit, Drexel University, Drexel University, Philadelphia, PA, 19104, United States, efeit@drexel.edu

1 - Behavioral Engagement in Social Media: Measurement, Antecedents, and Purchase Consequences

Welf Hermann Weiger, University of Goettingen, Platz der Goettinger Sieben 3, Goettingen, D-37073, Germany, welf.weiger@wiwi.uni-goettingen.de, Wendy W. Moe, Hauke A. Wetzel, Maik Hammerschmidt

Both researchers and practitioners have grappled with the definition and measurement of consumer engagement. One promising approach centers on consumers' social media behaviors. Social media come with increased brand-consumer touch points, offer rich data on user engagement behaviors, and entail valuable opportunities for marketers to monitor engagement activities. This research focuses on understanding and measuring behavioral engagement in social media and links it to its user-level antecedents and purchasing consequences. To achieve these goals, the authors deploy a unique individual user-level data set that matches (1) survey data on engagement motivations and demographics, (2) observed behavioral engagement, and (3) observed purchasing data. The results reveal that opinion leadership drives the incidence of behavioral engagement (i.e., whether users engage), while homophily explains its nature (i.e., how users engage). As to the nature of engagement, the authors account for a variety of engagement activities by presenting a composite metric that features two factors described as advocacy (i.e., expressing sympathy or appreciation) and criticism (i.e., expressing critical opinions or concerns). Robust empirical findings show that homophily enhances advocacy but reduces criticism. Notably, the results demonstrate criticism leads to more, whereas advocacy leads to less purchases. This suggests that behavioral engagement is directly linked to the number of purchases and that criticism might be more valuable for firms than advocacy. Criticism may indicate a close relationship with the firm and a high involvement in improving products, which manifests in increased purchasing. The authors further show that the proposed metric outperforms other engagement metrics and that behavioral engagement fully mediates the relationship between antecedents and purchase behavior.

2 - Perils of Consumer Complaint Response in Social Media: A Natural Experiment with Facebook Conversation Policy

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Firms often respond to negative opinions being disseminated across online social media platforms. However, the impact of such response remains unclear. This paper uses a novel machine learning sentiment identification analysis to investigate how responding to negative comments impacts the volume, sentiment, and diversity of subsequent comments. Using a natural experiment on Facebook, we find that replying to negative comments increases the number of negative comments, decreases the sentiment of comments, and increases the diversity of negative topics discussed. These effects are robust across three industries: automotive, hotels, and airlines. We also find that responding to an individual's post increases the sentiment of her future posts. Initial evidence suggests that the harmful impact of replies to negative comments are larger for firms with a greater number of followers on their Facebook page and for firm that have a greater number of "likes" on their previous negative posts.

3 - No Publicity is Bad Publicity: How Negative Buzz Increases Brand Awareness and Purchase Intention

Jung Ah Han, Drexel University, 2930 Chestnut Street, Apt 725, Philadelphia, PA, 19104, United States, jh3299@drexel.edu, Elea McDonnell Feit, Shuba Srinivasan

It has been shown that including intermediate consumers' mindset metrics in a market response model can enhance the explanatory power of the model (Srinivasan et al. 2010), yet little research has been done on the role of negative brand attitude metrics in the marketing mix. Firms often see negative buzz as something that should be suppressed, even though prior studies with unknown products (Berger et al. 2010) suggest that negative product reviews can actually increase consumer interest in a brand by increasing awareness. Using four years of weekly survey data tracking customers' brand attitudes towards computer brands like Dell and Lenovo, we find a positive association between negative buzz and purchase intent, which is mediated by ad awareness. We use time-series methods to examine how long it takes for negative buzz to have positive impact on purchase intent, and we show that a shock in negative buzz increases awareness of the brand's advertisements and ultimately produces an increase in purchase intention after about four weeks. The fact that we find this for a well-established brands suggests that even high-awareness brands can take the advantage of negative publicity. Our analysis also suggests that accounting for negative buzz in the marketing mix leads to more accurate predictions of future purchase intent, suggesting that it should not be ignored as an important (but difficult to control) component of the marketing mix.

■ TA05

Fertitta Hall, 233, 2nd Floor

User Generated Content: Uses

General Session

Chair: Andreas Lanz, University of Mannheim, Mannheim, 68159, Germany, lanz@bwl.uni-mannheim.de

1 - The Pattern of Online Reviews

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Past research has highlighted that online reviews follow a J-shaped distribution implying that reviews are skewed to the positive end of the rating scale, with a few reviews in the mid-range and some reviews at the negative end of the scale. But so far the prevalence and reasons behind the J-shaped distribution of product reviews have been largely neglected in previous research. In this research we aim at 1) investigating the robustness of the J-shaped distribution, 2) understanding its drivers and 3) analyzing its impact on consumer behavior. Building on a large set of online reviews - over 78 million reviews from 16 major online platforms, we identify a robust J-shaped distribution on many but not all of the platforms and product categories. Using secondary datasets, survey data and lab experiments, we demonstrate that the J-shaped distribution is primarily driven by self-selection mechanisms while we rule out multiple alternative explanations of the J-shaped distribution such as review fraud and scale truncation mechanisms. Finally, we show how the J-shaped distribution can affect the informativeness of the reviews as well as the key measures of online reviews (the average rating and the number of reviews).

2 - From Zero to Hero – How to Balance Lost Returns and Wasted Investments using Predictions of Rare Events

Daniel Shapira, Guilford Glazer Faculty of Business & Management, Ben-Gurion University, Ben-Gurion University, Beer Sheva, 84105, Israel, shapirad@bgu.ac.il, Andreas Lanz, Jacob Goldenberg, Florian Stahl

This paper addresses decision problems associated with rare events, which arise in the context of resource allocation within a set of products, for example, music artists who recently signed up on a user-generated content network. Among these artists only few will eventually become successful in the long-term as success is a rare event and thus per se not likely to occur. Hence, for record labels investments in all artists are associated with an extreme waste of resources, whereas selecting too few artists comes at the cost of lost returns. The above-described trade-off concerns not only record labels but also multinational companies with broad and deep product pipelines or venture capital funds investing in start-ups. We propose a novel managerial framework how to maximize profits when deciding on how many as well as which recently launched products, start-ups, or upcoming music artists to select in an early stage of the life cycle, namely by solving the trade-off between wasted investments and lost returns. The profit maximization draws on the available information, the respective return on investment as well as the chosen prediction model, which makes it a suitable tool for managers. We apply our framework in the context of SoundCloud, the world's leading user-generated content network in the music domain, and make recommendations in which artists to invest shortly after sign-up.

3 - The Relationship Between the Multi-scale Structure and the Sustainability of Online Communities

Yaniv Dover, The Hebrew University, Jerusalem, Israel., Jerusalem, Israel, yaniv.dover@mail.huji.ac.il, Daniel Shapira, Jacob Goldenberg

The extant literature demonstrates that online communities have a significant influence on the function of individuals and organizations. Yet, there is limited insight into the factors that determine whether an online community will maintain stability and grow, or diminish and become inactive. We argue that common approaches overlook the inherent multi-scale nature of the structure of social networks. The bottom-up hierarchical nature of the structure of human communities is described in the literature. In that view, small social groups, or social circles, connect to form medium-size social circles, which connect to form larger social circles and so on up to the scale of the whole community. Here, we suggest that properties of this multi-scale structure are associated with community stability. Furthermore, we argue that the trade-off between scale and cohesiveness of the structure is an indicator and predictor of community stability. We present an algorithm that maps the social circles structure across scales from network data. With the mapping, we find that it is possible to measure the cohesiveness-vs-scale trade-off within a community. We test the approach using rich longitudinal data of the activity of more than 10K real-life online communities over a period of more than a decade. We find that stable communities, differing from unstable communities, exhibit a characteristic type of mapping of social circles across scales. We also find that the multi-scale mapping in the early stage of the lifetime of the community, significantly helps to predict its short- and long-run stability.

4 - Climb or Jump - Status-based Seeding in User-generated Content Networks

Andreas Lanz, University of Mannheim, C8, 20, Mannheim, 68159, Germany, lanz@bwl.uni-mannheim.de, Jacob Goldenberg, Daniel Shapira, Florian Stahl

This paper addresses optimal seeding policies in user-generated content networks by challenging the role of influencers. Using data from SoundCloud, the world's leading user- generated content network in the music domain, we study creators of music who seek to build and increase their follower base by directing promotional actions to other users of the networking platform. Focusing on the network status of both creator and seeding targets, we find that, in particular, unknown creators of music do not benefit from seeding high-status users. In fact, it appears that unknown creators should ignore predominant seeding policies and slowly "climb" across status levels of seeding targets rather than attempt to "jump" towards those with the highest status. Our research extends the existing seeding literature by introducing the concept of risk to dissemination dynamics in online communications. We show evidence that unknown creators of music do not seed specific status levels but rather choose a portfolio of seeding targets while solving risk versus return trade-offs. We discuss managerial implications for information dissemination and optimal seeding in user-generated content networks.

■ TA06

Fertitta Hall, 236, 2nd Floor

The Sharing Economy I

General Session

Chair: Davide Proserpio, University of Southern California, Marshall School of Business, Los Angeles, CA, 90089, United States, proserpi@marshall.usc.edu

1 - Owning, Using and Renting: Some Simple Economics of the "Sharing Economy"

John Joseph Horton, New York University-Stern, 4 Washington Square Village, Apt 11A, New York, NY, 10012, United States, john.joseph.horton@gmail.com

Entrepreneurs have created a number of new Internet-based platforms that enable owners to rent out their durable goods when not using them for personal consumption. We develop a model of these kinds of markets in order to analyze the determinants of ownership, rental rates, quantities, and the surplus generated in these markets. Our analysis considers both a short run, before consumers can revise their ownership decisions and a long run, in which they can. This allows us to explore how patterns of ownership and consumption might change as a result of these new markets. We also examine the impact of bringing-to-market costs, such as depreciation, labor costs and transaction costs and consider the platform's pricing problem. An online survey of consumers broadly supports the modeling assumptions employed. For example, ownership is determined by individuals' forward-looking assessments of planned usage. Factors enabling sharing markets to flourish are explored.

2 - Time- and Location-based Seasonality and Flexible-capacity Firm Strategy: Airbnb and Hotels

Hui Li, Carnegie Mellon University, 5000 Forbes Avenue, Tepper School of Business, Pittsburgh, PA, 15213, United States, huil1@andrew.cmu.edu, Kannan Srinivasan

In the travel industry, fixed-capacity hotels use seasonal pricing to respond to seasonal demand. Airbnb offers flexible supply and provides an alternative way of accommodating seasonal demand. We study the short- and long-run impacts of Airbnb, emphasizing the crucial roles of market-specific seasonality and consumer composition (i.e., business and leisure travelers). We first present a theoretical model to illustrate how Airbnb's impact depends on intrinsic market differences (e.g., seasonality, hotel prices, and hotel quality) and why high-end hotels might benefit from Airbnb's entry in the long run. We then estimate a nested logit model of consumer demand using panel data on hotels (2008-2015) and Airbnb (2014-2015). We highlight the importance of recovering the underlying seasonal demand, which differs from the observed demand, and addressing endogeneity in seasonal firm conducts using a control function approach. We find that the underlying demand is more volatile than the observed demand. Hotel seasonal pricing dampens demand by 14%. Airbnb's seasonal supply amplifies demand and recovers 77% of that loss. Counterfactual results suggest that Airbnb mildly cannibalizes hotel sales. This cannibalization is stronger in cities with more seasonal demand, less expensive high-end hotels, lower-quality low-end hotels, and a larger fraction of leisure travelers. Leisure travelers cannibalize hotel sales more, yet they also create more market expansion for the industry. In the long run, high-end hotels can benefit from Airbnb, as it drives out low-end hotels; such outcomes hinge on whether Airbnb can successfully attract more business travelers. We further discuss why hotels should rethink the conventional wisdom regarding capacity-driven strategies and benefit from abandoning seasonal pricing.

3 - Discrimination with Incomplete Information in the Sharing Economy: Field Evidence from Airbnb

Dennis Zhang, 8342 Delcrest Drive, Apt 328, University City, MO, 63124, United States, denniszhang@wustl.edu, Jun Li, Ruomeng Cui

Recent research has found widespread discrimination by hosts against guests of certain races in online marketplaces, which endangers the very basis of a sharing economy — building trust in the communities. In this paper, we explore the root cause of discrimination and how to eliminate discrimination. We conducted two randomized field experiments among 1, 256 hosts on Airbnb by creating fictitious guest accounts and sending accommodation requests to them. We find that requests from guests with distinctively African American names are 19 percentage points less likely to be accepted than those with distinctively White names. However, a public review posted on a guest's page mitigates discrimination: when guest accounts receive a positive review, the acceptance rates of guest accounts with distinctively White and African American names are statistically indistinguishable. We further demonstrate that a negative review also eliminates discrimination. Our finding is consistent with statistical discrimination: when lacking perfect information, hosts infer the quality of a guest by race and make rental decisions based on the average predicted quality of each racial group; when enough information is shared, hosts do not need to infer guests' quality from their race, and discrimination is eliminated. Our results offer direct and clear guidance for sharing-economy platforms on how to reduce discrimination. Platform owners should motivate users to write reviews of one another and design a better mechanism to facilitate information sharing — especially information that signals guest quality.

4 - Setting Up Shop: The Impact of Airbnb on Hotel Entry

Uttara Ananthakrishnan, Carnegie Mellon University, 1 Bayard Road, # 28, Pittsburgh, PA, 15213, United States, uttara@cmu.edu

Participation in sharing economy has been increasing in the past few years. In this paper, we study how entry of sharing economy firms impacts the entry of incumbent hotels in the context of Airbnb. To understand the impact on entry, we exploit the temporal and geographical variability in Airbnb's entry into a market and employ a difference-in-differences specification. Further, we build an entry-model to estimate the business stealing effect of Airbnb. Our results indicate that 10% increase in Airbnb properties leads to a decrease in hotel entries of about 0.4%. Based on this, we perform simulations and provide policy recommendations to city governments to plan for an increasing number of Airbnb entrants.

■ TA07

Fertitta Hall, 239, 2nd Floor

Big Data: Doing Research at Scale in Adobe

■ TA08

Fertitta Hall, 240, 2nd Floor

Game Theory Models in Advertising & Market Spillover

General Session

Chair: Michelle Y. Lu, McGill University, Desautels Faculty of Management, Montreal, QC, H3A 1P2, Canada, michelle.lu@mcgill.ca

1 - Manufacturer and Retailer Competitions in Search Advertising

Fei Long, Columbia University, New York, NY, 10027, United States, FLong18@gsb.columbia.edu, Kinshuk Jerath, T. Tony Ke

We consider two manufacturers competing for a range of keywords by bidding directly or via a common retailer. We find that for category keywords, both manufacturers will sponsor the retailer to win the auction, which softens the direct competition between the two manufacturers. This provides a competitive account of the role of cooperative search advertising. For brand keywords, a competing manufacturer may sponsor a retailer to steal demand from the focal manufacturer, when bidding directly at the search engine is penalized. We are currently working on a more general model, and investigate when a manufacturer wants to give the retailer the decision right of budget allocation among keywords.

2 - Real-Time Bidding in Online Display Advertising

Amin Sayedi, Assistant Professor of Marketing, University of Washington, Seattle, Seattle, WA, 98195, United States, aminsa@uw.edu

Display advertising is the major source of revenue for many publishers and content providers on the Internet. Historically, display ads have been sold through pre-negotiated contracts, known as reservation contracts, between publishers and advertisers. In recent years, a growing number of impressions are being sold in real-time bidding (RTB), where advertisers bid for impressions in real-time, as consumers visit publishers' websites. RTB allows advertisers to target consumers at individual level using browser cookie information, and enables them to customize their ads for each individual. Born in 2009, RTB currently accounts for more than one third of display advertising market in the US, and is estimated to exceed $11 billion in 2016. The rapid growth of RTB has created new challenges for advertisers and publishers on how much budget and ad inventory to allocate to RTB. In this paper, we use a game theory model with two advertisers and a publisher to study the effects of RTB on advertisers' and publishers' strategies and their profits. We show that symmetric advertisers use asymmetric strategies where one advertiser buys all of its impressions in RTB and the other advertiser focuses on reservation contracts. We find that, although RTB lowers the equilibrium price of impressions in reservation contracts, it increases the publisher's total revenue. Interestingly, we show that while both advertiser benefit from existence of RTB, the advertiser that focuses on reservation contracts benefits more than the advertiser that focuses on RTB. Our results highlight the importance of reserve prices in RTB and the strategic role of reservation contracts in determining the reserve price. We extend our model to consider premium consumers, publisher's uncertainty about the number of future visitors, and effectiveness of ad customization.

3 - Unbranded Advertising – A Dishonest Act or a Credible Signal?

Michelle Y. Lu, McGill University, Desautels Faculty of Management, Montreal, QC, H3A 1P2, Canada, michelle.lu@mcgill.ca

In recent years, unbranded advertising campaigns that refrain from touting brand messages are gaining increasing popularity among practitioners. Since the unbranded advertising conceals a brand and misleading advertising messages will not hurt the brand's good will, one may question whether unbranded advertising can credibly transmit product information so that consumers are not misled? Our research examines this question in the context that verifiability of advertising messages is probabilistic and endogenous. We first provide a mechanism that a firm with a good product can credibly signal the product type through unbranded advertising. Unbranded advertising forgoes the opportunity of shaping consumers' brand preferences, thereby creating advertising spillover to competing brands. Such loss, in turn, serves as the signaling cost of a good product. This nuanced insight contradicts the lay intuition among practitioners. Nevertheless, due to the hidden brand name and the absence of consequent punishment, a firm with a bad product will resort to unbranded advertising, which crowds out the positive signaling effect. Then we derive the boundary conditions under which the advertising format can informatively distinguish between the product types. We also examine the effects of exogenous factors such as regulations on advertising content and ad-blocking technology that filters branded advertisement on the credibility of unbranded advertising.

4 - Implications of a Negative Market Spillover

Jeffrey D Shulman, Associate Professor of Marketing, University of Washington, Seattle, WA, 98195, United States, jshulman@uw.edu, Amir Fazli

In recent years, several firms have decided to withdraw from profitable unhealthy good markets, believing the move will be beneficial for their overall business. For instance, CVS dropped tobacco products from its shelves in 2014, while Aldi dropped confectionery from its checkout lines in 2016. Findings from consumers' evaluation of such moves suggest there exists a negative market spillover from selling in an unhealthy good market, such that a firm's participation in an unhealthy good market reduces consumers' willingness to pay for the firm's goods in other markets. We build an analytical model of two competing firms to examine how firms react to a negative market spillover and find the conditions under which different firms would exit an unhealthy good market. Our analysis of how firms' profits are affected by negative market spillovers identifies the consumers' reservation value for the unhealthy good, the size of the unhealthy good market, and the magnitude of the market spillover as key factors determining which firms benefit from a negative market spillover. Interestingly, we find it is possible for both firms to make more profit with a negative market spillover compared to when there is no market spillover.

■ TA09

Fertitta Hall, 241, 2nd Floor

Machine Learning Applications in Marketing I

General Session

Chair: Daria Dzyabura, Dzyabura, Stern, New York, NY, 10012, United States, ddzyabur@stern.nyu.edu

Co-Chair: Eric Schwartz, University of Michigan, University of Michigan, Ann Arbor, MI, 48109-1234, United States, ericmsch@umich.edu

1 - Optimal Product Design by Sequential Experiments in High Dimensions

Mingyu Joo, The Ohio State University, 2100 Neil Ave., Columbus, OH, 43210, United States, joo.85@osu.edu, Michael Thompson, Greg M Allenby

The identification of the optimal design of products and packaging is challenged when attributes and their levels interact. Firms recognize this by testing prototypes prior to launch, where the effects of interactions are revealed in the head-to-head comparison of a small number of finalists. A difficulty in conducting analysis for design is dealing with the high dimensionality of the design space. We propose an experimental criteria for sequentially searching for the most preferred design concept, and incorporate a stochastic search variable selection method to selectively estimate relevant interactions among the attributes. A validation experiment confirms that our proposed method leads to improved design concepts in a high-dimensional space compared to alternative methods.

2 - Machine Learning of Successful New Product Launches

Lan Luo, University of Southern California, 3660 Trousdale Parkway, ACC306, Los Angeles, CA, 90089, United States, lluo@marshall.usc.edu, Dongling Huang

To survive and thrive in today's marketplace, successful new product launches are critical. Consequently, marketers have always been intrigued by endeavors to uncover underlying traits of new product successes. To date, most extant research emphasizes cross-sectional heterogeneity (e.g., heterogeneous parameters across products) rather than longitudinal heterogeneity (e.g., changing parameters over time). Nevertheless, in many marketing contexts, there are inevitable over-time changes. These include changes in consumer tastes, nonstationary changes in the underlying distribution of the data, varying economic and technological factors, and etc. Despite the highly dynamic environment we live in, research methods on discerning whether and how the underlying traits of product launches vary over time have been sparse. In this paper we propose a flexible approach that focuses on uncovering longitudinal heterogeneities in the launches of new products. Our approach is based on a machine learning method with concept drifts. This method enables us to simultaneously examine whether, when, and how consumer preferences and/or the underlying distribution of new product launches change over time. In particular, we use the books category to carry out the empirical illustration of our approach. We investigate why some of the books became successful while others don't. To our knowledge, the current research is among the first efforts to tackle the above challenges faced by marketers.

3 - Non-Metric Multidimensional Scaling and Applications to Marketing

Jacob Abernethy, University of Michigan, 616 N 5th Ave, Ann Arbor, MI, 48104, United States, jakeyboy@gmail.com

For large online retailers with massive product catalogues, it can often be hard for customers to find what they are looking for. Search engines alleviate this challenge to a certain extent, but keyword searches fail when a customer is unable to verbally describe the product of interest. A natural solution is to repeatedly give the customer similarity comparisons to other products, in order to eventually find the desired item. In this research we will explore recent work within the Machine Learning community on the use of non-metric multidimensional scaling, and how some of these techniques can be leveraged for product search but also other areas such as conjoint analysis.

4 - Modeling Multi-Taste Consumers

Daria Dzyabura, New York University, New York University, New York, NY, 10012, United States, ddzyabur@stern.nyu.edu, Liu Liu

In diverse product categories, a consumer's preferences may include several tastes. For example, someone may enjoy cooking both American and Chinese recipes, and have different specific criteria for each. Capturing such multi-taste consumers' choice behavior is important in order to understand the underlying distribution of consumer preferences, and for making accurate individual- and aggregate-level predictions. In this paper, we propose a model that allows for multiple tastes and an efficient estimation algorithm. The algorithm initializes individual taste parameters with a clustering algorithm combined with regularized logistic regression; it then follows an iterative optimization procedure similar to the Concave-Convex procedure (CCCP), iteratively updating parameters corresponding to each taste, and shuffling products between tastes. In a numerical study, we simulate multi-taste consumers and demonstrate the proposed algorithm accurately recovers parameters, whereas benchmark models underfit. We test the algorithm empirically on unstructured recipe text data. Using text mining, we extract attributes from the recipe text. We show the algorithm scales to a large parameter space, and the model fits the data well. We achieve significant improvements in prediction over single-taste benchmarks.

■ TA10

Fertitta Hall, 313, 3rd Floor

Competition: Competitive Strategy I

Contributed Session

Chair: Vinay Kanetkar, University of Guelph, Dept of Marketing and Consumer Studies, University of Guelph, Guelph, ON, N1G 2W1, Canada, vkanetkar@uoguelph.ca

1 - Competition of Content Acquisition and Distribution under Consumer Multi-purchase

Lin Tian, Shanghai University of Finance and Economics, 777 Guoding Road, Shanghai, 200433, China, tian.lin@mail.shufe.edu.cn, Baojun Jiang, Bo Zhou

In many markets, such as video streaming or information services, a consumer may purchase multiple competing products or services. The existing theoretical literature typically assumes that each consumer can buy only one product. This paper explicitly models the consumer's multi-purchase behavior, to examine an upstream content creator's content creation and selling strategies, and competing downstream content distributors' acquisition and pricing strategies. We find that in contrast to the case of single-product purchase, competing content distributors under multi-product purchase will reduce their retail prices and in equilibrium only one distributor will acquire the new content from the content creator. When the content distributors are not very differentiated (each having a limited amount of unique content), the content creator will reduce new content creation, leading to lower profits for both the content creator and the content distributors. By contrast, when the distributors are already very differentiated each with a substantial amount of unique content, the content creator will increase its content production, generating higher profits for both the content creator and the content distributors.

3 - When Private and Public Firms Compete

Steven Mark Shugan, McKethan-Matherly Eminent Scholar Chair, University of Florida, Department of Marketing 249C STZ, P.O. Box 117155, Gainesville, FL, 32605, United States, steven.shugan@warrington.ufl.edu, Jihwan Moon

Public and private organizations compete in many markets (e.g., parcel delivery, health care, education, housing...). Our competitive model reveals that, in competition, private firms adopt very different targeting strategies spending more on specific marketing activities. We check the consistency of our findings in three industries: consumer shipping, hospitals, and universities.

4 - Success in Sports: Randomness or Abilities
Vinay Kanetkar, University of Guelph, Dept of Marketing and Consumer Studies, University of Guelph, Guelph, ON, N1G 2W1, Canada, vkanetkar@uoguelph.ca

In professional sports, ranking of teams at the end of season depends upon strength of participating teams at home and away games. Existing literature about team ratings (rankings) is based on team differential of scores and pay not attention to home or away games. Moreover, literature home field advantage focus on wins or associated points. In this paper, a model is proposed to understand home team advantage as well as ratings based on ability of teams. Using data from various professional leagues including soccer, baseball, hockey, cricket, estimated models suggest that there is home field advantage for all of sporting events. That is, teams perform better at home than away games. This effect is substantially different for stronger teams than weaker teams. Based on models estimated for team ratings, there is limited evidence that top five teams in each professional league, generally have no statistical differences. Consequently, winning teams may be driven by random factors and not based on teams' abilities.

■ TA11

Fertitta Hall, 316, 3rd Floor

New Product: Design I

Contributed Session

Chair: Chen Lin, CEIBS, 699 Hong Feng Road, Shanghai, China, linc@ceibs.edu

1 - Coordinating on Design Standard: The Role of Editors
Kitty Wang, University of Houston, 385B Melcher Hall, 4742 Calhoun Road, Houston, TX, United States, k.q.wang@gmail.com, James Campbell, Avi Goldfarb

Trend-driven industries often have a role for a powerful opinion leader. For example, fashion trends are strongly influenced by Vogue Magazine. We examine why an industry might cede control of design decisions and follow an opinion leader. To do so, we develop a model of product development: designers choose among two types of potential products to develop, and consumers choose between the products of two firms knowing the prices set by each firm. Without the editor, there are two coordination challenges: Getting consumers to agree on the trend and getting the firms to produce different designs to avoid competing away profits. The opinion leader can serve as a coordination device that enables consumers to agree on the trend while enabling firms to produce different designs.

2 - User Designed Products and New Venture Success
Miriam Lohrmann, GGS German Graduate School of Management and Law, Heilbronn, Germany, miriam.lohrmann@ggs.de, Tomas Bayon, Martin Eisend

Companies, such as Threadless and mymuesli, have successfully involved their users in the new product creation process and have marketed these user designed products to establish their new venture. Customers believe that user designed products reflect their needs and wants better than designer generated ones. User designed products enhance the customers' intention to buy and lead to lower failure rates of companies than those of companies that offer products designed by in-house professionals. The success of the first product introduction is key to new venture's success. New venture success depends on achieving a high level of customer's cognitive legitimacy. Customer cognitive legitimacy is achieved when the new venture is understandable to its customers and is conceptualized along the customer's perception of the company's promising future, the competence of the organization's management and her/his curiosity about the company and its product. Prior research investigated the direct effect of user designed products on customer response, but has neglected the mediating role of customer's cognitive legitimacy, which is essential to new ventures. Furthermore, we suggest that an extraordinary product design will foster the mediating effect of customer cognitive legitimacy and therefore the customer's purchase intention. Using schema congruity theory (Mandler 1982), we explain the moderation effect. To analyze both effects, we set up an experiment using a 2 (user designed vs. design by designers) x 2 (extraordinary vs. ordinary design) between-subjects design. We apply a newly developed scale to measure customer cognitive legitimacy. Results will be valuable to new venture founding by enhancing their chance of survival and will be presented at the conference.

3 - Designing Products for Children: When a Buyer is Not a User
Dinara Akchurina, PhD Student, INSEAD, Boulevard de Constance, Fontainebleau, 77305, France, dinara.akchurina@insead.edu, Paulo Albuquerque

In children products and services, the user - the child - is frequently different from the buyer - the parent. In this paper, we model this dual-agent choice setting and the interplay between purchase and usage incentives and empirically study it in the context of online educational services for children. To explain usage and purchase decisions, we propose a structural model of a child and parent behavior, adapting the multiple discrete-continuous extreme value (MDCEV) time allocation model to our problem to account for a learning production function by the child. We then apply this approach to guide the managerial decision of offering virtual games as a reward to children for their efforts spent on learning. To maximize retention, marketers should determine how much of the child's limited time should be allocated to the core product - education, which is valued by the parents - and to the non-core product - games, especially attractive for the children. To answer this question, we estimate our model with data on daily usage of a math software by more than 1,000 children and data on subscription renewal by their parents. Our results suggest significant heterogeneity in usage and purchase incentives, calling for a customized platform design in terms of time offerings for the education and game components.

4 - Design or Sales Leadership? Examining the Relative Importance of Design and Sales Operation Capabilities in Online Market
Chen Lin, CEIBS, 699 Hong Feng Road, Shanghai, China, linc@ceibs.edu, Mengze Shi, Jeongwen Chiang

Successful new product design, launch, and sales performance are critical to all businesses. In today's big-data world where information on consumer's tastes, preferences, and habits can be easily accessible and acquired, firms must be able to effectively launch the right products fast and to the right customers. They also need to monitor their responses constantly, adjust marketing mixes timely, and dispose of inventories quickly as sales starts to decline. To accomplish all these smoothly, firms must have capable employees in new product development, marketing, and sales; more importantly, they must work as a team seamlessly with clear and full responsibilities and accountability. This research intends to study the relative importance of functional capabilities in a unified team of new product design, marketing and sales. We had obtained the collaboration from a Chinese fast fashion garment company, a pure online-selling company. The company assigned the employees into many independent teams and each team had own design and sales operation capabilities. We examine the relation between team performance (sales, new product success) and their respective capabilities. We find that overall the sales operation leadership performs better, but the result can depend on team size. Our quantitative results have useful implications for recruiting (hiring a better designer or a more experienced sales operation personnel?), internal training (to improve creative capability, sales operation capability, or both?), and team assignment. Our analysis will potentially allow firms to compute "value of a top designer" or "value of a top sales operation specialist", etc.

■ TA12

Fertitta Hall, 322, 3rd Floor

Choice Models I

Contributed Session

Chair: Ryan Webb, University of Toronto, 105 St George Street, Toronto, ON, M6G 2M5, Canada, ryan.webb@utoronto.ca

1 - An Empirical Model of Screening Rule Choice
Joseph Jason Bell, University of Iowa, 382 Westgate Street, Apt 5, Iowa City, IA, 52246, United States, jason-bell@uiowa.edu

We develop and estimate a model of the consideration set formation process. In our model, agents choose among non-compensatory screening rules to balance utility maximization against thinking cost minimization, and then apply the chosen rule to arrive at a consideration set. We estimate the model on consideration set data from the automobile industry using Bayesian MCMC. The model fits the data well and yields insights into the important drivers of automobile consideration, as well as the interaction between consideration and final choice.

2 - Building a Choice Model of Consumer Decision States
Paul Wang, University of Technology Sydney, Marketing Discipline Group, Po Box 123, Sydney, NSW 2007, Australia, paul.wang@uts.edu.au, David Waller, Kyuseop Kwak

Decision states are discrete behavioral states that correspond with particular levels of knowledge, information search, product evaluation, and readiness/intention to make a purchase. Consumers can move from one state to another as a result of changes in their level of awareness, search for information, marketer's promotional activities, and purchase preferences. Research on decision states is important to fully understand consumer choice behavior. However, to the best of our knowledge, no one has proposed and tested a logically and consistently integrated model framework for all decision states or their logical antecedents. To fill the research gap, we aim to contribute to a better understanding of consumer decision-making and choice processes by proposing a conceptual framework of decision states and test the usefulness and adequacy of the framework using choice data of island holiday destinations.

3 - Predicting Bundle Preference using Configuration Data

Gary J Russell, University of Iowa, College of Business Administration, 108 Pappajohn Bus Admin Bldg, Iowa City, IA, 52242-1000, United States, gary-j-russell@uiowa.edu, I-Hsuan Chiu, Thomas S Gruca

Understanding consumer preference for bundles is a key element of effective new product design. In addition to conjoint analysis, researchers and practitioners often use a bundle configuration approach to study consumer preferences for bundles. In a configuration study, subjects are asked to create an ideal bundle from a given menu of various products. The resulting choice data poses two challenges for researchers. First, as the size of the menu grows, the number of possible bundles grows geometrically. This implies a large number of alternatives in the choice set. Model estimation from a large choice set can be computationally expensive or even impossible. Second, because each customer only configures one ideal product bundle, researchers have only one choice observation per customer. Thus, researchers are limited to aggregate level analysis. In this research we propose a modeling approach that deals with the challenges of configuration data and provides clear insights into customer preference segmentation. We show that the configuration data can be represented by a Multivariate Logistic (MVL) choice model, given certain assumptions about the individual choice process and preference heterogeneity. We also develop a procedure for determining optimal bundle design that takes into account the preference structure and price sensitivity. We provide an empirical illustration of the proposed modeling process that illustrates both the strengths and weaknesses of configuration data.

4 - Pairwise Attribute Normalization: A Theory of Multi-attribute Choice

Ryan Webb, University of Toronto, 105 St George Street, Toronto, ON, M6G 2M5, Canada, ryan.webb@utoronto.ca, Peter Landry

We propose a theory of multi-attribute choice with foundation in the neuroscience of sensory perception. The theory relies on a pairwise comparison of attributes by means of divisive normalization, a neural computation widely observed in cortex across many sensory modalities and species. The theory captures and unifies a number of previously disparate phenomena observed in the empirical literature, including the decoy effect, compromise effect, similarity effect, "majority rules" intransitive preference cycles, attribute-splitting effects, and comparability biases. A general formulation of the theory contains standard binary utility representations as a special case. The relation between pairwise normalization and previously-established notions of attribute salience found in the economics literature is also explored.

■ TA13

Fertitta Hall, 327, 3rd Floor

Price Discrimination

Contributed Session

Chair: Ossama Elshiewy, University of Goettingen, Platz der Goettinger Sieben 3, Goettingen, 37073, Germany, elshiewy@wiwi.uni-goettingen.de

1 - A New Disneyland Dilemma: Seasonal Pricing for Emotional Mickey Mouse Fans

Matthew Selove, University of Florida, Gainesville, FL, United States, mselove@gmail.com

Fans are disappointed when an entertainment venue is sold out, but they also consider it unfair to pay a higher price than others do. We develop a model in which a firm maximizes profits given these emotional aspects of customer behavior. If customers are "naive" about how unfairness and disappointment can reduce future consumption utility, then the firm must either set a high price during all periods or exit the market during peak demand to avoid antagonizing customers. On the other hand, if "sophisticated" customers anticipate how unfairness and disappointment can reduce future consumption utility, then the firm stays active in the market during peak demand and sets a low price during off-peak demand. We derive conditions in which profits are higher, and average customer utility is also higher, if customers are sophisticated rather than naive.

2 - How Do Personalized Recommendations and Price Discrimination Compare?

Xiaochen Zhang, Graduate Student, Carnegie Mellon University, 5000 Forbes Ave, Pittsburgh, PA, 15213, United States, xiaochen@andrew.cmu.edu, Pedro M Ferreira, Rodrigo Belo, Miguel Godinho De Matos

Consumers receive online recommendations personalized by their past purchase behavior. Personalization can include customized suggestions of products to buy as well as personalized pricing schedules. The literature in welfare analysis of personalization strategies has been focusing exclusively on only one of these two dimensions. In this paper, we investigate the welfare impact of personalized product recommendations from a novel perspective. In particular, we study how personalized product recommendations may resemble first and third-degree price discrimination. We model a monopoly firm that recommends a single product to each consumer with a specific level of personalization. The latter indicates the number of consumer segments that obtain the same recommendation. By incorporating elements of the consumer search behavior, horizontal product differentiation, and heterogeneous consumer preferences, we show that personalization with finite segments of consumers resembles third-degree price discrimination. Perfect personalization, where each consumer is recommended a different product, resembles first-degree price discrimination. In sum, personalization and price discrimination may yield similar welfare properties and thus it may seem weird that the latter is highly scrutinized while the former is not. Personalization improves social welfare because it reduces search cost. However, personalization is not always beneficial to consumers. With low levels of personalization, the firm leads consumers to accept recommendations by reducing search costs. However, with high levels of personalization, all consumers accept the recommendations from the firm, which reduces consumer surplus. Therefore, search costs balance the behavior of the firm between exploring and exploiting consumers.

3 - Using Obfuscation to Intensify Price Discrimination in a Monopoly

Samir Mamadehussene, Catolica-Lisbon School of Business and Economics, Lisbon, Portugal, samir@ucp.pt

The literature regards obfuscation as a tool used by firms to soften market competition. In this paper, I find an alternative use of obfuscation. In particular, I find conditions that will lead a monopolist to engage in product obfuscation as a screening mechanism. My model closely follows that of Mussa and Rosen (1978), who analyze a setting in which consumers differ in their willingness to pay for quality. As they show, the monopolist offers products of different qualities to discriminate between consumers. I find that, when search costs and willingness-to-pay for quality are positively correlated, the monopolist can profit from engaging in obfuscation, which is interpreted as creating costs for consumers to purchase some of its products. Suppose the monopolist offers some products that require a consumer to spend some effort (search cost) in order to purchase them. Consumers willing to incur search costs to purchase those products have low search costs and, hence, are more likely to have low valuations. On the other hand, consumers that are not willing to incur search costs to purchase those products have high search costs and, hence, are more likely to have high valuations. This first round of screening based on search costs allows the firm to exercise price-discrimination more effectively. By engaging in product obfuscation, the monopolist splits the market in two: high-search-cost and low-search-cost consumers. As search costs and willingness to pay are positively correlated, the firm is able to price discriminate more effectively than when consumers are pooled in a single market. As an extreme example, consider the case in which all consumers with low (high) valuation have low (high) search costs. By screening consumers according to their search costs, the firm indirectly screens consumers according to their valuations. In this extreme example, the monopolist can exert perfect price discrimination and extract all surplus.

4 - Heterogeneous Willingness-to-pay for Competitor Products

Ossama Elshiewy, University of Goettingen, Platz der Goettinger Sieben 3, Goettingen, Germany, oelshie@uni-goettingen.de, Jan Schikofsky

Measuring willingness-to-pay (WTP) has a long tradition in marketing science. Hereby, Choice-based Conjoint (CBC) analysis has become one of the most prevalent methods to estimate WTP from stated choices. In addition, numerous advances in MCMC methods have led to the estimation of individual-level part-worth utilities from CBC data which translate to consumer heterogeneity in preferences and WTP. Our research builds upon these advances. First, we develop a CBC design for goods that have already been purchased by the respondents. The resulting part-worth utilities allow estimating WTP for the respondents' past purchase compared to competitor products by using the concept of Compensating Variation (see, e.g., Chu, Chintagunta, and Vilcassim, 2007). Second, we employ a non-parametric Hierarchical Bayesian approach by using Dirichlet Process Priors to estimate the individual-level part-worth utilities. This supports capturing highly flexible heterogeneity distributions leading to more accurate individual-level estimates of our proposed WTP for competitor products (hereafter: WTP4CP). The individual-level WTP4CP approach will ensure that the marketing mix (in particular price and product) can be optimized to acquire new customers by stimulating brand-switching, but also to retain existing customers by preventing brand switching. Marketing managers will be able to conduct more advanced policy simulations for price and product to position their own brands and products in comparison to competitors. Using the non-parametric Hierarchical Bayesian approach will provide very accurate estimates of the individual-level preferences and WTP4CP for the product of interest. In addition, marketing research can make use of our methodology to identify behavioral drivers that can explain the (flexible) variation in consumer heterogeneity for WTP4CP. Previous literature has identified a large number of influences for WTP (see, e.g., Winer, 2014) which can be incorporated in our estimation approach and contribute to the body of knowledge in pricing research.

■ TA14

Fertitta Hall, 328, 3rd Floor

Marketing & Finance I

General Session

Chair: Shuba Srinivasan, Boston University, Boston University, Boston, MA, 02215, United States, ssrini@bu.edu

1 - Organizational Herding in Advertising Spending Disclosures: Mechanisms and Evidence

Huanhuan Shi, Penn State University, 406A Business Building, University Park, PA, 16801, United States, hus16@psu.edu, Rajdeep Grewal, Shrihari Sridhar

Because firms use advertising to gain product market advantages and increase their valuation in financial markets, disclosures of their advertising spending are influential, whether they erode the firm's competitive advantages in product markets or signal quality in financial markets. These consequences also depend on the disclosure decisions of competing peer firms, so this study examines the causal effect of herding behavior (manifested as information and financial externalities) surrounding advertising spending disclosures. Observational learning results in information externality-based herding, as firms learn from peers' past disclosure choices. Financial externality-based herding arises due to pressures to disclose when investors penalize non-disclosing firms because peer firms disclose. A 1994 reporting rule made advertising spending disclosures voluntary in the United States, so this study uses that moment to distinguish causal peer influences from correlated behaviors, correcting for endogeneity issues of simultaneity and correlated unobservable variables. Robust evidence shows herding effects among peer firms in the same industry, where the herding effect mainly is driven by financial externality mechanisms, such that firms similar in size, instead of influential firms, seem to drive the behaviors of others.

2 - When do Marketing Executives Drive Growth in Firms?

Raji Srinivasan, University of Texas-Austin, 2110 Speedway, Stop B6700, Austin, TX, 78712-1275, United States, raji.srinivasan@mccombs.utexas.edu, Leigh McAlister

Firms have several functions to perform, chief among them is achieving growth. Consistent and superior growth is achieved through a replicable process of insights, strategy and execution, each of which are not only necessary, but must build directly from the previous step. The domain of knowledge that covers these three steps includes insights (environmental scanning, marketing research), strategy (positioning and targeting), and execution (brand building, customer relationship management, pricing, and communications). This is the core of marketing knowledge, as we present it in marketing curricula, textbooks, and marketing scholarship. This would seem to imply that marketing executives (i.e. those executives with marketing in their titles) should be responsible for all of the above activities. To the contrary, we propose that this is not the case in all firms. In some firms, all the elements of the domain of marketing knowledge may be the responsibility of someone with "marketing" in their title, while at other firms, people with functions other than marketing (e.g., accounting, finance, operations) in their title will be responsible for the elements of the domain of marketing knowledge. We further propose that a firm with someone with a marketing title on the top management team (TMT) is likely to consolidate responsibility for all of the elements of the domain of marketing knowledge thus ensuring coordination of all elements (i.e., that strategy is based on insights and that all executional elements are consistent with strategy and based on customer insights). A firm that does not have someone with a marketing title on the TMT will likely not be consolidating responsibility for all of the elements of the domain of marketing knowledge, and therefore will not able to ensure that strategy is built from customer insight and that all executional elements are consistent with strategy and the insight on which strategy was built. Finally, we propose that a firm in which all elements of marketing knowledge are coordinated under a person with a marketing title is likely to grow faster than a firm where various components of marketing knowledge are farmed out to different functions and hence are less likely to be coordinated such that strategy is built on customer insight and executional elements are all consistent with strategy and with the insights on which strategy was built. We provide empirical evidence in support of these propositions and discuss the theoretical, managerial, and pedagogical implications of the research's findings.

3 - Advertising and Online Investor Search: The Role of Investor Sophistication

Abhishek Borah, Assistant Professor, University of Washington, Seattle, WA, United States, abhi7@uw.edu, Cem Bahadir, Gerard J. Tellis

Numerous studies have addressed the relationship between marketing investments such as advertising and firm value (Srinivasan and Hanssens 2009) however there is no research in marketing that has directly investigated how investors process advertising information. Srivastava et al. (1998) argue that investors are key stakeholders that play a decisive role in how marketing affects firm value. In this study, the authors advance the knowledge on the relationship between advertising and firm value by first exploring the effect of advertising on investor search contingent on the type of investor's sophistication. Second, the authors test the mediating role of the two types of investor search in the relationship between advertising and firm value. The authors study these relationships in three studies. One study combines two online investor search datasets with a comprehensive advertising dataset for a random sample of 1500 firms across 4 years. The second study studies S&P 500 firms employing a quasiexperiment and a difference-in-difference approach and the third study uses daily data of S&P 500 firms for 1 year. The authors find that advertising increases search for sophisticated investors while it decreases search for less sophisticated investors. They find that the effect of advertising on firm value is only mediated by the search activity of sophisticated investors and not by the search activity of less sophisticated investors.

4 - How Does Digital Advertising Impact Firm Performance and Firm Value?

Bernd Skiera, Goethe University Frankfurt, Frankfurt, Germany, skiera@wiwi.uni-frankfurt.de, Shuba Srinivasan, Emanuel Bayer, Edward Riedl

In recent years, digital advertising expenditures have grown explosively. Despite this growth, little is known about digital advertising's impact on firm performance and valuation. Beside the traditional brand-building characteristic of advertising, digital advertising also exhibits a direct response component, which aims at stimulating an immediate response from the consumer, such as through a click on an internet ad, and unique targeting abilities, aimed at reaching consumers at the right stage of the purchase decision. This paper examines the effects of digital versus traditional advertising on firms' performance and valuation, using a proprietary panel dataset of annual observations of digital versus traditional advertising expenditures of 1,651 firms spanning the period from 2010-2014. First, the paper demonstrates that both digital and traditional advertising expenditures are positively related to sales and firm valuation. Second, it documents a stronger positive association for digital advertising on both sales and firm valuation, relative to traditional advertising. Third, it provides evidence of differential effects of digital versus traditional advertising for cost leader and differentiator firms.

■ TA15

Fertitta Hall, 331, 3rd Floor

Customer Churn: Advances, Challenges and New Directions

General Session

Chair: Roelof Hars, University of Groningen, Netelbosje 2, Groningen, 9747AD, Netherlands, r.p.hars@rug.nl

1 - In Pursuit of Enhanced Customer Retention Management

Scott A Neslin, Dartmouth College, Hanover, NH, 03755, United States, Scott.Neslin@dartmouth.edu, Eva Ascarza, Oded Netzer, Zachery Anderson, Peter Fader, Sunil Gupta, Bruce G S Hardie, Aurelie Lemmens, Barak Libai, David Neal, Foster Provost, Rom Schrift

We develop a framework for managing customer retention and leverage it to (1) summarize what we know and don't know about retention management, and (2) identify avenues for future research. The framework integrates data and methods, single retention campaign development, multiple campaign management, and strategic integration. This leads us to advocate a broad perspective on customer retention. We discuss a variety of metrics to measure and monitor retention, some of which are commonly used, while others, such as the recency/interpurchase time ratio, need research scrutiny. The framework suggests opportunities where machine learning might be used to analyze text and highly granular data. When designing single retention campaigns, our framework points to the importance of distinguishing between which customers are at risk and which should be targeted - these aren't necessarily the same customers. We need to learn how to coordinate ongoing reactive retention policies with individual proactive retention campaigns. We advocate that single retention campaigns be coordinated over time using dynamic optimization. Even more broadly, these tactical retention efforts need to be managed in concert with other elements of the firm's marketing mix and its overall marketing strategy. All these ideas point to customer retention management as a highly promising area for future research.

2 - Generalizations on the Drivers of Customer Churn: A Meta-Analysis

Roelof Hars, University of Groningen, Netelbosje 2, Groningen, 9747AD, Netherlands, r.p.hars@rug.nl, Arjen Onrust, Hans Risselada, Jaap Wieringa

Throughout the last decades, a wealth of research has been published on the drivers of customer loyalty, attrition, and related constructs. One of the drawbacks of this research is that loyalty has often solely been measured attitudinally rather than as actual behaviour, which limits managerial relevance. Although the marketing literature has called for generalizations regarding the drivers of actual churn and retention behaviour, limited academic attention, limited data availability and methodological limitations have hampered such generalizations. In this study, we perform a meta-analysis in which we generalize findings regarding customer churn behaviour. Presenting a broad theoretical framework and a unique dataset based on 76 primary studies, we consider drivers varying from customer perceptions and intentions to customer-firm relationship aspects, product-related drivers, and demographics. In general, the direction and significance of the effect sizes we obtain are consistent with marketing theory. However, we also find that effect sizes of many popular constructs in marketing theory and proxy variables commonly used in marketing practice are surprisingly small. This contrasts with the central place of these theoretical constructs in the marketing literature and their roles in predicting churn in practice. We consider the effect of several moderating variables, and suggest new directions for the literature to explore.

3 - Whom to Target? Managing Risk when Predicting Retention

Aurelie Lemmens, Tilburg University, Marketing Department, P.O. Box 90153, Tilburg, 5000 LE, Netherlands, a.lemmens@uvt.nl, Bas Donkers, Peter C Verhoef

Research on customer retention has devoted an inordinate amount of efforts to developing methods to predict customer retention. Overall, the goal of these methods is to inform decisions such as whom to target with retention offers. Despite the huge amount of work, there is no consensus on best practices in this domain (i.e. the variance in predictive performance across applications is huge), and unfortunately, prediction is far from perfect (i.e. the average prediction accuracy of a method is disappointedly low). As a consequence, the vast majority of the customers identified as targets for retention actions are customers who had no intention to leave in the first place. In this paper, we shed light on the overall performance of binary prediction methods by applying them to a broad set of application contexts and studying their drivers of performance via a large Monte Carlo simulation study. Our results guide firms in their choice for a particular model. Finally, we propose a portfolio diversification method that allows companies to reduce risk when predicting retention.

4 - Short- and Long-term Effects of Price Promotions on Consumption

Daniela Schmitt, University of Mannheim, Mannheim, Germany, daniela.schmitt@bwl.uni-mannheim.de, Florian Stahl, Raghuram Iyengar

Sales promotions form an important element of the marketing mix. Whereas a large stream of literature has investigated the impact of promotions on customer behavior for the grocery category, relatively less work has considered the effect of such promotions on the access to and consumption of services. The objective of this research is to investigate the short- and long-term effect of price promotions on customer retention and service consumption. We do so in the context of a large digital news publisher that offered temporarily lowered prices for digital subscriptions. Specifically, we analyze the effect of temporarily lowered prices of subscriptions on customer retention and consumption for both new and existing customers. The results show a significant increase in the retention and consumption for newly acquired customers in the short run as well as in the long run. The net impact of the promotion is, however, less positive than expected as existing customers both consume less, and churn more after missing the promotion. The latter showcases the tension that services providers may face when they offer promotions to acquire new customers. We validate our results using a dataset with another price promotion. We propose that current customers are frustrated with missing the promotion. We use data from a field experiment to validate our proposed mechanism. Existing customers were randomly exposed to an invitation to switch to a promoted, lower price. We find that exposure to the opportunity to switch can lower the drop in the consumption and churn of existing customers.

■ TA16

Fertitta Hall, 414, 4th Floor

Advertising on TV

Contributed Session

Chair: Liangbin Katie Yang, University of Pennsylvania, 700 Jon M Huntsman Hall, 3730 Walnut Street, Philadelphia, PA, 19104, United States, yangkl@wharton.upenn.edu

1 - Mobile Content: Understanding Drives of Engagement by Screen

Myoung-Jin Chae, Georgia Tech, 800 West Peachtree Street NW, Atlanta, GA, 30308, United States, myoung-jin.chae@scheller.gatech.edu, Omar Rodriguez-Vila, Sundar G Bharadwaj

The number of worldwide smartphone users is 2.1 billion in 2016 and expected to grow to 2.87 billion by 2020. As the industry continues growing and more people rely on mobile phones to use services and stay connected to the world, marketing researchers have been exploring new marketing dynamics in the mobile environment during the past few years. Now consumers can access messages anytime of a day from more diverse locations via mobile phone and it has changed the way consumers respond to the same message depending on devices (mobile vs. PC) they are using. In this study we use a unique dataset of 400 branded social media messages consumed across mobile and PC screens to study difference in content drivers by type of medium. Specifically, we explore the effects of content characteristics in a message on consumer engagement and propose that messages that are 1) more personal, 2) more immediate, and 3) more simple/intuitive are more effective in mobile. We use social psychology theory to explain those effects and discuss ways that managers can design more effective social media messages aimed to be consumed in mobile devices.

2 - Impact of Timeshift TV on TV Consumption

Filipa Reis, Carnegie Mellon University, Pittsburgh, PA, United States, rs.filipa@gmail.com, Pedro M Ferreira, Rodrigo Belo, Miguel Godinho de Matos

We partner with a major telecommunications provider to study the effect of Time-Shift TV (TSTV) on TV consumption. TSTV records in the cloud programs that were previously broadcasted live and allows users to watch them when they want. In 2012, our industrial partner deployed TSTV to half the channels offered to premium consumers. Using difference-in-differences, we find that TSTV increased the consumption of daily TV by 11 minutes from a baseline of 3.4 hours, and did not change the consumption of live TV. We also find that the concentration of TV consumption increased after TSTV was available. In 2015, our industrial partner run an experiment in which a random set of households was given access to a new set of TV channels broadcasting movies and TV shows. A random subset of them obtained access to these channels with TSTV while another random subset of them obtained got so without TSTV. Using difference-in-differences we find that the former households consumed 4.5 more minutes of TV per day, from a baseline of 5.0 hours, and as much live TV as the latter households. The consumption of TV by the former households was more concentrated towards the most popular programs. In 2015, we show that households given access to the new TV channels with TSTV exit ads in the original TV channels as much as the households given access to these channels without TSTV. Therefore, the concern of advertisers that TSTV may reduce their revenues is unwarranted.

3 - The Evolution of Television Viewing: Social TV, Time Shifted Viewing and Advertising Avoidance

Buffy Mosley, Doctoral Student at Goizueta Business School, Emory University, 1300 Clifton Rd, Atlanta, GA, 30322, United States, buffy.mosley@emory.edu, David A. Schweidel, Robert J. Kent

Technological advancements such as the digital video recorder (DVR) and social media have changed when and how viewers engage with television programs. Given the potential impact of social media activity on television viewing decisions, we empirically investigate the relationship between social TV activity and consumers' decisions to engage in live and time-shifted television viewing. Using television tuning data from the 2015 fall season, we examine the impact of social TV activity on (1) the total size of an episode's audience, (2) the proportion of devices engaging with live vs. time-shifted viewing and (3) the extent of advertising avoidance during live and time-shifted viewing. We find that higher levels of social TV activity are associated with a larger audience, more live viewing, and earlier viewing among those who engage in time-shifted viewing. We also find that advertising avoidance is lower during live and same-day time-shifted viewing, resulting in higher levels of social TV activity being associated with lower levels of advertising avoidance. We discuss the implications of these findings for both advertisers and networks.

4 - The Effect of Random Slot Allocation on Advertisers' Welfare in Television Advertising

Yang Shi, Assistant Professor, Sun Yat-Sen University, Guangzhou, China, yolandashiy@connect.ust.hk, Jun Beom Kim, Ying Zhao

TV still remains one of the most popular options for advertisers to reach the mass market. One common practice among many TV networks is that advertisements are randomly assigned to several slots within a commercial break. However, it is well documented that the number of viewers varies across slots due to consumer zapping in which consumers switch to other channels and thus avoid the ad during breaks. Previous research primarily focused on identifying elements that are responsible for consumers' zapping behaviors and reported that ad slot position within breaks is an important factor for consumer zapping. More nascent research started looking at economic efficiency of such consumer zapping behaviors. We advance this set of research stream. Taking the perspective of advertisers, this paper studies the implications of random ad placement practices of TV networks on advertisers' welfare. We do so using a very detailed data set on consumers' TV viewing behaviors as well as data on contents and actual costs of ads. We first propose a very comprehensive model of consumers' zapping behaviors, and then simulate the different numbers of viewers an advertiser may reach at various placement scenarios, which are translated into monetary terms. Our simulation study reveals that advertisers face high level of uncertainty in terms of final number of viewers under current practice and this has substantial monetary implications. We conclude the paper by discussing managerial implications from the perspective of TV networks as well as advertisers.

5 - Inferring Individual Preferences and Intragroup Dynamics with Aggregate and De-identified Data: An Application to Targeted TV Advertising

Liangbin Yang, University of Pennsylvania, 700 Jon M Huntsman Hall, 3730 Walnut Street, Philadelphia, PA, 19104, United States, yangkl@wharton.upenn.edu, Eric T Bradlow, Peter Fader

When there is a lack of rich individual-level data, marketers are typically restricted to modeling choices and consumption processes in the aggregate (e.g., household level), ignoring intragroup heterogeneous individual preferences and intragroup dynamics, and thus potentially misunderstanding individual-level preferences. This paper proposes a joint consumption model that accounts for intragroup dynamics, state dependence, and observed/unobserved heterogeneity, which marketers can estimate with just aggregate and de-identified data. The proposed model can disentangle three confounded components of intragroup dynamics: 1) preference revision when an individual's preferences depend on the preferences of others, 2) behavioral interactions when an individual's consumption utility depends on the choices of other group members, and 3) decision power, i.e., the influence an individual exerts when his or her group makes a decision. The identification relies on two main sources: single-member households and variation of available choices over time, which is demonstrated by a series of simulations and empirical validations. In a series of simulations, we show that ignoring intragroup heterogeneous individual preferences and intragroup dynamics results in biased estimates and yields several consequences. We apply our model to household TV viewing using Nielsen People Meter (NPM) data. Finally, we conduct a series of calibrated counterfactual simulations demonstrating that our proposed model will enable advertisers to significantly improve the efficiency of targeting intragroup individuals.

■ TA17

Fertitta Hall, 416, 4th Floor

Brand Metrics

Contributed Session

Chair: Gopal Das, Indian Institute of Management Rohtak, M.D University Campus, Rohtak, 124001, India, gopal.das@iimrohtak.ac.in

1 - Impact of Consumer Age on Brand Verbal Fluency: A Moderated Mediation Analysis Involving Cognitive Ability and Brand Recency

Gilles Laurent, Professor, INSEEC, 27, Avenue Claude Vellefaux, Paris, 75010, France, glaurent@inseec.com, Raphaëlle Lambert-Pandraud, Bernard Gourvennec

Verbal fluency is the ability of a person, when cued with a pre-existing category learned over her or his lifetime, to name items belonging to that category. The classical example is to measure how many animals one can name. Brand verbal fluency is the ability of a consumer, when cued with a product category, to name brands in that product category. How does it vary across consumers? Is it biased, with certain names more likely to appear? Building on psychological research on verbal fluency, we develop hypotheses and test them on a sample of consumers aged 19 to 77. We first measure their brand verbal fluency by asking them to name radio stations. We then control for their knowledge of other un-named stations by presenting them with an exhaustive list of radio stations in their region and checking whether they recognize them. We analyze verbal fluency at the detailed level of individual-brand pairs, using a logistic approach. Our results are threefold. First, brand verbal fluency declines with age, as predicted. Second this effect is mediated by cognitive ability (assessed by the processing speed test from WAIS), which itself declines with age. Third, this mediation is moderated by brand recency. For recent brands, cognitive ability indeed mediates the negative impact of consumer age on brand verbal fluency. In contrast there is no such effect for ancient brands, as consumer age and its associated decline in cognitive ability has no impact on brand verbal fluency for ancient brands.

2 - Brand Growth and Advertising: Latent Growth Curve Modeling Approach

Hikaru Yamamoto, Keio University Graduate School of Business Administration, 4-1-1 Hiyoshi, Kohoku-ku, Yokohama, 223-8526, Japan, hikaru@kbs.keio.ac.jp, Satoshi Nishida, Shinji Morioka

Due to increasing demand for marketing accountability, market response models have attracted attention from both academia and practitioners. Recent development in market mix modeling not only quantifies how marketing actions affect sales, but evolved to more holistic approach to integrate consumer attitude metrics such as brand awareness and purchase intention into the model.While these integrated market response models, typically econometric models require rich data set, many brand managers face limited observations when they aim to incorporate mind-set metrics to the model, as these metrics are not acquired as often as other marketing-related data such as advertising and sales. This research aim to model the relationship between advertising and brand health under the circumstance with limited observations. Using the data set of 200 brands on 9 observations from April 2014 to April 2016, we examine the relationship between advertising spending, consumer response, and mind-set metrics using the latent growth curve modeling. Finally, we illustrate the longitudinal change in band health and the heterogeneity of brand in response to marketing actions.

3 - New Measures of Cross-cultural Affinity in Global Branding

Willem Smit, Assistant Professor, Asia School of Business, Sasana Kijang, 2 Jalan Dato Onn, Kuala Lumpur, 50480, Malaysia, willem.smit@asb.edu.my, Catherine Tucker

Much work on international marketing and global branding has used the traditional Psychic Distance and Hofstede's country ratings to establish cultural affinities. In this paper we show that in the Digital Age other measures of cultural affinity may also be important. We do this by using unique data on the cross-country popularity of different airline brands on the social network Facebook. With a database of 108 brand operating in 52 countries, we show that even in the Digital Age there is still a large place for geography in explaining the popularity of a global brand beyond its actual brand presence in that country. Finally, our model explains the skewness and the reach of international popularity of brands - differentiating between the brands with from those without a national identity positioning.

4 - How Does Textual Paralanguage Affect Brand Personality

Gopal Das, Assistant Professor, Indian Institute of Management Rohtak, M.D University Campus, Rohtak, 124001, India, gopal.das@iimrohtak.ac.in

This study proposes a framework that examines the affects of textual paralanguage (TPL) on brand personality which in turn, impacts consumers' attitude towards brands and behavioural intentions. One laboratory experiment and one filed study were conducted to test the propositions of this research. In the laboratory experiment, we checked how TPL influences consumer brand personality perceptions. The field study replicated the results of laboratory experiment and examined the mediating role of perceived friendliness in the influence of TPL on brand personality perceptions. The results of this research show that use of TPL (vs. non-TPL) in the company-customer communication is beneficial for sincere brands but disadvantageous for competence brands. Results further show that perceived friendliness mediates the effects of TPL and brand personality interaction on consumer attitude towards brand and purchase intention. When text-based interactions between companies and customers are increasing rapidly across the globe, this study provides managers several guidelines of the text-based nonverbal interactions for effective communications. Although, the use of TPL in company-customer interactions is increasing rapidly, the influences of TPL on consumer brand perceptions were under-studied. This study filled this void in literature of text-based nonverbal communication and brand personality.

■ TA18

Fertitta Hall, 417, 4th Floor

Consumer Behavior & Context Effects

Contributed Session

Chair: I-Hsuan Chiu, University of Iowa, S347 John Pappajohn Bus Bldg, Iowa, IA, 52242, United States, shainechiu@gmail.com

1 - Contextual Deliberation and Procedure-dependent Preference Reversals

Liang Guo, Professor of Marketing, Chinese Univesity of Hong Kong, CUHK Business School, Chinese Univesity of Hong Kong, Hong Kong, China, liangguo@baf.cuhk.edu.hk

Preferences between alternatives can be reversed across a variety of elicitation procedures (e.g., choice, matching, valuation, joint versus separate evaluation). This puzzling finding is usually invoked to challenge the procedure invariance principle. Yet procedure-dependent preferences can be endogenous. This research presents a synthesizing framework of contextual deliberation to explain seemingly disparate phenomena of preference reversals. When attribute importance or risk attitude is ex ante imperfectly known, people can engage in pre-decision information acquisition activities (i.e., deliberation). Elicitation procedures can influence revealed preferences through affecting the incentive for deliberation. Therefore, contextual deliberation can endogenously yield procedure-dependent preference reversals.

2 - How Defined Contribution Plans Generosity Affects Employees Contribution and Early Leakage Decisions

Muxin Zhai, Post Doc, University of Colorado Boulder, leeds school of business, mrkt division, 995 regent drive, Boulder, CO, 80309, United States, muxin.zhai@colorado.edu, Yanwen Wang, John G Lynch

Employees are faced with retirement saving decisions during active job periods, as well as retirement leakage decisions at job terminations. We take leverage of a large data set on employees' 401k contributions and leakage actions, and investigate how retirement plan generosity affects those decisions. Our results suggest that employees respond strategically to employer-based defined contribution plans. An overly generous plan may not necessarily facilitate employee savings for future retirement. Moreover, as the proportion of employer's contribution increases, early leakage is more likely to occur when a financial difficulty is realized.

3 - Modeling Reference Dependence Effect and Regulatory Orientation

I-Hsuan Chiu, The University of Iowa, S347 John Pappajohn Bus Bldg, Iowa, IA, 52242, United States, shainechiu@gmail.com, Gary J Russell

One major implication of the value function in prospect theory is loss aversion: Losses loom larger than gains of the same size. The empirical examinations of loss aversion from consumer brand choice decisions, however, provide mixed results. For example, Bell and Lattin (2002) show that loss aversion is reduced or disappears when taking into account consumer heterogeneity. In this research we show that regulatory focus theory can account for the heterogeneity in the reference dependent effect: consumers in promotion-oriented mindset show a weaker response to loss aversion comparing to those in prevention-oriented mindset. We consider a decision context where consumers rely on external reference points. To capture the reference dependence effect, we use the random regret minimization (RRM) model developed by Chorus (2012). The RRM model describes a decision process that compares attributes of an alternative to that of all other alternatives in the consideration set. Thus it is flexible in evaluating all reference dependence effects across all attributes and alternatives. We then incorporate regulatory orientations into the RRM model. We demonstrate that prospect theory describes the within-individual differences with respect to losses and gains, while regulatory focus theory describes the between-individual differences.

■ TA19

Popovich Hall, 300, 3rd Floor

ISMS Doctoral Dissertation Winners I

General Session

Chair: Olivier Toubia, Columbia Business School, Columbia Business School, New York, NY, 10027, United States, otoubia@yahoo.com

1 - China Goes Online: Opportunity or Threat for CPG Brands?

Bernadette Van Ewijk, PhD Candidate, Tilburg University, Warandelaan 2, Tilburg, 5037 AB, Netherlands, b.j.vanewijk@uvt.nl, Els Gijsbrechts, Jan-Benedict Steenkamp

Asia is the leading continent for grocery e-commerce, with China being the most important country fueling this trend. Anecdotal evidence as well as industry sources point to large differences in brands' ability to secure a portion of China's online pie. From a managerial viewpoint, the question then becomes what drives these differences, and how brand managers can make sure to be on the winning end. We develop a model that specifies a brand's total (online plus offline) sales evolution as a function of the fraction of groceries sold online. This evolution depends on two indices: a) the brand's online index (BOI: category sales share online versus offline) and b) the category's online index (COI: category's share of total grocery sales online versus offline). Brands for which the product of these indices exceeds unity see their total sales increase with the fraction of groceries sold online, while the others are likely to lose ground. We estimate our model on 375 brands in 60 product categories in China, using 2011-2015 data. Preliminary insights suggest that for BOI, online versus offline differences in price and assortment play a role. Moreover, brands with more intensive offline distribution and more media support, more trusted brands, and global brands perform better online. As for COI, categories that are less frequently bought and involve higher spending per purchase benefit from the shift towards the online channel, whereas the opposite holds for perishable categories. Managerial implications are discussed.

2 - A Structural Model of Organizational Buying: Innovation Adoption under Share of Wallet Price Contracts

Navid Mojir, Yale University, 135 Prospect Street, New Haven, CT, 06511, United States, navid.mojir@yale.edu, K Sudhir

B2B markets are typically characterized by organizational buying involving a buying center with multiple stakeholders (e.g., buyers, users) who have different preferences and costs. A common feature of pricing in B2B markets is the "share of wallet" contract, designed to induce and reward customer loyalty by offering discounts when a customer contracts and commits to buy more than a threshold share in the category from the supplier. This paper develops the first dynamic structural model of organizational buying for B2B markets and the first empirical analysis of share of wallet based loyalty inducing pricing contracts. We use the model to describe a new mechanism underlying the dynamics of innovation adoption in B2B markets relative to mechanisms used for B2C markets. We estimate the model using unique panel data on medical device usage and share of wallet price contracts at the hospital level to obtain insights on organizational innovation adoption and diffusion in a B2B market. Our estimates show that there are two segments of hospitals: a high buyer power and a low buyer power segment; innovations diffuse faster in teaching hospitals and when surgery shares are concentrated among a few surgeons, who therefore have greater power to use their preferred product (in this case the more expensive, but better innovation). Counterfactuals show that contrary to conventional wisdom that share of wallet contracts are generally hurtful to innovations from smaller suppliers, they result in a wedge in the likelihood of success of innovation adoption as a function of the size of innovation. Specifically, SOW contracts can hurt smaller suppliers with incremental innovations, but help firms with larger innovations. The findings have implications for marketers and regulators.

3 - Valuing Non-Contractual Firms using Common Customer Metrics

Daniel McCarthy, PhD Student, University of Pennsylvania - Wharton School, 3730 Walnut Street Suite 300, Pittsburgh, PA, United States, danielmc@wharton.upenn.edu

Few non-contractual firms publicly disclose customer metrics, and there is no well-validated procedure to infer overall company valuations from the varied metrics that are disclosed. One of the biggest challenges is the fact that non-contractual businesses are characterized by latent attrition, making it hard to create and convey suitable measures (i.e., to replace the conventional contractual notion of a "retention rate" with more relevant metrics, and to embed these metrics into the overall valuation equation). Another challenge is that common customer metrics are aggregated across customers and over time, and are often left-censored, in contrast to a situation where all granular data is observed. We propose a novel methodology based upon "indirect inference," a well-established generalization of generalized method of moments procedures, previously unused in marketing. We apply this methodology to highlight the usefulness of common customer metrics, estimating a latent variable model for customer acquisition, repeat purchasing, and spend with them. We show which collections of metrics are "best" (have the highest predictive validity) when a constraint is imposed upon the number of disclosures that may be observed by the modeler. We apply this methodology to quarterly data from the largest subsidiary of an e-commerce retailer, valuing the subsidiary as a whole, decomposing this valuation into existing and yet-to-be-acquired customers, and analyzing the profitability of newly acquired customers.

Thursday, 10:30AM - 12:00PM

■ TB01

Fertitta Hall, 101, Lower Level

Channels: MultiChannels II

Contributed Session

Chair: Katrijn Gielens, University of North Carolina-Chapel Hill, Campus Box 3490, Chapel Hill, NC, 27599-3490, United States, katrijn_gielens@unc.edu

1 - The Omnichannel Fulfillment Dilemma: Consumer Preferences and Manager Perceptions

Robert Rooderkerk, Assistant Professor of Empirical Research Methods, Rotterdam School of Management, Erasmus University, Burgemeester Oudlaan 50, Rotterdam, 3062 PA, Netherlands, rooderkerk@rsm.nl, Santiago Gallino, Antonio Moreno-Garcia

Companies implementing an omnichannel strategy face multiple decisions for which there is little reliable guidance. A central question is how to design the optimal omnichannel configuration (price level, delivery speed and costs, return flexibility and costs, amount of product information) that considers the tradeoffs consumers make when deciding which omnichannel firm to buy from? And how do consumer tradeoffs vary across product categories? We have implemented hyper individualized choice-based conjoint designs to answer these questions. The resulting surveys were presented to large consumer samples for four top-selling multichannel categories. Consumer preferences were obtained using a Hierarchical Bayesian approach, resulting in posterior attribute importances at both the individual and market level. We have used fixed choice scenarios for predictive model validation at the individual and aggregate (market) level. Next, we investigate whether managers have biased perceptions of consumers' omnichannel preferences. To this end we surveyed managers with relevant working experience in any of the four categories. Participating managers provided two types of estimates: (1) market-level attribute importances and (2) choice shares for market scenarios equivalent to the holdout choice tasks in the consumer surveys. We derived the biases of individual managers based on a comparison of their estimates to the information obtained from the consumer survey. We summarize the level and direction of manager biases and test for potential antecedents. Finally, we investigate the potential for leveraging the "wisdom of the crowd"; whether pooling estimates across managers results in better market-level forecasts than those made by individual managers.

2 - The Impact of In-store Product Recommendation Technology on Customer Behavior: Evidence from a Multichannel Retailer

Joon Ho Lim, Assistant Professor, Illinois State University, 3115 Rudder Lane, APT 203, Bloomington, IL, 61704, United States, jlim12@ilstu.edu, Rishika Rishika, Ramkumar Janakiraman, Subodha Kumar

In this study, we examine the impact of implementation of in-store product recommendation system by a multichannel retailer on customer shopping behavior. Building on the literature on sales and customer relationship management, we hypothesize and examine the effectiveness of product recommendation technology on two dimensions of customers' purchase behavior, namely their spending level and cross-category buying behavior. We leverage unique customer level transaction data before and after the product recommendation technology implementation by a multichannel retailer. To rule out possible endogeneity and reverse causality issues, we cast our model in the difference-in-differences (DD) modeling framework to examine the effect of product recommendation system on customer purchasing behavior. Our results suggest that following the implementation of product recommendation software, the "treatment group" customers spend more and buy across more categories as compared to the "control group" customers. We examine the effectiveness of in-store product recommendation technology across different customer segments. We perform a battery of falsification tests to rule out alternative explanations and the effect of confounding factors. Based on our results, we offer prescriptions for salespersons on how they can leverage the new technology to engage with different customer segments.

3 - A Consumer Behavior Typology Based on Temporal and Spatial Characteristics in an Omnichannel Retail Environment

Penelope Schoutteet, PhD student, Vrije Universiteit Brussel, Pleinlaan 2, Brussels, 1050, Belgium, pschoutt@vub.ac.be, Lieselot Vanhaverbeke, Heleen Buldeo Rai, Sara Verlinde, Cathy Macharis

Nowadays, two ongoing evolutions are simultaneously influencing the behavior of consumers and the decisions of retailers in the region of the Belgian capital Brussels. Firstly, e-commerce and omnichannel retail are becoming more successful. Secondly, three huge new shopping malls are being constructed in the Brussels Periphery. Given these two evolutions, how and to what extent will the behavior of Brussels' consumers change, with respect to time in terms of shopping frequency, and with respect to space in terms of channel choice and - if any - shopping destination? First, we present a conceptualization of the 'omnichannel environment' and a typology of consumer behavior in this environment based on a systematic literature review. This typology categorizes consumer behavior types according to the spatial characteristics of shopping, i.e. in store, at home or anywhere else, and temporal characteristics, i.e. the frequency of purchases. Next, this typology of consumer behavior is used for the development of a discrete choice survey to elicit the preferences of the Brussels' consumers. The survey results are then used to analyze the impact of the evolutions of omnichannel retail and the changing Brussels retail landscape.

4 - Navigating the Last Mile In Grocery Shopping Through the Click and Collect Format

Katrijn Gielens, University of North Carolina-Chapel Hill, Campus Box 3490, Chapel Hill, NC, 27599-3490, United States, katrijn_gielens@unc.edu, Els Gijsbrechts, Inge Geyskens

To secure their piece of the online grocery pie, many retailers are rushing into the click and collect format, where shoppers place orders online and pick up the goods themselves later. We study different ways in which retailers can organize their click and collect format to attract more customers and generate higher revenues. Based on two unique data sets, each covering the introduction of different click and collect order fulfillment models by a major grocery retailer in a large number of local markets, we find that the performance implications strongly differ between types of click and collect. On average, Stand-Alone order fulfillment (pickup at free-standing locations) leads to higher adoption rates and lifts in spending than Near-Store order fulfillment (pickup at outlets adjoining stores) or In-Store order fulfillment (pickup at existing stores), although the effects depend heavily on the customers' share of wallet at the retailer and the chain's brick and mortar presence in the local market.

■ TB02

Fertitta Hall, 102, Lower Level

Online Auctions I

Contributed Session

Chair: Paul R Hoban, University of Wisconsin - Madison, J14, 975 University Ave., #4285, Madison, WI, 53706, United States, paul.r.hoban@gmail.com

1 - Pricing of Internet Leads: Cost Per Lead Advertising Auction Versus Affiliate Marketing

Somnath Banerjee, North Dakota State University, North Dakota State University, 811 2nd Avenue North, Fargo, ND, 58102, United States, s.banerjee@ndsu.edu, Pradeep Bhardwaj

A large portion of direct response online advertising and affiliate marketing is carried out to generate internet sales leads (e.g. signups on web forms). Pricing of these leads is a problem because their value is often uncertain prior to purchase of advertising, and leads from different publishers have different values that keep changing over time and depend on effort put by the website publishers in putting content and targeting. In this environment, platforms like Google, Amazon and Commission Junction that bring together advertisers and publishers face choice between different types of pricing models: cost per lead ad auction or affiliate marketing program. We study the optimality of these online advertising pricing models from the perspective of platforms and advertisers. We find that while in a single period set up, affiliate programs are better, in an infinite period repeated interaction game between advertising firms converting leads and the upstream website publishers generating leads, the cost per lead ad auctions may be better. This is because the firms' practice of comparing post sales conversion data for different sources of sales leads and updating their future bidding strategy accordingly creates incentives for websites that results in a trust equilibrium in which the websites put high effort if their discount factors are sufficiently high, something that is not possible in case of affiliate programs. Our result provides a possible explanation for Google's shutdown of affiliate marketing and lends credibility to Google's claim that a cost per action ad auction model is in the best interest of advertisers and publishers.

2 - Incorporating Hidden Costs of Annoying Ads in Display Auctions

Eric T. Bax, Yahoo! Labs, LA, CA, United States, ebax@yahoo-inc.com, Valeria Stourm

Media publisher platforms often face an effectiveness-nuisance tradeoff: more annoying ads can be more effective for some advertisers because of their ability to attract attention, but after attracting viewers' attention, their nuisance to viewers can decrease engagement with the platform over time. With the rise of mobile technology and ad blockers, many platforms are becoming increasingly concerned about how to improve monetization through digital ads while improving viewer experience. We study an online ad auction mechanism that incorporates a charge for ad impact on user experience as a criterion for ad selection and pricing. Like a Pigovian tax, the charge causes advertisers to internalize the hidden cost of foregone future platform revenue due to ad impact on user experience. Over time, the mechanism provides an incentive for advertisers to develop ads that are effective while offering viewers a more pleasant experience. We show that adopting the mechanism can simultaneously benefit the publisher, advertisers, and viewers, even in the short term. Incorporating a charge for ad impact can increase expected advertiser profits if enough advertisers compete. A stronger effectiveness-nuisance tradeoff, meaning that ad effectiveness is more strongly associated with negative impact on user experience, increases the amount of competition required for the mechanism to benefit advertisers. The findings suggest that the mechanism can benefit the marketplace for ad slots that consistently attract many advertisers.

3 - Disclosing Information About Ad Placements in Online Display Advertising: The Effect on Demand and Price

Sila Ada, WU Vienna University of Economics and Business, Welthandelsplatz 1, Vienna, 1020, Austria, sila.ada@wu.ac.at, Nadia Abou Nabout

Real-time bidding is an auction-based ad selling mechanism in real-time and considered to be a revolution for online display advertising. Despite the ability to bid for single targeted impressions through ad exchanges, advertisers very often do not know on which websites their ads appear. Hence, they frequently set up their campaigns to run on a bundle of websites. In practice, ad exchanges could easily grant website information to advertisers in bid requests, which, in turn, allows them to choose individual websites to bid for (i.e., following an unbundling strategy). However, ad exchanges are reluctant to disclose information about where the ad is run (i.e., the ad placement) as advertisers could start cherry-picking websites, such that ad inventory on some websites might remain unserved and overall price levels could decrease. The aim of this study, thus, is to investigate the effect of granted ad placement information on demand as well as on price by taking advantage of the recent information disclosure about ad placements by a major European ad exchange. Since information was disclosed to a selected number of advertisers at first, we use a difference-in-difference approach to analyze our quasi-experiment. Moreover, following industry categorizations, we distinguish between premium and non-premium website quality to better understand whether advertisers start to cherry-pick premium websites. This study provides insights for ad exchanges selling advertising inventory into information disclosure decisions by examining advertisers' reactions to the granted information in terms of demand and price and quantifying the economic impact of information disclosure in the context of online display advertising, particularly in real-time bidding.

4 - An Optimal Bidding Algorithm for Real-time Exchanges

Paul R Hoban, Asst. Professor, University of Wisconsin, 975 University Ave., 4285 Grainger Hall, Madison, WI, 53706, United States, paul.r.hoban@gmail.com, Srinivas Tunuguntla

In this paper, we develop an optimal bidding algorithm for advertisers purchasing impressions through real-time auction exchanges. These exchanges are the dominant distribution channel for Internet display advertising, and they offer a generalizable framework for advertising distribution within other on demand media platforms. For the most common type of Internet display advertising auctions (i.e., sealed-bid, second-price auctions), we show that the optimal bid can be recovered from the advertiser's valuation and the distribution characterizing the maximum competing bids. Importantly, we show that this can be done in a highly computationally efficient manner, allowing for implementation in real-time auctions. We compare our algorithm's performance to that of several commonly employed alternatives, and find that ours significantly outperforms these in terms of total expected conversions.

■ TB03

Fertitta Hall, 105, Lower Level

Mobile Marketing and Advertising

General Session

Chair: Xueming Luo, Temple University, Temple University, Arlington, TX, 76019, United States, luoxm@temple.edu

1 - Mobile Targeting with Traffic Jams for Higher Prosocial Responses

Xueming Luo, Temple University, 701 S. West Street, Room 234, P.O. Box 19469, Arlington, TX, 76019, United States, Xueming.Luo@temple.edu, Zheng Fang, Cheewei Phang

Despite its vital importance, garnering eco-friendly prosocial behaviors with conventional pro-environmental ads is hardly effective. Consumers under-appreciate the personal relevance of second-hand information and thus pay little attention to such ads. To tackle this challenge, our study exploits mobile ads that can contextually target consumers when they are personally experiencing air pollution due to traffic jams. We leverage field experimental data to gauge consumers' prosocial pledge response, i.e., pledge to reduce the more polluting transportation mode of private car driving and increase the use of environmentally cleaner public transportation. Results suggest that there are significantly more prosocial responses to mobile ads as a result of a heavy traffic jam vis-à-vis a light traffic or no traffic congestion. Traffic jams also have interaction effects with ad creatives. In a heavy traffic jam the more altruistic ad copy with higher own costs is more effective than the less altruistic ad copy. To further identify the causal impact, we exploited another field experiment data with unexpected traffic jams due to a sudden haze weather and found consistent results. These findings offer environment policy implications with contextually targeted mobile ads and unravel a novel way to garner eco-friendly prosocial responses via traffic jams.

2 - The Value of Information in Mobile Ad Targeting

Omid Rafieian, University of Washington, Tacoma, WA, United States, rafieian@uw.edu, Hema Yoganarasimhan

Mobile in-app advertising is now a growing industry. One main reason accounting for such growth is the reduced cost of targeting because of the easy access to users' personal information. Although this would help advertisers target the users' marketing appeals, at the same time, it heightens the privacy concerns, which in turn, has led governments to pass laws to protect consumer privacy. Using a large-scale data set (of over 150 million data points across one month) from a leading in-app ad-network in Iran, we examine both the ad-network's and advertisers' ability to target under different privacy regulations and the data-sharing arrangements between parties. We build a Machine Learning framework that employs a MART algorithm to train a model for click prediction. We find that our model improves prediction significantly over the baseline, and outperforms logistic regression and OLS models. We show some evidence that behavioral targeting is more valuable than contextual targeting. We then use our framework to answer questions regarding privacy regulations and data-sharing arrangements. First, we show that the restrictions on tracking techniques would lead to a considerable inefficiency in the market. Second, we show that the least privacy preserving data-sharing arrangements are also most valuable for advertisers. We further characterize how different characteristics of advertisers' data determine their ability to target. Finally, we find empirical evidence that the ad-network may prefer to withhold information from advertisers to improve their own revenue since targeted bidding by advertisers softens competition. Thus, by design, the ad-network may be incentivized to preserve users' privacy.

3 - Motivating Effective Mobile App Adoption in Multi-channel Shopping: A Large Field Experiment

Tianshu Sun, University of Southern California, 3670 Trousdale Parkway, Bridge Hall, BRI 310B, Los Angeles, CA, 90089, United States, tianshus@marshall.usc.edu, Lanfei Shi, Siva Viswanathan, Elena Zheleva

Prior literature has established a positive association between mobile app adoption and customers' purchase behavior. However, it is not clear whether firms can actively influence customers' mobile app adoption and effectively increase their purchases in multi-channel shopping. Using a randomized field experiment involving 250,000 customers from a large daily deal platform, we investigate i) whether and how a firm can motivate customers to adopt mobile apps and ii) the causal effect of induced mobile app adoptions on customers' purchase behaviors. We find that i) both providing information and monetary incentive can lead to significant increase in customers' mobile app adoption, with the relative increase 447% and 146%, respectively; ii) the effect of mobile app adoption varies greatly depending on how customers are motivated.. Although providing monetary incentives may lead to larger increase in mobile app adoption, such induced adoption does not result in more purchases in the long run. In contrast, providing information leads to effective mobile adoption that sustainably increases customers' purchases, and overall profits of the firm. We further examine customers' multichannel browsing and purchase behavior and find additional evidence for how induced app adoptions affect customers' purchase behaviors. In summary, by leveraging a randomized field experiment, our study provides actionable insights for firms designing interventions to motivate effective mobile adoptions and shed light on customer behavior in multi-channel shopping.

4 - Small App Nudges for Big Results: Combining Field Experiment with Machine Learning

Jack Siliang Tong, Temple University, Alter Hall, 1801 Liacouras Walk, Philadelphia, PA, 19144, United States, jack.tong@temple.edu, Xueming Luo, Xiaoyi Wang

Although the proliferation of smartphones fosters fast-growing app notification ad opportunity,, there is a lack of research on the effective App push notification strategy with the right ad copy. Working with a large mobile reading app company on a 18,000 subjects field experiment, the authors explore the shorter-term and longer-term effects of push notification ad content framing. They find that compared to a neutral-frame ad copy, the prevention-frame ad copy substantially lifts shorter-term response rate, whereas the promotion-frame ad copy effectively boosts users' longer-term spending. A novel feature of this study is the combination of field experiment and machine learning method, which can dynamically model the impact on purchase trajectory path over time, identify several latent segments of different types of customers, and pinpoint the effects of app notifications for each type of customers along the purchase trajectory path.

■ TB04

Fertitta Hall, 125, Lower Level

Social Media & Customer Service

Contributed Session

Chair: Tarique Newaz, Texas Tech University, 1901, Lubbock, TX, 79401, United States, md-tarique.newaz@ttu.edu

1 - How to Ask and How to Respond: An Examination of Successful Customer Service Engagement on Twitter

Yuheng Hu, University of Illinois-Chicago, 601 S Morgan Street, Chicago, IL, 60607, United States, yuhenghu@gmail.com, Ali Tafti, David Gal

Addressing customer queries efficiently and effectively is crucial for good customer-firm relationships. However, little research has examined customer service practices on social media despite their surging popularity and the unique characteristics of social media-based customer service (e.g., transparency and openness) compared to traditional customer service interactions. Here, we explore the factors that drive successful customer service engagement on Twitter. We focus on two related questions: 1) what features of a customer query influence a firm's response? and 2) what features of a firm response to a customer query drive customer satisfaction? We take a "big data" approach and develop a framework to examine both social factors (characteristics of the customer making a query) and linguistic factors (how queries are asked and responded to) that drive firm response and customer satisfaction. Based on over 1M customer query threads involving 800 brands on Twitter, our results show that expressions of gratitude on the part of the customer increase the likelihood of a customer receiving a response from the firm. Conversely, gratitude expressed by the firm does not increase customer satisfaction. Instead, the degree to which the response of the firm is specific to the query being asked (rather than generic) has the largest positive effect on customer satisfaction. We discuss implications for customer-firm interaction on social media and more generally. To our knowledge, we are among the first to analyze customer and firm-level dynamics and to evaluate the effects of social and linguistic aspects of customer service engagement on social media.

2 - Popularity of Digital Products in Online Social Tagging Systems

Jurui Zhang, University of Massachusetts-Boston, 100 Morrissey Boulevard, College of Management, Boston, MA, 02125-3393, United States, jurui.zhang@umb.edu, Raymond Liu

This study investigates brand popularity in online social tagging systems in the music industry. Using data from an online music discovery and listening website, Last.fm, with more than 186,000 tags applied to 12,523 musicians and 12,717 pairs of network ties among 1892 listeners, we find that a brand's niche width (measured as the width of consumers' categorizations of a musician through social tags) and audience consensus about a musician positively influence a musician's popularity online. However, a brand's niche width negatively influences audience consensus, highlighting the complex situation of brand strategies that extend to broad categories. The results show that a brand's niche width produces higher response elasticities in the direct positive effect on brand popularity than in the indirect negative effect through audience consensus. Brand age positively moderates the relationship between niche width and brand popularity. Consumers' online connections also influence brand popularity: a higher density network leads to heightened popularity. These results offer important implications for brand promotions on social media platforms.

3 - Longitudinal Analysis of Online Consumer Disengagement Patterns in Times of Crisis

Chedia Dhaoui, Doctoral researcher, Macquarie University, Faculty of Business and Ecomomics, Sydney, 2109, Australia, chedia.dhaoui@hdr.mq.edu.au, Cynthia Webster, LayPeng Tan

In today's digitally connected business environment, consumer disengagement is a concern for social media brand managers. When a brand crisis unfolds some consumers engage in retaliatory behaviors while others withdraw. Although research investigates consumer online brand engagement, few studies examine consumer disengagement on social media. This research considers the strength and valence of consumer-brand relationships, timing of consumer engagement, brand recovery strategies and brand interventions in online consumer-to-consumer conversations to analyze the dynamics of consumer disengagement patterns over time, before, during and after a brand crisis. Using two large datasets gathered from Samsung's Facebook brand page over a one-year period (N= 1,129,031 consumers) and Volkswagen's Facebook brand page over a two-year period (N= 659,350 consumers), seven disengagement patterns are examined with regards to Samsung's Galaxy Note 7 crisis and Volkswagen's diesel emissions scandal. Time series and longitudinal analyses reveal consumers are more likely to disengage when the crisis unfolds if they: 1) engaged with the brand long before the crisis, 2) engaged in a strong, negative relationship with the brand prior to the crisis and 3) provided feedback to the brand prior to the crisis by commenting compared to liking or sharing. Results also show 4) brand interventions in consumer conversations (replies) during brand crisis attenuates the likelihood of consumer disengagement over the long term beyond the crisis and 5) compared to recalls and financial compensations, an apology from the brand via social media to consumers mitigates the likelihood of consumer disengagement over the short term during the brand crisis.

4 - An Investigation into the Role of Marketing on the Survival of Social Networking Sites

Tarique Newaz, Doctoral Student, Texas Tech University, W354, Rawls College of Business, 702 Flint Avenue, Lubbock, TX, 79409, United States, md-tarique.newaz@ttu.edu, Mayukh Dass

Modern digital life of global citizens is closely integrated with social networking. Much discussed and scarcely researched social networking sites (SNS) such as Facebook, YouTube, Cyworld, are the base carriers of social networking, social media, and social media marketing. These firms are unique as they are not traditional tech companies, nor do they fall strictly under media industry. They are somewhat belonging to a hybrid industry that is developed to be the epicenter of consumers' information and connection world. Although the market has seen a steep growth in SNSs, like other industries, majority of them fail within a short period of time. Some firms fail even after posting continuous profits. For example, only three years ago, Cyworld was enjoying a 30M subscriber base, but in 2015, Cyworld discontinued its service. In this paper, using a uniquely compiled dataset comprising of more than 2000 news articles over the last 20 years (1996 - 2015), we investigate the life-cycle of 40 top social networking sites across the globe, and identify the critical marketing factors of their success. In particular, the research examines the interplay among diverse stakeholders of SNSs- subscribers, competitors, organizational factors, and government and legal agencies, and identifies factors such as continuous innovation, business model, and developing subscriber trustworthiness as the most important success factors for social network sites. The paper concludes by providing key insights for SNS managers, and entrepreneurs who are considering forming SNS.

■ TB05

Fertitta Hall, 233, 2nd Floor

UGC Bias, Incentives & Conformity

General Session

Chair: David Godes, University of Maryland, University of Maryland, College Park, MD, 2, United States, dgodes@rhsmith.umd.edu

1 - Paid vs. Independent Product Recommendation by Bloggers

Dina Mayzlin, Professor, USC, Los Angeles, CA, 90089, United States, mayzlin@marshall.usc.edu, Amy Pei

Many consumers seek product information from bloggers, who provide interesting articles with detailed product reviews. Given their popularity, companies often incentivize bloggers to give positive reviews to their products. By law, these types of sponsorships need to be publicly disclosed. This in turn implies that the sponsored posts would be less credible compared to independent posts. Also, from the perspective of the blogger, accepting a sponsorship deal deprives her of a chance to build her reputation by signaling that she is a trustworthy source of information. We show that when the consumer's prior belief on the product is low, the firm prefers to forego the sponsorship deal and allow the blogger to issue an independent recommendation. In contrast, when the consumer's prior belief on the product is high, the firm prefers to sponsor the blogger because the sponsorship prevents the blogger from issuing a negative product review. In this sense, a firm sponsors the blogger in order to destroy a future negative signal, but foregoes sponsorship when it needs the blogger to issue a credible positive signal.

2 - Raindrops are Falling on My Head: The Effect of Weather Conditions on Online Reviews

Yaniv Dover, Hebrew University, Jerusalem, Israel, yaniv.dover@mail.huji.ac.il, Leif Brandes

A growing body of literature has established the importance of the effect of the information exchange in online platforms on business outcomes. For example, online reviews and ratings of products have been shown to affect product sales and brand equity. More recently, however, it has been suggested that online reviews may not be an unbiased representation of consumption experiences, because reviews may be subject to social dynamics in the rating environment. In this paper, we focus on the more basic-level of the decision making process of the individual, regardless of social effects. Specifically, we ask if consumers are systematically affected by exogenous events, i.e., events that are independent of the consumption experience. To address this question, we use a rich dataset on hotel bookings and online reviews from a large, international travel platform. To identify the effect of exogenous events on the decision whether to post and what to write, we focus on the effects of random weather conditions in the customer's zip code area after the end of his vacation, during the time of the review provision. Accordingly, there is no influence of the weather condition on the customer's true experience of staying at the hotel. We find that review ratings are significantly affected by exogenous weather events, e.g., rain. We also demonstrate the relative strength of the effect on whether to post or what to write. Using the identified biases in both decisions, we estimate the consequential systematic bias in aggregate online reviews and discuss managerial implications.

3 - Media Bias in the Presence of Feedback

David Godes, University of Maryland, College Park, MD, United States, dgodes@rhsmith.umd.edu

Gentzkow and Shapiro (2006) demonstrate that feedback reduces the incentives for a media outlet to publish biased information. The intuition behind this result is that - assuming consumers place value on finding outlets that will provide true reports with high probability - the outlet should shade reports toward the priors of the public. When feedback - the revelation of the "truth" - is available, there is no reason to shade the report in this way. The authors also provide empirical data in support of this result. In contrast, in this paper, we make the assumption that some consumers seek outlets that provide reports that are biased. In such a setting, we find that feedback actually facilitates biased reports and that, in some cases, the absence of feedback leads to more-truthful reports. One important implication of these results is that truthful revelations may not only not reduce the proliferation of "fake news" but may instead increase it. Finally, we provide empirical evidence for bias employing a dataset from a context in which feedback is prevalent: NFL score predictions.

■ TB06

Fertitta Hall, 236, 2nd Floor

Sharing Economy II

General Session

Chair: Upender Subramanian, University of Texas- Dallas, 800 West Campbell Road, SM32, Richardson, TX, 75080-3021, United States, upender@utdallas.edu

1 - Market Structure with the Entry of Peer-to-Peer Platforms: The Case of Hotels and Airbnb

Chiara Farronato, Harvard Business School, Boston, MA, United States, cfarronato@hbs.edu, Andrey Fradkin

We study the entry of Airbnb in the accommodations industry to understand the determinants and effects of peer-to-peer marketplace growth. We first document the heterogeneity of Airbnb's penetration across 50 major US cities (through 2014) and demonstrate that much of this heterogeneity can be explained by proxies for the costs of hotels, the costs of peer hosts, and demand fluctuations. Second, we show that, on average between 2011 and 2014, a 10% increase in the size of Airbnb reduced hotel revenue by 0.38%. This effect, mostly due to a reduction in hotel prices rather than occupancy, is greatest in cities with low hotel capacity relative to the size of demand. Third, we estimate a structural model of competition between peers and hotels and use it to study the effects of Airbnb on the distribution of surplus across consumers, peer hosts, and incumbent hotels. We find an average consumer surplus of $72 per night from Airbnb. This surplus is disproportionately concentrated in locations (New York) and times (New Year's Eve) when hotels have high occupancy. Because Airbnb bookings occur when hotels are sold out, most of these bookings would not have resulted in hotel bookings had Airbnb not been available. In total, hotel revenues fall by 1.1% in the 10 largest US cities on Saturdays in 2014 as a result of peer entry. Lastly, we find that peer producers (hosts) enjoy an average of $26 in surplus per night booked.

2 - Business Models in the Sharing Economy: Manufacturing Durable Goods in the Presence of Peer-To-Peer Rental Markets

Vibhanshu Abhishek, Carnegie Mellon University, 4800 Forbes Avenue, 3024 Hbh, Pittsburgh, PA, 19104, United States, vibs@cmu.edu, Jose A Guajardo, Zhe Zhang

Business models that focus on providing access to assets rather than on transferring ownership of goods have become an important industry trend, representing a challenge for incumbent firms. This paper analyzes the interaction of a peer-to-peer (P2P) rental market and an original equipment manufacturer (OEM). Our analysis highlights the important role of consumer heterogeneity in usage rates as a driving factor of the mechanisms that explain the different market outcomes. Indeed, both the OEM and consumers can benefit from P2P rental markets for intermediate ranges of consumer heterogeneity in usage rates, but both can be worse-off when the heterogeneity is too low or too high. Further, P2P rental markets have an equalizing effect on the heterogeneous consumer population, as low-usage consumers earn relatively more from P2P rentals than the high-usage consumers. We investigate alternative market structures for the OEM, and show that under intermediate levels of consumer heterogeneity in usage rates, it is best for the OEM to operate in the presence of a P2P rental platform. If heterogeneity in usage rates is too low, the OEM prefers to operate as a monopoly, offering sales only, whereas if heterogeneity is too high, the OEM prefers to offer sales and rentals directly to consumers. In addition, if the incumbent firm manages the P2P platform, it would choose to charge a transaction fee equal to zero for P2P rentals. Thus, contrary to what could be expected, the OEM has an incentive to facilitate P2P rentals in a large variety of cases.

3 - Strategic Surge Pricing and Forecast Communication on On-Demand Service Platforms

Harish Guda, University of Texas-Dallas, 2700 Waterview Parkway, #4424, Richardson, TX, 75080, United States, hxg131530@utdallas.edu, Upender Subramanian

On-demand service platforms (e.g., Uber, Lyft) match consumers with independent workers nearby at short notice. To manage fluctuating supply and demand conditions across market locations (zones), many on-demand platforms provide market forecasts to workers and practice surge pricing, wherein the price in a particular zone is temporarily raised above the regular price. We jointly analyze the strategic role of surge pricing and forecast communication explicitly accounting for workers' incentives to move between zones and the platform's incentive to share forecasts truthfully. Conventional wisdom suggests that surge pricing is useful in zones where demand for workers exceeds their supply. However, we show that when the platform relies on independent workers to serve consumers across different zones, surge pricing is also useful in zones where supply exceeds demand. Because individual workers do not internalize the competitive externality that they impose on other workers, too few workers may move from a zone with excess supply to an adjacent zone requiring additional workers. Moreover, the platform may have an incentive to misreport market forecasts to exaggerate the need for workers to move. We show how and why distorting the price in a zone with excess supply through surge pricing can increase total platform profit across zones, by incentivizing more workers to move and by making forecast communication credible. Our analysis offers insights for effectively managing on-demand platforms through surge pricing and forecast sharing, and the resulting implications for consumers and workers.

4 - On-demand Service Platforms

Terry Taylor, University of California, Berkeley, CA, United States, taylor@haas.berkeley.edu

An on-demand service platform connects waiting-time sensitive customers with independent service providers (agents). This paper examines how two defining features of an on-demand service platform--delay sensitivity and agent independence--impact the platform's optimal per-service price and wage. Delay sensitivity reduces expected utility for customers and agents, which suggests that the platform respond by decreasing the price (to encourage participation of customers) and increasing the wage (to encourage participation of agents). These intuitive price and wage prescriptions are valid in a benchmark setting without uncertainty in the customers' valuation or the agents' opportunity costs. However, uncertainty in either dimension can reverse the prescriptions: Delay sensitivity increases the optimal price when customer valuation uncertainty is moderate. Delay sensitivity decreases the optimal wage when agent opportunity cost uncertainty is high and expected opportunity cost is moderate. Under agent opportunity cost uncertainty, agent independence decreases the price. Under customer valuation uncertainty, agent independence increases the price if and only if valuation uncertainty is sufficiently high.

■ TB07

Fertitta Hall, 239, 2nd Floor

Digital Marketing 1

General Session

Chair: Gil Appel

University of Southern California, University of Southern California, Los Angeles, CA, 90089, United States, gappel@marshall.usc.edu

1 - A Dynamic Model of Online Content Consumption

Inyoung Chae, Emory University, Atlanta, GA, inyoung.chae@emory.edu, David Schweidel, Da Young Kim

With many consumers being exposed to news via social media platforms, news organizations are challenged to attract visitors and generate revenue during visits to their websites. Using clickstream data from a major news organization and the content of the stories viewed by visitors, we develop a model of users' online behavior that takes into account the content of headlines and stories. We assume that the headlines of articles available inform readers' expectations of the content of the articles and that prior consumption of articles during a visit to the website will affect preferences for subsequent consumption. Our modeling framework can shed light on how individual user's preferences for online content evolve over the course of a visit to the website. Online publishers can act upon such insight to present users with content that is likely to maintain and/or increase their engagement, which likely varies across users, and consequently drive advertising revenue.

2 - Stickiness and the Monetization of Apps

Gil Appel, University of Southern California, Marshall School of Business, Los Angeles, CA, 90089, United States, gappel@marshall.usc.edu, Barak Libai, Eitan Muller, Ron Shachar

Though free apps dominate mobile markets, firms struggle to monetize such products and make profits, relying on revenues from two sources: paying consumers, and paying advertisers.Previous studies of such monetizing decisions have focused on a static setting - i.e., one-period -model. However, evidence suggests that retention (also referred to as app stickiness, or the degree of utility that might be still experienced beyond the first period) is significant. We introduce a two-period model in which a firm offers an app in two versions: a free version that includes ads, or a paid version without ads. While consumers have some prior knowledge about their fit with the app, they remain uncertain about their exact match-utility unless they are using it. We show that as stickiness increases, so do prices and ad intensity, while the firm's earning from the paid version increases monotonically. However, its earnings from advertising initially increase, then drop. In a dynamic setting, a firm can profit from offering a free version with ads even if advertisers are not paying for these ads.Finally, we also consider the dilemma faced by some firms of whether to offer two versions of the app (free and paid), or only one. When taking costs into account, offering just one version might be more appealing. Indeed, we find, for example, that when the stickiness level is high, the firm might benefit by focusing on the paid version and avoiding the free version.

3 - Social TV, Advertising, and Sales: Are Social Shows Good for Advertisers?

Beth Fossen, Indiana University, 3013 E Daniel St, Bloomington, IN, 47401, United States, bfossen@indiana.edu, David A Schweidel

Television viewers are increasingly engaging in media-multitasking while watching programming. One prevalent multiscreen activity is the simultaneous consumption of television alongside social media chatter about the programming, an activity referred to as "social TV." While online interactions with programming can result in a more engaged and committed audience, social TV activities may distract media multitaskers from advertisements. These competing outcomes of social TV behavior raise the question: are programs with high online social TV activity, so called "social shows," good for advertisers? In this research, we empirically examine this question by exploring the relationship among television advertising, social TV activity, online traffic, and online sales. Specifically, we investigate how television viewers' online engagement with programs impacts online shopping behavior at retailers that advertise during the programs. We find that that online program chatter has a significant impact on online shopping behavior following advertisements. While increased online engagement with a program prior to an ad's airing is adversely related to subsequent traffic to the advertised retailer's website, we find an overall positive effect on sales at the retailer's website. Our results shed light on how advertisers can encourage online shopping activity on their websites in the age of multi-screen consumers.

4 - Advancing the Knowledge On Electronic Word of Mouth: The Role of Aliases and Scholarly Communication

Ana Babic Rosario, Assistant Professor, University of Denver, Denver, CO, United States, Ana.Babic-Rosario@du.edu, Kristine De Valck, Francesca Sotgiu

The electronic word of mouth (eWOM) phenomenon has sparked the interest of many scholars and practitioners over the last two decades. This article examines the role of multiplicity in conceptual labeling and scholarly communication in the advancement of knowledge on eWOM. A critical analysis of extant research published in four research disciplines (marketing & consumer research, economics & management, information systems & computer science, tourism) from 1996 to 2015 reveals 385 eWOM aliases and a complex network of over 6200 citations among 894 studies within the field. We detect several issues which may be impeding progressive knowledge building on this topic and discuss ways to alleviate them.

■ TB08

Fertitta Hall, 240, 2nd Floor

Game Theory of Platforms

General Session

Chair: Song Lin, Hong Kong University of Science and Technology, Clear Water Bay, Hong Kong, N/A, China, mksonglin@ust.hk

1 - Consumer Search on Online Retail Platform

Baojun Jiang, Washington University in St. Louis, Olin Business School, Campus Box 1156, St. Louis, MO, 63130, United States, baojunjiang@wustl.edu, Tianxin Zou

This article studies how search cost affects a platform's and the sellers' pricing decisions and profits. We show that lower search cost can increase sellers' expected profits because of an increase in demand. Reduced search cost always benefits the platform that optimally adjusts its fee, which can decrease if demand elasticity increases significantly, which can be win-win-win for the platform, the sellers and the consumers. By contrast, if lowered search cost does not significantly increase demand elasticity, the platform's optimal fee will increase, potentially leading to higher retail prices but possibly making both consumers and sellers worse off.

2 - Bilateral Ratings and P2P Market Segmentation

T. Tony Ke, MIT, 100 Main St, E62-535, Cambridge, MA, 02142, United States, kete@mit.edu, Monic Sun, Baojun Jiang

This paper examines how bilateral ratings influence market segmentation of heterogeneous consumers on a matching platform. Under a competitive search and matching framework, we show that in equilibrium, consumers with low cost-to-serve (i.e., good ratings) apply to both high-quality and low-quality sellers, and expect a higher utility; while consumers with high cost-to-serve (i.e., bad ratings) apply to only low-quality sellers, and expect a lower utility. We compare the equilibria under bilateral and unilateral ratings, and investigate the platform's strategies.

3 - Two-Sided Price Discrimination

Song Lin, Assistant Professor, Hong Kong University of Science and Technology, Clear Water Bay, Hong Kong, N/A, China, mksonglin@ust.hk

This paper examines an increasingly common practice among content providers to sell differentiated versions at different prices with different advertising levels. While price discrimination on consumers may not be effective when cost differentials among versions are minimal, I show that the presence of heterogeneity in advertisers' matching quality to consumers can enhance the effectiveness of versioning. Furthermore, price discrimination may exhibit two-sidedness such that consumers are segmented based on willingness-to-pay for the content and, consequently, advertisers can be screened based on their willingness-to-pay to reach different consumer segments. I analyze two types of instruments of content providers to discriminate among advertisers -- one based on how many consumers advertisers want to reach, and the other based on which consumer segment they want to target. The first instrument becomes optimal when the degree of consumer heterogeneity is moderate. The second becomes optimal when consumers are sufficiently heterogeneous and have correlated preferences for content providers and advertisers. The analysis identifies the tension between content providers and advertisers: although advertisers with a better match to consumers prefer to reach more consumers or target the high-valuation segment, content providers tend to limit the ads reached to the high-valuation consumers. By showing more ads to low-valuation consumers, content providers can effectively increase the quality difference, thereby raising the surplus gained from the high-valuation segment through a high premium price. It is shown that such monetization strategy can raise the total advertising level and profit for content providers.

4 - The Impact of Paid Inclusion on Platform Screening and Consumers' Overall Service Experience

Zibin Xu, University of Southern California, Los Angeles, CA, United States, zibinxu@usc.edu, Yi Zhu, Shantanu Dutta

Online shopping platforms have enabled sellers that offer differentiated products to compete against mass marketers. However, some sellers may provide low service because of their limited service abilities. Platforms claim that screening mechanisms such as paid inclusion can filter the low-service sellers and consequently improve consumers' overall service experience. To examine this claim, we develop an analytical model in which sellers differ by the distribution of their matching probabilities with consumers. Several novel results arise from this setting. First, paid inclusion may drive out the high-service seller, if that seller's service efficiency is sufficiently high. Second, paid inclusion may induce different service responses from the surviving sellers. Particularly, mass marketers may shirk on service when paid inclusion filters low-service sellers. Third, paid inclusion reduces consumers' overall service experience and welfare, when it filters a seller with either sufficiently high service efficiency or sufficiently low service efficiency. Otherwise paid inclusion may improve consumers' overall service experience and welfare.

■ TB09

Fertitta Hall, 241, 2nd Floor

Machine Learning Applications in Marketing II

General Session

Chair: Eric Schwartz, University of Michigan, University of Michigan, Ann Arbor, MI, 48109-1234, United States, ericmsch@umich.edu

Co-Chair: Daria Dzyabura, MIT, MIT, Cambridge, MA, 02142, United States, dariasil@mit.edu

1 - Recommending Products When Consumers Learn Their Preferences

John R Hauser, MIT, Sloan School of Management, 77 Massachusetts Ave., E62-538, Cambridge, MA, 02139, United States, hauser@mit.edu, Daria Dzyabura,

Consumers often learn their preferences as they search. For example, after test driving new cars, a consumer might find she undervalued trunk space and overvalued sunroofs. Preference learning makes search complex because, each time a product is searched, updated preferences affect the value of all products and the value of subsequent (optimal) search. Recommendations that take preference learning into account help consumers navigate search. We motivate a model in which consumers learn (update) the preferences they ascribe to attribute levels as they search. Formal results suggest modifications to the common foci in the search literature and the recommendation-system literature. It may not be optimal to recommend the product with the highest option value, as in most search models, or the product that is most likely to be chosen or has the highest expected utility, as in traditional recommendation systems. Recommendations are more effective if they encourage consumers to search undervalued products and/or products with diverse attributes. Both modifications enhance the value of preference learning. Recommendation systems, based on the formal theory, outperform benchmark models in synthetic worlds, especially when consumers are novices and when the recommendation system can develop its own priors by targeting relatively homogeneous segments.

2 - Visual Listening in: Measuring Brand Perception from Consumer-Created Images

Liu Liu, New York University, Leonard N Stern School of Business, 40 West 4th Street, New York, NY, 10012, United States, lliu@stern.nyu.edu, Daria Dzyabura, Natalia Muzik

Communicating a brand image to consumers is at the core of marketing. The attitudes and perceptions that consumers have about a brand allow them to pick the brand that feels most appropriate, and to express themselves through the brand. Strategically, differentiating brands on perceptual attributes prevents commoditization, particularly in categories in which consumers have similar functional needs. For example, in the apparel category, Old Navy positions itself as "Fun", while Levi's as "Rugged", allowing the brands to target different consumers with functionally similar products. We propose a visual listening approach to measuring how brands are portrayed relative to one another on social media along perceptual attributes. While the majority of social media listening and measurement platforms remain focused on textual content, images are increasingly becoming the medium of choice for social conversations. We identify images with brand perceptual attributes using a supervised machine learning approach. We train classifiers for each of four perceptual attributes (glamorous, rugged, healthy, fun) on a pre-labeled set of images. We first extract a large set of features from the images, relating to color, shape, and texture, then train support vector machine classifiers to predict whether a given image belongs to a perceptual attribute. We apply the classifier to brand images posted on social media for 56 brands in the Apparel and Beverages categories. This method allows us to "listen" to what consumers are visually communicating about brands on social media. We demonstrate convergent validity between perceptions displayed in consumer-created images, firm-generated images, and survey-based metrics of consumer brand perceptions.

3 - Mixed Integer Programming Approaches for Adaptivechoice-Based Conjoint Analysis

Juan Pablo Vielma, Massachusetts Institute of Technology, 77 Massachusetts Avenue, E62-561, Cambridge, MA, 02139, United States, jvielma@mit.edu, Denis Saure

In this talk we show how mixed integer programming (MIP) techniques can be used to develop optimal one-step look ahead policies for adaptive choice-based conjoint experiments with various objectives. The key for the success of this approach is to transform the metric for experimental quality or efficiency to a format that is compatible with state-of-the-art MIP solvers. We show how this can be achieved for various quality metric including several variants of Bayesian D-efficiency and metrics that incorporate more complex managerial objectives. We then combine this MIP-based question selection approach with a moment-matching Bayesian procedure to yield a method than can generate adaptive questionnaires in real-time. We empirically validate the approach with simulations and field experiments to show it can significantly improve many predictive accuracy metrics. We also describe how the approach can be easily implemented in the Julia-based JuMP modeling language.

4 - Dynamic Online Pricing with Incomplete Information using Multi-ArmedBandit Experiments

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Consider the pricing decision for a manager at large online retailer, such as Amazon.com, that sells millions of products. The pricing manager must decide on real-time prices for each of these products without complete demand information. Managers way want to run price experiments to learn about demand and maximize long run profits. Online retail pricing differs from traditional brick and mortar settings. First, due to the number of products, the manager must be able to automate pricing. Second, an online retailer can make frequent price changes. But pricing differs from other areas of online marketing where experimentation is common, such as online advertising or website design, as firms do not randomize prices to different customers at the same time. In this paper, we propose a dynamic price experimentation policy where the firm has incomplete demand information. We derive a pricing algorithm that balances earning profit immediately and learning for future profits. The proposed approach marries statistical machine learning and economic theory. In particular, we combine multi-armed bandit (MAB) algorithms with partial identification of consumer demand into a unique pricing policy. Our automated policy solves this problem using a scalable distribution-free algorithm. We show that our method converges to the optimal price faster than standard machine learning MAB solutions to the problem. In a series of Monte Carlo simulations and counterfactuals on past experiments, we show that the proposed approach perform favorably compared to methods in computer science and revenue management.

■ TB10

Fertitta Hall, 313, 3rd Floor

Competition: Competitive Strategy II

Contributed Session

Chair: Sungtak Hong, Bocconi University, Via Rontgen 1, Milan, MI 20136, Italy, sungtak.hong@unibocconi.it

1 - Brand Competition in Attribute Space: An Investment Perspective

Aharon Hibshoosh, Professor, Lincoln University and San Jose State University, 1810 Euclid Avenue, Apt 10, Berkeley, CA, 94709, United States, rhibshoosh@gmail.com

We embed GAME1model of Brand Competition in Attribute Space (Hibshoosh 1974) in the classic Sharpe-Linter (SL) framework of optimal portfolio investment (Sharpe (1964), Lintner (1965)). This effort requires modification of both models. We assume several utility maximizing competitors, each of whom invests in and designs its own unique portfolio of brands, in an attribute space. A competitor's utility depends on the Mean and Variance of the return of its brand portfolio, and its decision variables are the attributes of its brands, which affect brand fit, cannibalization, and rivalry. Embedding GAME1 in the SL model provides clear advantages. Prior versions of GAME1 were not casted in a Markowitz Mean-Variance framework. They did not include moments of the return on investment generated by joint distribution of product prices as arguments in the objective function of the decision makers. Thus, in particular, the embedded model considers the effects of both brand attribute synergies and brand price synergies. Furthermore, in our adapted SL model, the decision maker, more realistically, considers not only investment in its designed brand portfolio, but also in alternative financial securities, in the form of risk-free financial security. On the other hand, the classical SL model focuses on the choice of optimal quantities of marketable financial securities. Instead, by embedding GAME1, we consider the brand attributes as the competitor's decision variables. Sales, costs, and returns are the consequence of the overall constellation of the brands in the attribute space. Since competitor brands are unique, and price synergy needs not be agreeable, unlike in the SL model, each competitor has a unique Mean-Variance Markowitz efficiency frontier. A competitor's efficiency frontier is nonetheless clearly affected by the customer segments' ideal brands and by the positioning of the competitor brands. Hence, a brand competition in the attribute space naturally emerges and it is conveniently analyzed under various conjectural variations. Execution is done with non-linear programming.

2 - Competitive Strategies for Duopoly Firms with Highly Differentiation

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Traditional wisdom taught us differentiation is always a good strategy to cope with product competition. Yet, in today's markets, we see leading firms sometimes choose to be similar when they can differentiate. For example, in the market of operating system for mobile phones, even though Apple and Google both have the technology and market power to differentiate, the looks and feels of (Apple's) iOS and (Google's) Android have become similar over time. In this paper, we reexamine the traditional duopoly differentiation game, and realign the model settings with today's market reality. Our analysis shows that the spectrum of difference can be divided into three adjacent regimes, wherein the firm's prices are strategy complements, substitutes and independent, respectively. In this study, we define a competitive regime as interactive monopoly. Under this regime we can observe two peculiar market phenomena - full coverage without detrimental price competition and local monopolies with strategic interaction, at the same time. We find that detrimental price competition may not always occur in fully covered markets, and duopolistic price competition may be chicken games rather than prisoners' dilemma. We identify the optimal level of difference, and suggest how firms should adjust their pricing, differentiation, and valuation strategies in different regimes. We also discuss how the level of difference may fluctuate within product life cycles, and provide copping strategies correspondingly.

3 - The Impact of Commodity Taxation on Firm's Product Portfolio and Market Structure

Sungtak Hong, Assistant Professor of Marketing, Bocconi University, Via Rontgen 1, Milan, MI 20136, Italy, sungtak.hong@unibocconi.it, Kanishka Misra

This research investigates the competitive outcomes of commodity tax changes in a product-differentiated oligopoly. By studying the Korean alcoholic beverage market which was affected by a tax reform, we document descriptive evidence that a change in a commodity tax rate could have a significant impact on product variety decisions made by individual firms, and on the resulting market structure. The Korean alcohol tax reform in 2000, triggered by an international dispute over a favorable tax rate levied on domestic products, brought about an exogenous shock to the contemporary tax regime for all alcoholic product categories: depending on the categories, both downward and upward changes in a tax rate were made after the reform. These changes allow us to study various competitive effects of taxation across multiple alcoholic beverage product markets. Regressions of firms' behavior in the affected markets reveal a systematic pattern: 1) a negative relationship between the tax change and product variety at the market- and firm- level, and 2) a positive relationship between the tax change and market concentration (i.e., less intense market competition). The findings complement extant research efforts in understanding the chain of effects from taxation to consumer welfare.

■ TB11

Fertitta Hall, 316, 3rd Floor

New Product: Design II

Contributed Session

Chair: Shan-Yu Chou, National Taiwan University, Dept of Bus Admin, 1 Sec. 4 Roosevelt Road, Taipei, Taiwan, chousy@ntu.edu.tw

1 - Cyber Empathic Design - Using Sensor Enabled Products to Improve New Product Design

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In the process of new product design, understanding user experiences with an existing product is one of the most important steps. Thus, in marketing and engineering, various methods have been utilized to explore how consumers interact with products. Prior marketing research has utilized survey methods to quantitatively measure consumers' subjective perceptions on product usage (e.g., perceived comfort). In addition, engineering research has employed observation methods that aim at improving product design by understanding consumer responses elicited during the consumer-product interaction. However, each of these methods faces significant challenges: 1) prior quantitative approaches are typically collect user experience data while consumers are not in usage situations and 2) observation methods heavily rely on designers' subjective interpretation of qualitative data. To address these issues, we propose a new design framework - Cyber-empathic design - which aims to collect in-situ, quantitative usage data using digital sensors embedded in products. By integrating sensor and information technology, we enable products themselves to track and quantify usage data and send them back to designers. We then map the usage data from sensors onto consumer perception data on user experiences to identify the downstream impact of individual design features. In the current research, we conduct two field studies using sensor-integrated shoes and chairs to empirically investigate the effectiveness of cyber-empathic design framework. By comparing the proposed framework to a traditional survey-based model, we demonstrate that the cyber-empathic model can improve our understanding of how consumers' actual product usage drives their subjective perceptions about the product. Further this framework helps combine data from sensors embedded in products with consumers' subjective perceptions to help better predict downstream product evaluations and adoption intentions.

2 - Creativity Templates for Radical Innovation

Maria Saaksjarvi, Delft University of Technology, Delft, Netherlands, m.c.saaksjarvi@tudelft.nl, Gerard J. Tellis

This paper designs and tests a set of creativity templates aimed at developing radical innovation, hereafter the proposed templates. The current benchmark templates in the marketing literature (proposed by Goldenberg et al. 1999, 2001) are based on a "restricted scope" principle, in which only knowledge that is already embodied in a product category is used for innovation generation. The proposed templates argue that for radical innovation, inventors need to move beyond existing category knowledge and also consider knowledge from other categories. The proposed templates are based on a systematic integration of new and existing knowledge. In eight studies, the authors compare the proposed templates to the benchmark templates. Collectively, the results show the proposed templates outperform the benchmark templates in marketing with regards to the classification of and generating ideas for radical innovation.

This paper contributes to the marketing and creativity literatures by proposing a set of templates that can lead to the development of radical innovation. No such templates currently exist. The theoretical contribution lies in (1) showing how new knowledge can successfully be integrated with existing knowledge to produce radical innovation, an issue of central importance to marketers involved in new product development and to literature on creativity, and (2) by showing that ideas for radical innovation do not come at the expense of usefulness--a trade-off commonly postulated by the literature on creativity and innovation.

3 - Design Innovativeness and Product Design Evolution

Svetlana Khimina, PhD Candidate, Bocconi University, Via Sarfatti, 25, Milan, 20136, Italy, svetlana.khimina@phd.unibocconi.it, Gaia Rubera

In this study we conceptualize design innovativeness as a construct that exists at two levels: category level and brand level, arguing for relevance of previously overlooked brand-level design innovativeness. We examine relationship between design innovativeness and sales, and explore the dynamics of design innovativeness in the context of product design evolution. From managerial perspective, this analysis can provide guidance on styling of new products, and suggest when and to what extent new products should look similar or different to the products on the market and brand's own product portfolio.

Building on the habituation-tedium theory and processing fluency arguments, we reveal differential effects of category-level and brand-level design innovativeness on initial sales status and sales growth. Using cross-classified 3-level growth model, we analyze car sales data in the US from 1995 to 2013. To develop an objective measure of design innovativeness, we employ shape analysis, which provides powerful tools to quantify each product's shape and shape variation. Moreover, shape analysis allows us to study the dynamics of design innovativeness, reveal primary features associated with the historical change of design within a product category, and predict expected design changes over time. Preliminary analysis confirms that, as expected, both individual product's category-level and brand-level design innovativeness measures decrease with time as the product is longer present on the market. From the point of view of design evolution within a product category, we find that designs overall are becoming more dynamic so that the magnitude of the design change is increasing with time.

4 - New Product Development and Transaction-based Pricing Scheme with Consumer Deliberation

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This paper examines how consumer deliberation may affect a manufacturer's design of a new digital product at period zero, which the manufacturer will sell repeatedly to two segments of consumers referred to as respectively the high-valuation and low-valuation buyers at period one and period two. A buyer's willingness to pay for the new product increases linearly in the product quality, and a high-valuation buyer is always willing to pay more than his low-valuation counterpart for a quality increase. A buyer does not know his own valuation initially, and he can remove the uncertainty by either spending a cost of deliberation or by actually buying and consuming the product. Developing the new product is costly to the manufacturer, but once the product is developed, producing it does not cost much. The manufacturer cannot commit its second-period price in the first period. Our results depend on how the manufacturer would serve the low-valuation buyers in the case where consumer deliberation is costless: if it would serve them in both periods, then costly deliberation does not interfere with the design of the new product; if it would serve them only in period two, then costly deliberation induces the manufacturer to reduce the product quality when the deliberation cost is small and new product development is very costly (or else the result is ambiguous); and if it would never serve them, then costly deliberation tends to induce the manufacturer to reduce the product quality except when people are very impatient---in the latter case how costly deliberation may impact product design becomes ambiguous.

■ TB12

Fertitta Hall, 322, 3rd Floor

Choice Models II

Contributed Session

Chair: Narine Yegoryan, Humboldt University Berlin, Spandauer Strasse 1, Berlin, 10178, Germany, narine.yegoryan@wiwi.hu-berlin.de

1 - Discrete Spatial Choice Model

Jing ZHOU, Assistant Prof., Renmin University of China, No.59 Zhongguancun Road, Haidian District, Beijing, 100872, China, zhoujing_89@126.com, Lu Liu, Hansheng Wang

Discrete choice model is probably one of the most popularly used statistical method in practice. The common feature of discrete choice model is that it considers the behavioral factors of a person and the assumption of independent individuals. However, this widely accepted assumption seems problematic because human beings do not live in isolation. They interact with each other and form complex networks. Then the application of discrete choice model to network data will allow for this spatial interdependence in a general framework. In this paper, we focus on a discrete choice model with the probit error term specifying in a latent spatial autocorrelation (SAR) model. This model could be viewed as a natural extension of the classical SAR model. The key difference is that the spatial interdependence in the new model is latent and unobservable. Instead, it could be measured by a binary response variable. Parameter estimation then becomes a challenging work due to the complicated objective function. Following the idea of composite likelihood, a paired maximum likelihood estimator (PMLE) is developed. Simulation studies are carried out to assess the performance of PMLE in finite samples and a real data example is analyzed to illustrate the usefulness of the model.

2 - The Impact of Nutrition Claims on SKU Choice

Niels Holtrop, Assistant Professor, Maastricht University, Tongersestraat 53, Maastricht, 6211 LM, Netherlands, n.holtrop@maastrichtuniversity.nl, Kathleen Cleeren, Kelly Geyskens, Peter C. Verhoef

In line with health organizations' strategies to fight obesity, the current marketplace reveals a mounting emphasis on health claims (e.g. "high in fiber", "low in fat"). Manufacturers believe that these health claims improve the perceived healthiness of products and thereby enhance purchase probabilities of potentially unhealthy food. However, because product choice is a complex decision (e.g., choosing among hundreds of product varieties across many grocery categories), consumers may develop mechanisms for limiting information acquisition, such as simply ignoring parts of the information available to them. Therefore, it is not clear whether health claims have a measurable effect on purchase probabilities. In addition, health claims are typically framed in two ways: while positively framed claims stress the presence of nutrients perceived as beneficial for health (e.g., "high in fiber"), negatively framed claims hint to the absence or reduced quantity of nutrients considered as unhealthy (e.g., "low in fat"). While both claims stress a product's healthiness, the directional effect of the two types of claims, as well as the variance of the effects across product categories, is ambiguous. In this study, we examine the impact of positively and negatively framed health claims in the SKU choice decisions of a large household panel in 29 grocery categories over a period of 196 weeks. We find that, on average, positively framed health claims decrease the choice probability, while negatively framed health claims have no effect on SKU choice. However, substantial heterogeneity in effects across categories exists. Therefore, we explore the moderating impact of category characteristics such as advertising and promotional intensity and perceived category healthiness.

3 - A Simultaneous Model of Multiple-discrete Choice of Variety and Quantity

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In many categories, consumers purchase discrete quantities of multiple varieties. For example, when doing grocery shopping for cereals, consumers may purchase in each category three units of brand A, four of brand B, and one of brand C. These decisions are often influenced by nonlinear pricing strategies such as quantity discounts and waiving shipping fees. Modeling such multiple-discrete choices is challenging, as they violate assumptions of standard choice models. In this research, the author introduces a multi-objective optimization model for choice that captures 1) variety, 2) discrete quantity, and 3) nonlinear pricing strategies, such as quantity discounts. The approach assumes that consumers maximize variety during the choice decision subject to constraints on utility. Counterfactual analyses demonstrate that the model is a valuable tool for optimizing assortments and nonlinear pricing decisions.

4 - Understanding the Consequences of Attribute Non-attendance in Discrete Choice Models

Narine Yegoryan, Humboldt University Berlin, Institute for Marketing, Spandauer Str. 1, Berlin, 10178, Germany, narine.yegoryan@wiwi.hu-berlin.de, Daniel Guhl, Daniel Klapper

Traditional choice models are based on the implicit assumption that all the provided information is to some extent relevant for all individuals. However, an increasing number of studies suggest that consumers tend to ignore certain pieces of information in choice situations. In particular, there is a growing interest in the case where consumers only consider a subset of attributes in their decision making, which is also known as attribute non-attendance (ANA). In this paper, we use a latent class model, which allows probabilistic inclusion of ANA as well as simultaneous accounting for preference heterogeneity. We further suggest using eye-tracking information (number of fixations) as a predictor for the class probabilities. Eye-tracking represents an objective measure of visual attention and can be directly linked to the likelihood of choice. Moreover, our specific modeling approach allows accounting for differences in cognitive processing of various attributes and a better understanding of decision processes. The contribution of the paper is threefold. First of all, we provide evidence that visual attention measured by the number of fixations has a strong positive effect on attribute attendance. Additionally, the suggested incorporation of eye-tracking contributes to the existing modeling literature and provides further validation of the probabilistic inclusion of ANA. Second, the results of the empirical application uncover the importance of accounting for possible ANA and the significant impact on willingness-to-pay. Third, the model allows estimation of posterior probabilities of individuals applying certain attribute attendance strategies, which, as we show, can be used as an alternative criterion for segmentation.

■ TB13

Fertitta Hall, 327, 3rd Floor

Pricing: Automobiles

Contributed Session

Chair: Umut A Guler, Koc University, Sariyer, Istanbul, 34450, Turkey, umutguler@ku.edu.tr

1 - A Bayesian Structural Model for Designing Financial Incentive Offers to Automotive Dealerships

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Automotive manufacturers offer their dealership network a wide variety of financial packages during different time periods. In any time period, all dealerships receive the same offers. These packages include combinations of cash rebates and interest rates that are sometimes offered directly to the customer and sometimes to the dealership, who can choose the amount to pass on to customers. Dealerships systematically vary in their preferences for financial packages, and this variation is greater than expected from purely economic considerations. The manufacturer's profits depend on the interaction between the preference of customers and dealers. We propose a structural, hierarchical Bayesian model for customers' and dealers' preferences in a structural model. The model is calibrated to data from a manufacturer, and the estimates are used in a simulation model to design optimally financial incentive offers.

2 - Hold Back to Help Dealers?: Obfuscation in Bargaining

Preyas Desai, Duke University, Fuqua School Of Business, P O Box 90120, Durham, NC, 27708, United States, desai@duke.edu, Sriram Venkataraman

Across a number of product categories, consumers have access to online and mobile resources that provide price comparison and discount information. These resources facilitate consumers' price search in markets with posted prices and also help them prepare for bargaining in markets such the auto market when prices are negotiated. As more consumers arm themselves with price-related information, retailers face an increase in price competition and reduced profit margins without corresponding increase in sales. How might retailers respond to the increased price transparency due to third party informational resources? How and when can manufacturers modify the impact of price transparency on retail price competition? We explore these questions in the context of the U.S automobile industry. Specifically, we examine an element of vertical contracts between manufacturers and retailers known as "dealer holdback." Although dealer holdbacks affect the dealer's wholesale price (invoice price), the actual terms of these holdbacks are not directly observed by the auto buyers. We use a rich and unique dataset to study the effects of dealer holdbacks on intra-brand and inter-brand competition among dealers. Our empirical strategy accounts for endogenously determined dealer-holdback fees and quantifies how such vertical-contracting arrangements impact negotiated transacted prices. We find that optimality of dealer holdbacks depends on the variations in consumers' search costs to acquire price information as well as the nature of product-market competition faced by retailers.

3 - On Factors of Consumer Heterogeneity in (MIS) – Valuation of Future Energy Costs: Evidence for the German Automobile Market

Vlada Pleshcheva, PhD candidate, Humboldt University Berlin, Spandauer Str.1, Berlin, 10243, Germany, vlada.pleshcheva@hu-berlin.de, Daniel Klapper, Till Dannewald

The majority of previous empirical studies finds a significant consumers' undervaluation of future fuel costs at the time of car purchase. In this paper, we contribute to the literature by explicitly exploring the role that various characteristics of the consumers and purchase transactions play in the direction and extent of this (MIS)-valuation. Understanding the sources of consumers' heterogeneous valuations of future fuel costs might help firms to better address various consumer groups in their car purchase decisions and assist policy-makers to adjust tools dealing with externalities related to the use of cars. We exploit a novel identification strategy that is facilitated by the rich data on individual purchases of new passenger cars in Germany from 2000 to 2006. We use observed consumer heterogeneity in the expected driving intensity and car ownership length to construct individual values of the present value of fuel costs while contrasting them with the individual prices paid for the same car specifications. A nonparametric hedonic price regression within the "preference inversion" procedure recovers individual tastes for car attributes without imposing a distributional assumption on them (in contrast to discrete choice models). We decompose a variation in the recovered consumer undervaluation of fuel costs (on average, consumers' willingness-to-pay for a 1€ reduction in fuel costs is below 0.50€) into that attributable to demographic characteristics, capital constraints, car usage, and previous car experience. The differences are explored across diesel and petrol vehicles of various car classes controlling for unobservable product attributes, correlations in consumer tastes for car features, and a potential to deduct a part of annual fuel costs from taxes.

4 - Heterogeneous Price Effects of Consolidation: Evidence from the Car Rental Industry

Umut A Guler, Assistant Professor, Koc University, Sariyer, Istanbul, 34450, Turkey, umutguler@ku.edu.tr
Kanishka Misra, Vishal P Singh

We study the price effects of consolidation in the car rental industry using three cross-sections of price data from US airport markets, spanning the years 2005 to 2016. We find that the concentration of ownership affects weekend and weekday prices in opposite directions, causing a fall in the former and a rise in the latter. Given periodic differences in demand by business and leisure travelers, we explain this finding with a model of horizontal product differentiation where customers' brand switching costs moderate the relationship between prices and market structure. Weekday customers with high switching costs are charged higher prices due to firms' augmented market power, whereas the more price-sensitive weekend segment enjoys the lower prices facilitated by efficiency gains. Overall, our results show that, with periodic shifts in demand composition, consolidation can have differential welfare effects on different customer segments, and merger analyses should take account of this heterogeneity.

■ TB14

Fertitta Hall, 328, 3rd Floor

Marketing & Finance II

Contributed Session

Chair: Mehdi Nezami, University of Illinois at Urbana-Champaign, 2011 Moreland Blvd, unit 110, Champaign, IL, 61822, United States, mehdi.nezami@hec.edu

1 - Innovation Recalls and Firm Value and Firm Stock Risk

Nukhet Harmancioglu, Koc University, CASE157, Istanbul, Turkey, nharmancioglu@ku.edu.tr, Ismail Erzurumlu

Innovation recalls involve a firm's voluntary or involuntary decision to recall the defective or dangerous innovative products from all distribution channels and the end consumers. The effect of firms' innovation recall decisions on their financial performance is examined in this study. Specifically, the following research questions are addressed. First, what are the effects of innovation recalls on firms' stock market performance? Second, what is the effect of innovation recalls on firms' stock risk? Third, what are the innovation-related factors that may influence the relationship between innovation recalls and firms' stock market performance and stock risk? Fourth, what are the recall-related factors that may affect the relationship between innovation recalls and firms' stock market performance and stock risk? To the best of my knowledge, this is the first study to analyze the firm market value (both short and long-term) and firm stock risk of the innovation recalls, and to study a number of contingency factors. I expect that innovation-related factors such as innovation objective and innovation life and recall-related factors such as recall volume, recall initiator, recall severity, and recall time moderate the relationship between innovation recall and firm market value and stock risk.

2 - Supplier Relations: Effects on Product Recalls and Firm Performance

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Product recalls are directly related to the manufacturer-supplier joint product development processes. While prior research has largely focused on the impact of product recalls on firm performance, the effect of supplier relations is not well understood. To fill this gap, this research studies the role of supplier relations on the relationship between product recalls and firm performance using an event study methodology. Our analysis over the 13-year period (2003-2015) shows that strong supplier relations can suppress the negative effects of product recalls.

3 - Service Transition Strategies and Firm-idiosyncratic Stock Returns: An Empirical Investigation of the Software Industry

Mehdi Nezami, University of Illinois at Urbana-Champaign, Champaign, IL, 61822, United States, nezami@illinois.edu, Kapil R Tuli, Shantanu Dutta

The shift in enterprise software sales from license to services is amongst the most significant upheavals the prepackaged software industry has experienced. Given that software firms' business models are increasingly becoming service-centered, managers and corporate financers need a better understanding of the performance ramifications of this transition. Over the past decade, several studies have empirically documented the linkage between moving into services and stock returns. Yet little attention has been paid to examining the effect of transitioning toward services on the risk of stock returns. With a longitudinal data set (1997-2015) of 522 publicly traded software manufactures, this study establishes the relationship between service transition strategies and firm-idiosyncratic risk. The results indicate that adding services has a U-shaped, curvilinear effect on idiosyncratic risk; decreasing in early stages of shifting toward services, then becoming increasing in the later stages. Furthermore, the findings indicate that peer firms' emphasis on services mitigates the effect of shifting toward services on idiosyncratic risk.

■ TB15

Fertitta Hall, 331, 3rd Floor

CRM: Customer Churn

Contributed Session

Chair: Yashar Bashirzadeh, Grenoble Ecole de Management, 12 Rue Pierre Semard, 38000 Grenoble, Grenoble, 38000, France, yashar.bashirzadeh@grenoble-em.com

1 - Essays in Customer Acquisition

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Firms spend a lot of efforts in acquiring new customers. Acquisition is a fundamental phase of the CRM because, before maintaining a relationship with its customers, a firm first needs to identify people who are not only willing to be acquired but who are also worth acquiring. Despite its importance, both academic and managerial literature on this topic is scarce. This is mainly due to a scarcity of pre-acquisition data. Today, however, most digital firms seat on an extensive amount of data allowing them to identify each customer's first purchase, monitor the marketing actions they receive, and track their searching activities. This research attempts to address the following goals: (i) Analyze the acquisition funnel under a customer-centric perspective (ii) Identify pre-acquisition factors that influence users' shifting from a stage to another (iii) Investigate different acquisition definitions. Two studies are proposed. First, we employ a Couple Hazard to jointly model the two stages of the acquisition funnel: registration and acquisition, as a function of marketing efforts and pre-acquisition behavior. This answers our research question: what is the impact of the different marketing actions in each stage of the acquisition funnel? Further, the model is tested across several acquisition definitions. The second study is a field experiment intending to: (iv) Investigate the actionability and advantages of a customer-centric acquisition strategy. This research aims at expanding the acquisition literature, analyzing the acquisition funnel under a customer-centric perspective while accounting for marketing activities and pre-acquisition behavior. Moreover, it aims at expanding the attribution literature, analyzing the impact of the different marketing actions in each stage of the acquisition funnel. It also has a managerial relevance, since it provides hints about the actionability of a customer-centric strategy and its advantages. In addition, it helps managers in better allocating their budget across the marketing activities accounting for the stage in which each user is.

2 - Effects of Customer Credits as Service Failure Recovery Solution on Customer Churn and Purchases

Stanislav Stakhovych, Monash Business School, Building S, 26 Sir John Monash Drive, Caulfield East, Melbourne, 3145, Australia, stanislav.stakhovych@monash.edu, Ali Tamaddoni

Service failure is an inevitable part of business, but proper handling of failures can not only mitigate their consequences but also obtain competitive advantage. In this study, utilising customer base approach, we investigate the effect of service failure incidences and their recoveries on the probability to churn and subsequent purchases. The data comes from the online division of major FMCG retailer. Though recovery strategies have multiple forms such as redelivery and refund, we investigate the effects of providing credits and how they influence behaviour of customers compared to other service failure remedies. We find that providing credit to customer delays the churn decision for one more period compared to providing immediate refund, and that the number of previous purchases reduces chances to leave the company, while the number of previous failures increases churn probability considerably. However, there is an evidence that customers do not keep purchase or failure events in their memory forever, but rather discount or forget them over time. In addition, business customers and customers with loyalty program membership have lower probability to leave the company. Finally, we investigate whether service failures in specific categories can have more detrimental effects on customers. We use these and other findings to develop managerial recommendations how to deal with service failures in general and how to tailor strategies to individual customers. We use simulations to demonstrate the impact of enhanced managerial actions and to translate them

3 - Target the Ego or Target the Group

Rodrigo Belo, Carnegie Mellon University, Pittsburgh, PA, United States, rbelo@rsm.nl, Pedro M Ferreira, Miguel Godinho de Matos

This paper analyzes outcomes from a randomized field experiment run with major telecommunications provider aimed at measuring the effect of proactive churn management among triple-play users and at determining whether using social network data may help retain them. We used state-of-the-art machine learning algorithms to develop a model to identify likely churners. We also used millions of call detailed records to identify their friends. A random subset of likely churners were selected to be contacted by the firm's call center. We also randomly selected whether their friends would be contacted by the call center. We find that proactively listing likely churners to be contacted reduced their propensity to churn by 1.9 percentage points from a baseline of 17.2%. When their friends were also listed to be contacted the likelihood of churn reduced an additional 1.3 percentage points. We find that despite the discounts offered by the firm to retain likely churners and the false positives from our predictive model of churn, the NPV of likely churners increased 2.2% with proactive churn management. This statistic becomes 6.4% when their friends were also considered for churn management purposes. Furthermore, we provide some evidence that when likely churners obtain retention offers from the company they confer with their friends before accepting them. Our results show that managers should consider proactive churn management and that using social network data to design churn management campaigns is likely to increase retention rates.

4 - Once You Churn, You Never Return: A Study of E-mail Retention and Reacquisition Effectiveness in the Context of Mobile Applications

Yashar Bashirzadeh, PhD Candidate, Grenoble Ecole de Management, 12 Rue Pierre Semard, 38000 Grenoble, Grenoble, 38000, France, yashar.bashirzadeh@grenoble-em.com, Ivan Guitart, Corinne Faure

The mobile application industry is forecasted to reach US$100B in revenues by 2020. Although prior research has shown that e-mails are effective drivers of sales in many industries, their effect in the context of mobile applications remains unexplored. Using a dataset from a mobile game application with more than 500,000 customers, we study whether e-mails are useful to retain active and reacquire inactive consumers. Using a matching approach to measuring e-mail effectiveness, we find that e-mails are effective to retain active customers but ineffective to reacquire inactive customers. Subsequently, we study how to increase the effectiveness of e-mail policies. We find that there is an inverted U-shaped relationship between the contact time since last activity and e-mail effectiveness, which suggests that there is an optimal timing to sending e-mails. Furthermore, we find that low-engagement consumers are more responsive to e-mails and should be targeted sooner than high-engagement consumers. Our results suggest that managers of mobile applications should focus their efforts on managing active rather than inactive customers. Additionally, our results suggest that to improve e-mailing campaign effectiveness, managers should refrain from sending simultaneous massive e-mails campaigns and rather personalize the timing according to the characteristics of each customer.

■ TB16

Fertitta Hall, 414, 4th Floor

TV Viewing

Contributed Session

Chair: Steven Hoornaert, Ghent University, Tweekerkenstraat 2, Ghent, 9000, Belgium, steven.hoornaert@ugent.be

1 - The Impact of Binge Watching on TV Viewership and on the Subscription of TV Products

Miguel Godinho de Matos, Assistant Professor, Universidade Católica Portuguesa, Católica Lisbon School of Business and Econom, NIF 501082522, LIsbon, 1649-023, Portugal, miguel.godinhomatos@ucp.pt, Pedro M Ferreira

Binge viewing is the practice of watching media content, usually TV shows, for a long time span in one sitting. There is no agreement on how much consumption time classifies as binge, but in 2014, Netflix's consumers defined binge as the activity of watching two or more episodes of the same TV show in a row. We partner with a major telecommunications provider in one country to design, implement and analyze outcomes of a set of randomized field experiments aimed at determining the impact of binge viewing on media consumption and distribution. We show that the demand for TV shows increases when binge is available, but that the ability to binge leads to faster satiation for content. Households gifted with a TV product that allows them to binge watch, increased the time spent watching per TV show by 6.1% when compared to households gifted the same TV product and content, but without the ability to binge. Households that engaged in binge watching were 44% less likely to subscribe to the TV product after the gift than households who didn't engage in binge watching. However, households that engaged in binge watching during the gift were those with higher willingness to pay for content before the experiment. Our results suggest that content providers that focus on binge viewers will have to turnover content much faster in order to keep them interested or use strategies of content release that in some instances block the ability of binge watching.

2 - The Interplay of the First and Second Screen on Marketing Effectiveness

Lena Hoeck, University of Munich, Geschwister-Scholl-Platz 1, Munich, Germany, hoeck@bwl.lmu.de, Martin Spann

Second screen describes a complementary digital device in use next to the television, the first screen. In recent years, media companies and startups alike have invested in applications, platforms and social media campaigns to accompany the television experience on the second screen. As of yet, the effect of second screen usage on first screen television viewing has not been empirically studied. In this project, we look at the effectiveness of the interplay of parallel or sequential first and second screen usage on the (subsequent) TV viewing activity. We use unique large-scale observational datasets from a European media company. These include individual television viewing behavior as well as individual usage of television related online content on e.g., the consumer's desktop and mobile device. We match the datasets on the basis of behavioral and user characteristics. We find that interactions of the first and second screen increase marketing effectiveness and thus the likelihood to tune in to a specific television show. We discuss implications for the design and planning of cross-device marketing campaigns.

3 - The Interrelationship Between Brand Actions, Customer Engagement Behaviors and Brand Consumption

Steven Hoornaert, Ghent University, Tweekerkenstraat 2, Ghent, 9000, Belgium, steven.hoornaert@ugent.be, Vijay Viswanathan, Edward C Malthouse, Ewa Maslowska, Dirk Van den Poel

Media organizations such as broadcast and cable are facing the daunting challenge of retaining their audiences in a media-fragmented world. A theoretical framework involving the central constructs of brand actions, customer engagement behaviors (CEBs), and brand consumption (viewing) is proposed. Brand actions include traditional paid advertising and social media prompts. CEBs include volume, valence and media richness of viewer-generated content on social media. TV consumption comprises live and time-shifted viewing. We analyzed data from a US Cable TV provider, Kantar Media advertising data, and Twitter data of 31 new TV shows introduced in 2015. We find that (1) paid advertising has a positive effect on time-shifted viewing, but a negative effect on live viewing; (2) tweets from the TV show have a negative effect on time-shifted viewing, but no effect on live viewing; and (3) negative sentiment from viewers reduces time-shifted viewing, but increases live viewing. This is the first study to examine how consumer-firm interactions affect media engagement behaviors such as viewership. While most studies on engagement have focused on dyadic static relationships, this study examines engagement from a multi-agent dynamic perspective.

■ TB17

Fertitta Hall, 416, 4th Floor

Brand Equity

Contributed Session

Chair: Anthony Koschmann, Eastern Michigan University, 7415 Willow Creek Dr, Ypsilanti, MI, 48197, United States, akoschma@emich.edu

1 - Do Layoffs Hurt a Firm's Brand? An Event Study with Consumer Mindset Metrics

Max Philipp Backhaus, University of Cologne, Albertus-Magnus-Platz, Department for Marketing and Marketing Resear, Cologne, 50923, Germany, maxpbackhaus@gmail.com, Alexander Himme

Firms usually undertake layoffs to increase operational efficiency and financial performance. However, layoffs often also entail negative effects on different stakeholders such as employees and customers. Yet, evidence on the negative effects of layoffs with respect to non-financial metrics such as customer satisfaction or brand equity is scarce or even non-existent. To quantify the effects of layoff announcements on consumer brand perceptions this study analyzes the effects of layoff announcements on two focal brand performance metrics (i.e., brand awareness and brand image strength). For this purpose, our study extends the common event study methodology to non-financial performance measures based on an international sample of 179 layoff announcements and 5 years of daily consumer mindset data across multiple sectors and firms. Results suggest substantial positive effects of layoff announcements on consumer brand attention and negative effects on brand strength. Moreover, the study identifies moderators of the effect of layoff announcements on brand perceptions such as the layoff size, the strategic firm motive, and prior levels in brand perception. Our findings provide an additional explanation why layoff decisions often result in negative stock market reactions and do not achieve their strategic dictum to increase efficiency and financial performance.

2 - Close the Plant, Lose the Brand? Sales and Advertising Consequences of Collective Factory Layoffs

Vardit Landsman, Tel-Aviv University Israel, and Eramus University-Rotterdam, P.O. Box 1738 H15-13, Rotterdam, 3000DR, Netherlands, landsman@ese.eru.nl, Stefan Stremersch

Collective factory layoffs occur frequently in Western economies. However, their commercial consequences have received little attention from marketing scholars. Using a difference-in-differences model, estimated on an international data set capturing around 100 collective factory layoffs from the automotive industry, this paper reports the following new findings. First, sales of brands that collectively lay off factory workers are lower in the layoff country during the year following the event than in control countries. Second, the decline in sales is larger for foreign brands than for domestic brands. Third, if the layoff brand states that layoffs are motivated by demand considerations, it undergoes a larger sales decrease than if it states other reasons (e.g., costs). Fourth, a layoff brand's advertising elasticity increases after the layoffs, as compared to before the layoffs. A survey indicates that these findings extend beyond managers' present knowledge. The findings may assist managers seeking to implement collective factory layoffs, particularly in their decisions on where a layoff event should take place, and in efforts to prepare for the event's commercial consequences.

3 - Brand Alliances and Brand Equity: Doing More Harm Than Good?

Anthony Koschmann, Eastern Michigan University, 7415 Willow Creek Dr, Ypsilanti, MI, 48197, United States, akoschma@emich.edu

Brand alliances have become an increasingly common tactic for brand managers to grow the brand. By combining two brands into one product offering, the belief is this offers additional value to consumers, enhancing sales and brand equity. Prior research has shown that these products generally achieve small revenues and market shares in practice. However, the effect these brand alliances have on the core brand remain unknown. Using consumer panel purchase data of consumer packaged goods, the research finds that, on average, brand alliance products typically result in negative brand equity. Further analysis shows that even when brand alliances demonstrate positive brand equity, this might not be in the best interest of the brand.

4 - An Integrated Model for Dynamic Brand Equity

Elea McDonnell Feit, Assistant Professor, Drexel University, 3220 Market Street, Philadelphia, PA, 19104, United States, efeit@drexel.edu, Tung Phan, Eric T Bradlow

This paper presents a unified statistical model designed to measure brand equity as it changes over time; and gauge the impact of increased brand equity on consumer's product choices. Our model extends traditional models of brand equity which posit that strong brands are simply "more preferred" after controlling for the marketing mix (i.e. an intercept) to a more general model that allows for (1) brand equity to evolve; (2) perceived product attributes to vary with brand strength — an "X-perception effect"; and (3) perceived coefficients for product attributes to be a function of equity — a " effect". This extended model provides firms and researchers with a more comprehensive view of brand equity and how it manifests itself in consumers' product choices. We apply the proposed model to a panel dataset demonstrating that brand equity has a measurable effect on price sensitivity and product attribute perceptions. Using the model we optimize the timing of marketing and derive optimal weekly prices. Comparing those results to simpler benchmark models of brand equity, we find that managers can potentially lose profit by using the reduced-form model due to mispricing.

■ TB18

Fertitta Hall, 417, 4th Floor

Consumer Behavior & Gender

Contributed Session

Chair: Youngjee Han, youngjee.han@gmail.com

1 - Constituting, Testing and Validating Gender Based Learner Profiles

Lawrence L Garber, Associate Professor, Elon University, 2075 Campus Box, Elon, NC, 27244, United States, lgarber@elon.edu, Eva M. Hyatt, Ünal Ö. Boya, Bibek Banerjee

A significant literature references the widely accepted belief that women and men learn differently. However, our review of the literature that underpins these beliefs has caused us to conclude, surprisingly, that such beliefs are not well-founded. That literature, though sizeable, is not substantial – incomplete, piecemeal, equivocal, and dated – to the extent that there is as yet no authoritative source that provides definitive learner profiles for both genders. In short, though it may be widely believed that women and men prefer to learn differently, it is not as yet known how it is that women and men prefer to learn. Therefore, this research is focused on compiling complete profiles for male and female learners and validating them by examining gender differences revealed by attitudinal response to participation in instructional business games. Two hundred twenty undergraduate business students played The Marketing Game!, and then each completed an exit survey soliciting attitudes toward the game experience as well as an inventory designed to reveal learning styles. Results of a series of discriminant analyses establish empirical support for gender-based learner profiles on all hypothesized learning dimensions, and show instructional business games to be a rather different learning experience for women than for men, though a positive learning experience for both. Theoretical and pedagogical implications are discussed.

2 - Are the Brand Choice Considerations of Men and Women Really Different?

Enav Friedmann, doctororal instructor, Bar Ilan university, klil hachoresh 19, Omer, 84965, Israel, enav.friedmann@gmail.com

The importance of functional, hedonic and conspicuous utilities in choosing a brand may appear differently for men and women. Many marketers use this assumption while they target men or women with different massages and products. The debate over whether men and women are in fact different in the relative importance they assign to these utilities when choosing a brand, is not yet resolved. To date, most of the research has based on direct self-report measures. Using a choice-based survey and conjoint analysis experiments in various product categories, we infer the importance of these utilities from the stated preferences for the choice itself not by direct stated importance of considerations. These analyses revealed that these considerations are very similar among men and women. These results suggest that in the context of choosing brands, gender segmentation may be unnecessary and might not yield the best resource allocation for marketers.

3 - Female Data Scientists: How Can We Increase Their Ranks?

Graciela Carrasco, PhD candidate, ESSEC Business School, 60 Avenue du Hazay, Cergy, 95000, France, graciela.carrasco@essec.edu

A growing number of high-achieving PhDs with strong quantitative backgrounds and hailing from a variety of academic disciplines are now being hired for the role of "data scientist"; that is, a "high ranking professional with the training and curiosity to make discoveries in the world of big data" (Davenport and Patil, 2012). A female data scientist defies two important trends, in the sense that (1) men currently outnumber women in the computer science, mathematics and engineering fields, and in the physical sciences (see Ceci et al, 2009), so that there are less women in the initial pool of candidates for the role of data scientist, and (2) implicit biases can make it quite difficult for female professionals to move up the corporate ladder (e.g. Rudman, 1998). In this essay, I survey aspects of the literature on gender and vocational interests, quantitative and creative abilities, as well as on gender biases in the corporate world and on female leadership, which are relevant to the position of data scientist, focusing my attention specifically on scientists working on marketing problems. Based on this survey of the prior literature, I provide an agenda for future research as well as initial recommendations for hiring and diversity policy. Efforts to build a community of female data scientists and to foster the development of a female data scientist identity may prove to be especially helpful ways to increase their ranks.

4 - Better Possible Self or Better Other? Gender Affects Who is More Inspirational

Youngjee Han, Assistant Professor of Marketing, Sungkyunkwan University, Seoul, Korea, Republic of, youngjee.han@gmail.com, Myungwoo Nam

We proposed that women would be more likely to be motivated to become a better person by comparing themselves to a better other whereas men would be more likely to be inspired by comparison to a better possible self. In Study 1, conducted with 150 participants in the United States, the results demonstrated that female participants who were asked to think about another person who was physically fit were more likely to make healthy food choices when grocery shopping than were those who were asked to think about themselves as someone who was physically fit. Conversely, male participants were more likely to choose healthy food options when shopping after they had been asked to think about a better possible self rather than a better other. In Study 2, conducted with 172 participants in South Korea, we replicated the findings from Study 1 in relation to the goal of speaking fluent English. Our findings suggest that when there is a fit between self-construal orientation and type of comparison standard, individuals are more likely to be motivated to pursue their goals.

■ TB19

Popovich Hall, 300, 3rd Floor

ISMS Doctoral Dissertation Winners II

General Session

Chair: Olivier Toubia, Columbia Business School, 522 Uris, 3022 Broadway, New York, NY, 10027, United States, otoubia@yahoo.com

1 - Demand for (Un)Biased News: The Role of Government Control in Online News Markets

Andrey Simonov, PhD Student, University of Chicago, 5020 S Lake Shore Drive, 3402, Chicago, IL, 60615, United States, andsimonov@gmail.com, Justin Rao

User-generated content (UGC), such as online reviews, provides the potential for identifying customer needs more effectively and more efficiently than current, costly interview-based methods. Better understanding of customer needs improves marketing strategy, product development, and marketing research. However, non-informative and repetitive content in most UGC crowds out information about customer needs. We overcome these challenges by combining machine learning methods, to select content for review, with human judgement to formulate customer needs from content that is rich in customer needs. In particular, we use a convolutional neural network to filter out non-informative content and then create dense sentence representations to identify sufficiently different informative sentences for manual review. In a proof-of-concept application to oral care, we compare customer needs identified from UGC to customer needs identified from experiential interviews. Our analyses suggest that, for comparable human effort in reviewing content, and at considerable savings in obtaining content, UGC allows identifying a comparable set of customer needs. Indeed, new customer needs can be identified. Machine learning enables analysts to identify customer needs with less effort and/or enables analysts to review more content with the hopes of identifying more customer needs.

2 - Identifying Customer Needs from User Generated Content

Artem Timoshenko, PhD in Marketing Student, MIT, 540 Memorial Dr., Apt. 1103, Cambridge, MA, 02139, United States, timoshenko.artem@gmail.com, John Hauser

User-generated content (UGC), such as online reviews, provides the potential for identifying customer needs more effectively and more efficiently than current, costly interview-based methods. Better understanding of customer needs improves marketing strategy, product development, and marketing research. However, non-informative and repetitive content in most UGC crowds out information about customer needs. We overcome these challenges by combining machine learning methods, to select content for review, with human judgement to formulate customer needs from content that is rich in customer needs. In particular, we use a convolutional neural network to filter out non-informative content and then create dense sentence representations to identify sufficiently different informative sentences for manual review. In a proof-of-concept application to oral care, we compare customer needs identified from UGC to customer needs identified from experiential interviews. Our analyses suggest that, for comparable human effort in reviewing content, and at considerable savings in obtaining content, UGC allows identifying a comparable set of customer needs. Indeed, new customer needs can be identified. Machine learning enables analysts to identify customer needs with less.

3 - Targeted Search and Platform Design

Zachary Zhong, UC Berkeley, 2220 Piedmont-Ave, Berkeley, CA, 94704, United States, zhong@berkeley.edu

Major online platforms such as Amazon and eBay have invested significantly in search technologies to direct consumer searches to relevant products. For example, consumers may directly enter their desirable attributes into search queries, and the platform will retrieve relevant sellers accordingly. The platform may also let consumers refine the search outcomes. This study characterizes the role of targeted search, and examines how targeted search affects market equilibrium and platform design. I model targeted search in a differentiated market with many firms where consumers search sequentially. Within this setup, I endogenize the search design by allowing the platform to choose the precision of targeted search and the revenue model contract. I find the impact of targeted search on price is not monotonic. When targeting is not too precise, targeted search lowers the equilibrium price. It makes sellers more similar and intensifies price competition, despite the fact that all consumers face sellers with better fit. However, once the targeting becomes sufficiently precise, the equilibrium price increases, because highly targeted search discourages active consumer search and gives sellers monopoly power. Furthermore, I find that the platform, by providing targeted search with precision up to the aforementioned limit, can extract more consumer surplus through higher commission rates or by offering promoted slots. However, once targeted search becomes too precise, the market will face a price hike, hurting the platform revenue in both models. Therefore, I find that the platform may want to limit the precision of targeted search even if improving it is cost less.

Thursday, 1:30PM - 3:00PM

■ TC01

Fertitta Hall, 101, Lower Level

Channels: MultiChannels III

Contributed Session

Chair: Jeeyeon Kim, Yonsei University, # 301 Building 212 Yonsei University, 50 Yonsei-ro, Seoul, Korea, Republic of, k.ashley@yonsei.ac.kr

1 - Multichannel Shopper Segments Consisted of Purchase Channels and Media Touchpoints Using Single Source Panel Data

Satoshi Nakano, INTAGE Inc. / University of Tsukuba, Arakawaku Higashiogu 4-53-3 graceK 402, Tokyo, 1160012, Japan, nakano-s@intage.co.jp, Fumiyo Kondo

Along with changes in retailing environment due to the development of digital devices and social media, customers can easily obtain appropriate information and purchase products from stores or online, which enables marketers improve their accessibility to their customers. The key issue for designing effective multichannel strategies can be to understand customers' purchase channels and media touchpoints simultaneously under such environment and to provide more seamless connection between advertisement targeting and promotion. This paper provides customer segmentation using Latent-Class Cluster Analysis that focuses on purchase frequency and media usage by extending the previous frameworks of multichannel shopper segmentation (Konus, et al., 2008; Sands, et al., 2016) from two viewpoints: (1) eliminating the common bias that exists in a survey method due to the difference between intention and actual behavior by using single source scan panel data and media log data; (2) providing an empirical analysis on uninvestigated product categories of low involvement, more frequent purchased category. The analyses on Japanese panel data revealed 7 segments on the basis of actual usage patterns of bricks-and-mortar store/online channel, PC/mobile device, and social media as well as psychographic and demographic characteristics. We find two online-favored multichannel segments with a separation of purchase level in store, usage level of mobile device and social media, and five store-focused segments differentiated by usage level of PC/mobile device, and social media. In terms of psychographic and demographic characteristics, the former two segments were divided by innovativeness, shopping enjoyment, price-sensitivity, and with/without children, the latter, by time pressure, opinion seeking and with/without children. Multichannel segments and store-focused segments were found in prior researches as well. However, the segments within the two purchase-based groups are different in psychographic and demographic characteristics depending on media usage.

2 - Is Tmall the Right Gateway to China's E-commerce Market? The Value of Marketplace Channels to Manufacturers

Zhiling Bei, Ph.D. Candidate, University of North Carolina at Chapel Hill, McColl Building, 300 Kenan Dr, Chapel Hill, NC, 27599, United States, Zhiling_Bei@kenan-flagler.unc.edu, Katrijn Gielens

In recent years, manufacturers are breaking away from traditional retail channels and are increasingly embracing online marketplaces, especially in emerging markets. Still despite the fact that online marketplaces have become a pervasive phenomenon in emerging markets, relatively little is known about how manufacturers fare with this format. Using an event-study, the authors assess the net impact of adopting marketplaces on a firm's stock market return. They test their hypotheses by using the announcements of store openings on Tmall.com in China - the leading marketplace in the largest emerging market - by 408 firms in 39 industries originating from 20 countries between 2008 and 2015. The authors find that, on average, the adoption of marketplaces positively influences market value. Moreover, local firms receive more positive stock market reactions than foreign firms, although this effect is strongly moderated by the firm's local market knowledge and experience on the one hand and its marketing strengths and capabilities on the other hand. More specifically, the results indicate that less diversified manufacturers with high brand equity and marketplace experience, regardless of country of origin, are expected to achieve greater gains in financial performance. However, the effects of local market position, innovativeness, and advertising diverge for foreign firms and local firms. Whereas foreign firms with stronger market positions that rely less on advertising benefit more from marketplaces, local firms stand to gain more when their market position is relatively modest, they advertise more heavily and innovate less.

3 - Multichannel Sales and Store Accessibility: How Store Accessibility Influences Multichannel Sales Across Regions

Jeeyeon Kim, Doctoral Candidate, Yonsei University, # 301 Building 212 Yonsei University, 50 Yonsei-ro, Seoul, Korea, Republic of, k.ashley@yonsei.ac.kr, Sue Ryung Chang, Jeonghye Choi, Minakshi Trivedi

Considering the unique capability of the offline channel as an experiential platform and its billboard effect, the geographical variation in offline store accessibility can play a key role in explaining differences not only in offline sales but also in digital channel sales across regions. This research investigates how store accessibility influences multichannel sales and moderates cross-channel cannibalization across regions. Using proprietary data from beauty product sales in offline, online, and mobile channels, we find that while more offline stores in a region (i.e., higher absolute store accessibility) increase both online and mobile sales, there is cannibalization between offline and online sales in a relatively more strategic region for the focal brand compared to its competitors (i.e., higher relative store accessibility). We also find that the effect of online performance stock on current online sales is negatively moderated by absolute store accessibility but is enhanced by relative store accessibility. Furthermore, we show that the synergy between online and mobile channels is moderated by absolute store accessibility but not by relative store accessibility. Lastly, we conduct hypothetical market seeding experiments and provide strategic insights for store openings or closings for companies operating both offline and digital channels.

■ TC02

Fertitta Hall, 102, Lower Level

Online Auctions II

Contributed Session

Chair: Simha Mummalaneni, University of Washington, Foster School of Business, University of Washington, Seattle, WA, 98195-3226, United States, simha@uw.edu

1 - Position as an Imperfect Signal in Search Advertising

Taylor Bentley, Assistant Professor, University of Texas at Austin, Department of Marketing, 2110 Speedway Stop B6700, Austin, TX, 78712, United States, taylor.bentley@mccombs.utexas.edu, Tat Y. Chan, Young-Hoon Park

We analyze and empirically test a model of imperfect signaling in sponsored search advertising. Theoretical predictions are derived from the model where the information obtained during the search process is reflected. Using data obtained from a search engine, we test to what extent advertisers bid in accordance with these predictions regarding position and competition in search advertising. We find that advertisers increase their bids when their likelihood of matching with consumers' needs improves and the improvement cannot be readily observed by consumers prior to searching advertisers' websites. We also find evidence for an implication of imperfect signaling: the positive information spillover effect on competing advertisers. In particular, when a firm competes against an advertiser with higher match value, the firm can potentially increase its sales. This occurs via an increased click-through-rate resulting from increased expectations due to information obtained at the competitor's webpage, while the conversion rate remains constant.

2 - Affirmative Action as a Cost Cutting Tool in Procurement Markets

Simha Mummalaneni, University of Washington, Foster School of Business, University of Washington, Box 353226, Paccar Hall, Seattle, WA, 98195-3226, United States, simha@uw.edu

We study the effect of an affirmative action program that grants buyers the ability to purchase from vendors in a preferred group even if they are not the cheapest option. These programs are typically framed as an exercise in social responsibility, since buyers will pay slightly more in order to support traditionally disadvantaged businesses. Using data from business-to-government procurement auctions in Virginia, we find that buyers tend to be unwilling to accept this additional financial burden; instead, they typically only exercise their option to award the contract to the non-cheapest bidder if there is a small gap in bid values. We estimate a structural model of firms' bidding behavior and demonstrate that there is a significant level of asymmetry between the preferred firms' costs and the non-preferred firms' costs. As a consequence, buyers would reduce their procurement expenditures if they used a stronger affirmative action policy, as this would force non-preferred firms to significantly reduce their prices. Therefore, our findings demonstrate that these programs need not be a financial burden for buyers; in fact, a well-designed affirmative action program can lower procurement spending while also allocating more money towards preferred vendors.

■ TC03

Fertitta Hall, 105, Lower Level

Digital and Mobile Learning

General Session

Chair: Xueming Luo, Temple University, Temple University, Arlington, TX, 76019, United States, luoxm@temple.edu

1 - The Impact of Device Selection on the Digital Path to Purchase and Consumer Price Sensitivity

Meheli Basu, University of Pittsburgh, Pittsburgh, PA, United States, meheli.basu@pitt.edu, Kirk Wakefield, Jeff Inman

As smartphone penetration has continued to expand, the digital path to purchase increasingly involves several devices. That is, people can engage in search and purchase on a PC, a mobile device, or a combination. Surprisingly, the impact of consumer device selection on the path to purchase and relative price sensitivity is poorly understood. Our research seeks to address this important question. Specifically, our aim is to conceptualize a device selection model to test if and to what extent differential device effects arise in consumer search and purchase behavior when searching and/or buying from a mobile device or desktop PC. We also study how this dependence of price sensitivity on device selection varies with movement of the consumer among distinct price tiers. In addition, we examine trade-offs between choices, including volume of products purchased, time remaining to a service redemption and others. To address our core research question, we analyze "big" data from a large online ticket exchange portal. The web traffic data is examined to analyze consumer search behavior and the resulting path to purchase. We examine price sensitivity based on the type of log in device, the number of tickets the user is interested in purchasing, the specific price tier the user is considering and time to the event. Implications for research and practice are discussed.

2 - Does Mobile Improve Learning? An Empirical Analysis of Student Engagement and Academic Achievement in Massive Open Online Courses (MOOCs)

Sang-Pil Han, Arizona State University, 2323 E Apache Blvd #2096, Tempe, AZ, 85281, United States, Han shan73@asu.edu, Mi Hyun Lee, Sungho Park, Sunghoon Kim

This study explores mobile technology's impact on student engagement and academic outcomes in an online, higher education context. Our model-free evidence suggests that mobile use leads to higher levels of learner' course engagement and academic achievement. However, after controlling for endogeneity in learners' mobile use decision, we find no significant difference in student engagement and academic outcomes between mobile users and non-mobile users. This result implies that mobile will likely act as an acquisition channel for already motivated and competent students, rather than cause student learning. We draw managerial implications that can inform efforts to improve students' mobile learning.

3 - When Online Reviewers Meet Mobile Devices

Mina Jun, Post Dotoral Student, Korea University, Seoul, Korea, Republic of, phdmina@korea.ac.kr, Jongmin Kim, Chung Koo Kim

All of the popular online travel agencies (OTAs) ranked by JD Power have their own mobile applications to enhance consumer-brand relationship and attract potential customers from all over the world. Providing mobile apps brings a number of potential benefits due to its increased convenience (Ghose and Han 2011). Given the increase in access and convenience, from the quantitative aspect of review posting, the reviews are expected to exhibit indications of consumption recency (Berger and Schwartz 2011; Chen and Lurie 2013; Moe and Schweidel 2012) and the number of customer reviews is expected to increase. However, review posting via mobile apps can have unforeseen and unintentional effects because there exist some differences between mobile and non-mobile devices: increase in efforts and immediacy from the qualitative aspects of review posting. These characteristics of mobile devices may cause systematic differences in the degree of affection and inconstancy in affection when customers post their reviews via mobile rather than non-mobile devices. Therefore, in our study, we examine whether there exist systematic differences in the average of review rating and dispersion in review ratings, which depict distribution of customer review ratings, when customers post their reviews via mobile versus non-mobile devices.

4 - Mining E-Book Reading Patterns: Applications in Segmentation and Recommendation Systems

Sungho Park, Arizona State University, Tempe, AZ, United States, spark104@asu.edu, Sang Pil Han, Wonseok Oh, Jae Yun Moon

We analyze detailed time-stamped reading trajectories of e-book customers along with their transactions from a leading mobile e-book platform. Using time-series alignment algorithms, we uncover two distinct dimensions of reading patterns - reading velocity and completion rate. We find that these characteristics of reading patterns are largely explained by differences in customer traits - and hence are useful for segmenting different types of customers. Also, this study proposes an innovative, consumption-based analytics method by which e-book sellers can incorporate users' reading patterns into product recommendation systems. We show that the proposed recommendation approach works better than benchmark approaches in hold-out predictions and field experiments.

■ TC04

Fertitta Hall, 125, Lower Level

Social Media & Gaming

Contributed Session

Chair: Sarang Sunder, Texas Christian University, TCU Box 298530, Fort Worth, TX, 76129, United States, s.sunder@tcu.edu

1 - Keep Winning or Stop Losing? The Effect of Consumption Outcomes on Variety-seeking in Online Video Games

Tong Lu, University of Pennsylvania, Philadelphia, PA, 19104, United States, tonglu@wharton.upenn.edu, Liangbin Katie Yang

As consumers engage in experiential products, they may exhibit variety-seeking behavior by switching frequently between different options within the same category, or exhibit inertial behavior by consistently choosing the same option. We propose that consumer preferences for variety may change in response to consumption outcomes, which indicate the quality of past consumption occasions. Examples include the enjoyment of an episode of a TV show or the quality of a meal at a restaurant. We predict that positive consumption outcomes lead to inertial preferences, while negative consumption outcomes lead to variety-seeking. We tested our hypothesis within the context of a popular online military-based video game, using data from 1,309 frequent players on their daily rounds played across two years, starting from the game's release. Players could choose between different map environments for each round of play and consumption outcomes were measured using their performance during the round. To model map choices across rounds, we extend upon classic models of variety-seeking that view the choices made between consumption occasions as a first order Markov process. We allow variety-seeking to be a function of time-varying factors, including satiation and consumption outcomes. Consistent with our hypothesis, we found that better consumption outcomes (e.g., more kills, fewer deaths) led to less variety-seeking in subsequent rounds. Our findings were robust to whether variety-seeking was parametrized as a binary variable (switch vs. no switch) or a continuous variable (using attribute-based distances between maps), and also held when we controlled for attribute satiation, learning over time, intrinsic map preferences, and individual differences. Our findings suggest that, in our context, firms should place players in a familiar environment in the next round of play if they are performing well, and introduce variety if they are performing poorly.

2 - The Competitiveness of Social Interactions as a Marketing Variable in Social Gaming

Huazhong Zhao, Assistant Professor, City University of Hong Kong, 88 Tat Chee Ave AC3 10-225, Kowloon, Hong Kong, h.zhao@cityu.edu.hk, Haibing Gao, Jinhong Xie

Advances in social networking and mobile technology have significantly increased game developers' ability to actively initiate and manage social interactions between game players. This paper introduces competitiveness as a new attribute of social interactions. We empirically investigate how providing players the opportunity to pursue competitive (win-lose) vs. cooperative (win-win) social interactions differentially affects both individual spending and social network building. Our analysis of real-time logs of a popular social game uncovers an interesting stage-dependent pattern: in the early stage of a social game, competitive interactions encourage more spending in the game, and cooperative interactions lead to a larger social network through interactions with more players. However, as the social game evolves, the opposite results hold: cooperative interactions become more important in motivating spending, and competitive interactions contribute more to social network expansion. These findings indicate that the competitiveness of social interactions can be used as a strategic marketing variable. This paper contributes to the literature on consumer social interaction in general and the literature on game design in particular.

3 - Social Structure, Entrepreneurship and Consumption in Video Game Community

Peng Liu, Indiana University, 3442 John Hinkle Pl, Bloomington, IN, 47408, United States, liupe@indiana.edu

In the Massively Multiplayer Online Role Playing Player (MMO-RPG) context, we define the behavior of building new startup guilds as entrepreneurial activities. Similar to the occupation decision problem, players can choose either to join existing guilds (paid employment), or create her own start up guild (self-employed). The motivation and the success of entrepreneurship depend on individual traits, social network, social capital, self-efficacy and efforts etc. In this research, we utilize a rich social network and detail individual game activities data from a large MMO-RPG with three months duration to identify peer effect in entrepreneurial decision, to study how individual traits, social structure and purchase behaviors motivate entrepreneurship, and how these factors impact the success of entrepreneurship in MMO-RPG. Managerially, we plan to have the following applications: 1. Understanding how social structure variables impact entrepreneurship in MMO-RPG will help us to understand the entrepreneurship in the real world better; 2. Based on the social group, guilds in MMO-RPG, we can propose a more efficient targeting strategy and improve user experience by understanding how social dynamic and purchase are related to entrepreneurial activities in the video-game community.

4 - Unintended Consequences of Policy Interventions. Assessing the Impact of Usage Restriction on Online Game Usage and Spending

Sarang Sunder, Texas Christian University, TCU Box 298530, Fort Worth, TX, 76129, United States, s.sunder@tcu.edu, Wooyong Jo, Jeonghye Choi, Minakshi Trivedi

Given the rise of the online gaming industry (valued at approx. $127 billion), the investigation of online game addiction from a psychological and public health perspective has gained much attention in the recent years. In fact, the rise in excessive gaming behavior and its public health consequences led the American Psychiatric Association to include online game addiction as a mental disorder in 2013. Consequently, several public policy instruments have been implemented to restrict excessive gaming on the Internet. This research investigates the economic and marketing impact of one such policy regulation. Specifically, we study the impact of usage restriction in South Korea on gamers and the industry and evaluate the efficacy of the intervention. Applying a difference-in-difference methodology on individual-level usage and revenue data from an online gaming firm, we show that although the policy regulation reduces overall game usage, the effects are heterogeneous. That is, counter to expectations, we find that the negative treatment effect is much smaller in the segment that needs such an intervention the most - gamers with excessive game usage. Further, we also find that the revenue impact of the above policy intervention was negligible at best, suggesting that gamers did not change their spending patterns due to the policy intervention. We discuss the managerial as well as public policy implications of this study as pertaining to the gaming industry. Further, this research highlights the need to reevaluate usage restrictions as a vehicle to control consumer behavior and eventually battle online game addiction.

■ TC05

Fertitta Hall, 233, 2nd Floor

User Generated Content & Brand Maps

Contributed Session

Chair: Sungha Jang, Kansas State University, 1301 Lovers Land, Manhattan, KS, 66506, United States, sjang@ksu.edu

1 - Unsupervised Concept Mapping for Big Data Marketing Strategic Analysis: A Word Embedding Approach

Wenjing Duan, Associate Professor, The George Washington University, 2201 G Street, Funger Hall, Suite 515P, School of Business, Washington, DC, 20052, United States, wduan@gwu.edu, Yang Yu, Ezekiel Leo

Recent development in big data techniques has enabled tremendous advances in business analytics. However, most big data applications remain at the operational level; marketing strategic decision-making continues to require a lot of human intervention. In this paper, we propose a two-layered framework based on word embedding techniques to address this challenge. The first layer applies Natural Language Processing (NLP) techniques to generate a high dimensional concept map to represent knowledge imported from the Internet. The second layer projects unstructured strategic information onto the concept map so that it can be interpreted accordingly. We demonstrate the feasibility of our framework with the Apple vs. Google case in the smartphone business, which suggests our proposed framework can interpret unstructured strategic information in a manner much more sophisticated and accessible than previous approaches.

2 - Embedding Products in Latent Attribute Spaces: Implications for Managing Product Assortments in Retailing

Sebastian Gabel, Humboldt University Berlin, Berlin, Germany, sebastian.gabel@hu-berlin.de, Daniel Klapper

Online and offline retailers regularly face decision that involve their product assortment. Choices regarding assortment depth, product variety, website or shelf layouts, and promotion designs matter as they directly impact sales and profits. Identifying the best strategy can be challenging as (1) product portfolios often carry hundreds of thousands or even millions of items, (2) the amount of available transactional data can be overwhelming, (3) descriptive techniques do not always provide clear answers to managerial questions, (4) the majority of research on product assortment focuses on a small subset of a retailer's categories, and (5) methods for visualization of market structure mostly analyze product competition while neglecting product complementarity. In this paper we therefore propose a new machine learning method for analyzing big data that is able to deal with the aforementioned challenges. It is based on the Continuous-bag-of-words model (CBOW) that was recently introduced in Natural Language Processing. We apply the model to 175 million shopping baskets collected at a leading German grocery retailer to infer 400 latent properties for each product in the assortment. The only data that is used by the CBOW model is which product IDs co-occur in shopping baskets. In particular, no prior knowledge on observable product attributes is required. We verify that the latent properties capture a wide variety of product characteristics, e.g. category, size, and flavor. From the latent product attributes we then derive a low-dimensional product map, which provides insights into the topology of the product space, shedding light on basket composition and product complementarity. We then demonstrate how our findings can be used in assortment decisions. Our method has a wide applicability in online and offline retailing as it uses data that is available, scales well to billions of shopping baskets, and results are easy to interpret and validate.

3 - Brand Map: A Spatial and Dynamic Analysis of Brand Associations using Social Media

Hyunhwan Lee, Marketing Ph.D. Student, University of Miami, School of Business Administration, Aresty 538, Coral Gables, FL, 33124, United States, hlee@bus.miami.edu, Joseph Johnson, Gerard J Tellis

Brand perceptions (i.e. consumer brand associations of a given brand) are known to differ across the two dimensions of time and geography. Brand associations vary with time because consumers may form new positive and negative associations about a brand as they receive brand information over time. Additionally, old associations may attenuate with time. Moreover, brand associations vary with geography because consumers' tastes differ across geographic regions. Besides, the brands face different competitors in different geographic locations. This study investigates how to measure brand associations from social media comments both across location and time. Despite the increasing popularity of social media as a tool for brand management, no study has used social media to measure brand associations across time and geography. To do so, we develop an integrated, multi-modular set of text retrieval and text mining algorithms that measures brand associations of a given brand both over time and across the geographic expanse of the US. We estimate the model for six brands: two in each of three product categories: carbonated soft drinks (FMCG), fast food restaurants (services), and automobiles (consumer durables). We find that in all cases brand associations do vary significantly with location. However, the temporal stability of brand associations is category-dependent with cola and fast food restaurants being more stable than automobiles. The main implication of our study is that continuous tracking of brand associations as well as measurement across meaningful geographic units like cities or states provides actionable managerial insights. Also, managers must use different brand strategies both spatially and temporally to compete effectively.

4 - How do Consumers Evaluate Identical Products on Competing Online Retailers? A Text Mining Approach using Consumer Reviews

Sungha Jang, Assistant Professor, Kansas State University, 1301 Lovers Land, Manhattan, KS, 66506, United States, sjang@ksu.edu, Ji Hye Kang, Tian Liu

Consumers often choose different types of online retailers to buy specific products considering the fit between online retailer's brand images and product characteristics. When an online retailer expands its assortment by including categories which other online retailers already have a strong fit with, consumers may evaluate identical products that the online retailers carry in a way accordant with their perceptions of those competing online retailers. Utilizing Amazon's new expansion of the fashion business, we examine how differently consumers evaluate the identical fashion items purchased from Amazon (as a low fashion-oriented online retailer) or Macy's (as a high fashion-oriented retailer). We collect consumer reviews about fashion products in women and men divisions that are available from Amazon and Macy's. Using identical products at different types of online retailers, we analyze which product attributes appear in reviews, how importantly consumers evaluate those attributes, and how much consumer evaluations affect product ratings as a consumer satisfaction index in relation to the online retailers' images. Our major findings are that consumers at Macy's evaluate prestigious products with more evaluation criteria while consumers at Amazon focus on functional aspects of the products with skeptical attitudes towards fashion brand authenticity. Managers can utilize our findings to understand consumer evaluation criteria for identical products at different types of online retailers and develop their competitive advantages when their company or competitors add a new product line.

■ TC06

Fertitta Hall, 236, 2nd Floor

Sharing Economy III

Contributed Session

Chair: Shunyuan Zhang, Carnegie Mellon University, Carnegie Mellon University, Pittsburgh, PA, 15217, United States, shunyuaz@andrew.cmu.edu

1 - Measuring Consumer Surplus in the On-Demand Economy: The Case of Ride Sharing

Mengze Liu, Massachusetts Institute of Technology, Cambridge, MA, United States, mengliu@mit.edu, Tom Lam

Uber and Lyft, two pioneer ride-sharing platforms that serve as alternatives to traditional taxi cabs, have seen dramatic increase in adoptions from both consumers and driver-partners over the last few years. To understand their roles and impacts on the economy, we tackle the problem of consumer welfare of these platforms by estimating a demand model for rides. In this model, consumers choose among Uber, Lyft, taxi, and the public transportation based on price, wait time, brand effects, and unobserved taste heterogeneity. Our estimation and identification leverage on the unusually rich taxi, Uber, and Lyft trip records from New York City, combined with data on Uber and Lyft surge pricing as well as wait time at granular location-time levels. We find strong evidence that price-sensitive consumers value time and dislike waiting. The consumer welfare gain we observe is most likely due to two reasons: first, the tech-aided ride-sharing platforms represent a more efficient "meeting" technology than taxi, leading to an overall reduction in wait time and increase in consumer surplus; second, the tech-aided ride-sharing platforms "fill in" the previously under-served communities by taxi. In addition, competition and platform differentiation between Uber and Lyft also play a key role in the increase in consumer surplus.

2 - Running an Airbnb Hotel - A New Business Model of Sharing Economy

Xi Li, University of Toronto, 105 St George St, Toronto, ON, M5S3E6, Canada, xi.li13@rotman.utoronto.ca, Mengze Shi, Xin (Shane) Wang

Airbnb is a peer-to-peer marketplace initially designed for property owners to rent short-term lodging in residential properties. Nowadays, more and more people are running Airbnb as a professional business. In this paper, we are interested in the service provision (e.g., checking-in, cleaning) and information disclosure (e.g., photo posting) decisions made by property owners and professional agents, and how these decisions are affected by various factors such as competition and property value. Our results distinct the above two groups, which investigate the existence of the agency problem: while the agents have more expertise, they bear all the costs and receive only a fraction of the revenue, leading to sub-optimal effort provision. In addition, our results provide insights into the role of competition and property value in the hosts' decision making processes. We believe our findings help understand the evolution of Airbnb's fast-growing business model.

3 - Professional Versus Amateur Images: Investigating Differential Impact on Airbnb Property Demand

Shunyuan Zhang, Carnegie Mellon University, 5000 Forbes Avenue, Pittsburgh, PA, 15213, United States, shunyuaz@andrew.cmu.edu, Dokyun Lee, Param Vir Singh, Kannan Srinivasan

In marketing research, visual images have been shown to be an effective tool to communicate with and persuade consumers. Product images are widely used to reduce quality uncertainty, to impact consumer perception and to induce desired consumer responses. However prior studies have not yet looked at the differential impact of professional versus amateur taken images on product demand. This study answers the question of "How much do property images taken by professionals impact the demand of an Airbnb property?". We build on photography literature that discuss key photographic elements (e.g., composition, color tone, visual balance, and figure-ground relationships) where professional images most differ from amateur images. These image features elicit different emotion from consumers and also affect the informativeness of an image, leading to a differential impact on property demand. We identify professional versus amateur images through a "verified photo" indication (image was taken by an Airbnb affiliated professional photographer), and through automatically classifying images based on the image aesthetic quality using a SVM classifier. With a unique longitudinal dataset of approximately 8200 Airbnb properties and 380,000 property images over 9 months, we find that properties with professional images are approximately 7% more frequently booked. These results remain even when we control for alternate sources that can alleviate quality uncertainty- customer reviews. We find that the marginal impact of professional images is higher for low end properties and the ones with few customer reviews. We further identify how images taken by Airbnb affiliated professional photographers and external unaffiliated photographers differ on these image features. We find that while both provide highly informative images, the images by Airbnb affiliated professionals tend to be better at also eliciting favorable emotion from viewers.

■ TC07

Fertitta Hall, 239, 2nd Floor

Digital Marketing II

General Session

Chair: Garrett A Johnson, University of Rochester, University of Rochester, Rochester, NY, 14627, United States, garrett.johnson@simon.rochester.edu

Co-Chair: Ayelet Israeli, Harvard Business School, Morgan Hall 177, Soldiers Field Road, Boston, MA, 02163, United States, aisraeli@hbs.edu

1 - How Reliable is Programmatic Audience Targeting with Third-party Data? Lessons from Three Field Tests

Nico Neumann, University of South Australia, 101 Currie Street, Adelaide, Australia, nico.neumann@unisa.edu.au, Timothy Whitfield

Third-party data aggregators often use online browsing behavior and other indicators of customer behavior to build segments that can be used for marketing campaigns. These segments tend to be formed via algorithms (e.g. machine learning) and sold via software platforms in an automated way, a process often referred to as programmatic buying. Brands and agencies spend an increasing amount of their media budgets on these programmatic audience segments, creating a multi-billion dollar business (AdExchanger 2016). However, little is known about how well the algorithm-driven customer classifications for these segments work. We address this research issue in three field tests and examine the accuracy and consistency of third-party audience targeting for different types of data. Our unique collaboration with leading panel providers and software companies allowed us to validate segmented users through first-party data. We find that precision is not only questionable, but that audience classifications are inconsistent across leading data providers. Furthermore, our findings suggest that programmatically bought segments vary to a large degree because of technological and methodological differences. Yet, even when controlling for this source of variation, the suggested audience compositions for the same campaign still fluctuate significantly and the precision depends on the type of attribute that is used for targeting. We conclude with a discussion of the practical and theoretical implications of our findings for marketing managers.

2 - Privacy Choice in Internet Advertising: Who Opts Out and at What Cost to Industry?

Garrett A Johnson, Northwestern Unviersity, Kellogg School of Management, Evanston, IL, United States, garrett.johnson@kellogg.northwestern.edu, Shaoyin Du, Scott Shriver

We study consumer privacy choice in the context of online display advertising where advertisers track consumers' browsing to improve ad targeting. In 2010, the industry implemented a self-regulation mechanism that overlaid "AdChoices" icons on ads, which consumers could click to opt-out of personalized advertising. We examine the real-world take-up of AdChoices using ad transaction data from an ad exchange. Though consumers express strong privacy concerns in surveys, we find that a small fraction of US impressions arise from users who opted-out of personalized advertising. Opt-out users tend to be more technologically sophisticated, though opt-out rates are lower in states with higher income. Opt-out users fetch a significantly lower price on the ad exchange and opt-out rates vary by type of content. These results can help inform the privacy policy discussion by illuminating the real world consequences of an opt-out privacy mechanism.

3 - Green Marketing in Social Media: An Empirical Investigation of Strategy, Sincerity, and Relationship to Brand Image

Jennifer Cutler, Duke University, Durham, NC, United States, Jennifer.Cutler@duke.edu, Aron Culotta

Perceived environmental friendliness is an increasingly important factor influencing consumer purchasing decisions; recent reports from The Nielson Company indicate that nearly ¾ of Millennials are willing to pay a premium for environmentally friendly brands. As such, green marketing has developed as an important part of many brands' marketing mixes. Social media, in particular, provides fertile ground for green marketing, as frequent conversation-like messages can be disseminated at low-cost to cultivate a green brand personality, even without making specific claims. Many concerned researchers have speculated about the potential prevalence and impact of harmful "greenwashing" (misleading green messages) on such platforms, with theories predicting a range of contradictory outcomes. Yet, despite the importance of this issue to marketers, consumers, and policy makers alike, little empirical insight exists to date. We open this black box by using state-of-the-art text analysis to quantify green marketing on both Twitter and Facebook for hundreds of brands across five sectors, and gain detailed insights into how marketers are using green messaging on these platforms. Combining this with survey measures of brand image and scientific ratings of each brand's actual environmental impact, we find that,

overall, green marketing correlates little with green practice, and that consumer perceptions align much more strongly with marketing than with "truth." We further find large differences in these relationships across sectors, and provide an explanation consistent with regulatory differences and consumer access to objective measures. Finally, we provide a framework for using automation to identify potential instances of greenwashing.

4 - The Pop-Over Paradox: Field Experiments at Collage.com

Ayelet Israeli, Harvard Business School, Morgan Hall 177, Soldiers Field Road, Boston, MA, 02163, United States, aisraeli@hbs.edu, Garrett Johnson

Consumers profess to dislike pop-overs, which are a particularly obtrusive form of advertising. In part for this reason, Google intends to punish sites with pop-overs in Google's organic search results. Despite this, many websites use this form of on-site advertising. We examine this puzzle with a series of field experiments on Collage.com, a photo product e-commerce website. Collage.com's homepage opens a pop-over for new site users that offers a discount in exchange for the user's email address. We find that this pop-over is more effective at gathering email addresses than a less obtrusive but identical offer on the homepage or eliminating the pop-over altogether. At the same time, we find no significant evidence that the pop-over causes users to abandon the website. In short, pop-overs present significant benefits to the firm with insignificant costs to consumers. Moreover, consumers response to the offers in the pop-over's discount amount: email collection, transactions and even profits increase with respect to the pop-over's discount. In another experiment, consumers choose to activate an added button that re-launches a closed pop-over and this increases email collection.

■ TC08

Fertitta Hall, 240, 2nd Floor

Game Theory in Marketing I

General Session

Chair: Amirreza Fazli Salehi, University of Washington, 324 Mackenzie Hall, Seattle, WA, 98105, United States, fazli@uw.edu

1 - Persuasive Advertising in Vertically Differentiated Markets

W. Jason Choi, Columbia University, New York, NY, United States, wchoi19@gsb.columbia.edu, Kinshuk Jerath, Miklos Sarvary

This paper studies non-cooperative advertising in a vertically differentiated market, a topic hitherto neglected in the literature. Our model assumes that firms endowed with different levels of product qualities first advertise and then set prices. We consider advertising to be persuasive and assume that it may have two distinct effects: (i) it may increase consumers' reference quality (i.e., set a higher evaluation standard of quality) or (ii) it may increase consumers' sensitivity to quality (i.e., increase consumers' marginal value for quality). In the first case, we find that the higher quality firm benefits disproportionately from higher reference quality, leading it to advertise more intensely than the lower quality firm. The intuition is that a high reference point combined with diminishing marginal utility for quality enlarges the perceived quality difference between the firms' offerings. This reference-shift-induced differentiation, however, disappears when the consumer utility function is restricted to the linear form. In the case when advertising increases sensitivity to quality, we find an asymmetric equilibrium where only one firm advertises and the other free rides. The advertising firm is the one that has higher marginal return on advertising, which is determined by consumer segment size and quality valuation. We discuss strategic implications for advertising in vertically differentiated markets with respect to important marketing variables.

2 - Exploring the Impact of Artificial Intelligence: Prediction Versus Judgment

Avi Goldfarb, University of Toronto, Rotman School of Management, 105 St George Street, Toronto, ON, M5S 3E6, Canada, avi.goldfarb@rotman.utoronto.ca, Ajay Agrawal, Joshua Gans

Based on recent developments in the field of artificial intelligence (AI), we examine what type of human labour will be a substitute versus a complement to emerging technologies. We argue that these recent developments reduce the costs of providing a particular set of tasks - prediction tasks. Prediction about uncertain states of the world is an input into decision-making. We show that prediction allows riskier decisions to be taken and this is its impact on observed productivity although it could also increase the variance of outcomes as well. We consider the role of human judgment in decision-making as prediction technology improves. Judgment is exercised when the objective function for a particular set of decisions cannot be described (i.e., coded). However, we demonstrate that better prediction impacts the returns to different types of judgment in opposite ways. Hence, not all human judgment will be a complement to AI. Finally, we explore what will happen when AI prediction learns to predict the judgment of humans.

3 - The Scale of Economy and Endogenous Multi-dimensional Product Differentiations

Jungju Yu, Yale University, New Haven, CT, United States, jungju.yu@yale.edu, Jiwoong Shin, Michelle (Yi) Lu

Our research studies why a vertically integrated producer ("VIP" for short) might supply high-quality input to its downstream competitor even though it increases competition. This practice is prevalent in many industries in which the scale of economy in input production is firms' important concern. For example, LG provides its cutting-edge OLED panels to Samsung who is one of LG's major rivals in the TV market. In this research, we investigate firms' multi-dimensional product differentiation when the VIP can benefit from the scale of economy; it can produce high quality input at a lower marginal cost if it produces more of it. The VIP's provision of input quality for itself and its competitor determines vertical differentiation and the extent of the scale of economy. By providing a low-quality input to the competitor, the VIP can benefit from vertical differentiation but endures a high marginal cost. On the other hand, the VIP can provide a high-quality input to the competitor, and benefit from the scale of economy, at the expense of the competition induced by lack of vertical differentiation. Furthermore, under the case of high-quality provision, the scale of economy reduces costs for both firms, which can lead to a more intensive competition. If we further endogenize horizontal differentiation (i.e., allowing both firms to choose their horizontal locations), we find that the VIP sometimes provides a high-quality input and two firms differentiate horizontally to soften competition. We also explore the boundary conditions under which different equilibriums can arise and discuss managerial implications.

4 - The Effects of Autoscaling in Cloud Computing on Entrepreneurship

Amirreza Fazli Salehi, University of Washington, 324 Mackenzie Hall, Seattle, WA, 98105, United States, fazli@uw.edu, Amin Sayedi, Jeffrey D Shulman

Technology startups often rely on computational resources to serve their customers; though rarely is the number of customers they will serve known at the time of market entry. Today, many of these computations are run using cloud computing. A recent innovation in cloud computing known as autoscaling allows companies to automatically scale their computational load up or down as needed. We build a game theory model to examine how autoscaling will affect entrepreneurs' decisions to enter a new market and the resulting equilibrium prices, profitability, and consumer surplus. Prior to autoscaling, startups needed to set their computational capacity before realizing their computational demands. With autoscaling, a company can be assured of meeting demand and pay only for the demand that is realized. Though autoscaling decreases expenditures on unneeded computational resources and therefore should make market entry more attractive, we find this is not always the case. We highlight strategic forces that determine the equilibrium outcome. Our model identifies the likelihood of a startup's success in a market, differentiation among potential entrants in a market, and a product's potential value to consumers as key drivers of whether autoscaling increases or decreases market entry, prices, and consumer surplus.

■ TC09

Fertitta Hall, 241, 2nd Floor

Statistical Learning for Big Data

General Session

Chair: Jinchi Lv, University of Southern California, IOM Department, HOH 504, Los Angeles, CA, 90089, United States, jinchilv@marshall.usc.edu

1 - Large-scale Sparse Orthogonal Factor Regression Y

Yingying Fan, University of Southern California, Los Angeles, CA, United States, fanyingy@marshall.usc.edu

Many modern statistical problems in such diverse areas as genetical genomics and financial econometrics can be cast in the framework of a multivariate regression model, where both the predictors and responses are of high dimensionality. A sparse singular value decomposition (SVD) of the regression coefficient matrix, which is of low rank and with sparse singular vectors, can play a key role for simultaneous dimension reduction and variable selection. We introduce sparse orthogonal factor regression (SOFAR), a unified approach to regularized multivariate regression, to estimate such a sparse SVD structure. We formulate the regularization procedure as an orthogonality constrained optimization problem and employ sparsity-inducing penalties of a general, flexible form, which specializes to some important cases. The SOFAR methodology is connected to a variety of multivariate techniques, including biclustering, sparse principal components, factor analysis, and vector autoregression, and yields useful new methods in these contexts. We derive nonasymptotic error bounds for the regularized estimator under conditions that control the degrees of nonconvexity in the SVD problem. We develop an efficient optimization algorithm using the alternating direction method of multipliers, and investigate its convergence properties. Simulation studies show that the SOFAR methodology substantially outperforms some existing methods, and its usefulness is demonstrated by an analysis of yeast expression quantitative trait loci data.

2 - Stein's Method and Practical Machine Learning: Bridging the Gap

Qiang Liu, Dartmouth College, Hanover, NH, United States, Qiang.Liu@dartmouth.edu

Stein's method provides a remarkable theoretical tool in probability theory but has not been widely known or used in practical machine learning that involves massive datasets and complex, high dimensional models. In this talk, we will bright this gap and show that the key ideas of Stein's method can be naturally combined with practical learning and inference techniques such as the kernel method, variational inference and Monte Carlo. This allows us to develop a general framework for deriving new efficient algorithms for handling the kind of highly complex, structured probabilistic models widely used in modern machine learning. Applications in deep learning and big data analytics will be discussed.

3 - Permuted and Augmented Stick-Breaking Multinomial Regression

Mingyuan Zhou, The University of Texas at Austin, Austin, TX, United States, mingyuan.zhou@mccombs.utexas.edu

To model categorical response variables given their covariates, we propose a permuted and augmented stick-breaking construction that one-to-one maps the S observed categories to S randomly permuted latent sticks. This construction transforms multinomial regression into regression analysis of S conditionally independent binary random variables, and does not make the independence of irrelevant alternatives assumption. We construct under this framework Bayesian multinomial support vector machines and softplus regressions, which are not only capable of producing nonlinear classification decision boundaries, but also amenable to posterior simulation. Example results are used to demonstrate the attractive properties and appealing performance of the proposed models.

4 - Sparse Orthogonal Factor Regression

Jinchi Lv, University of Southern California, IOM Department, HOH 504, Los Angeles, CA, 90089, United States, jinchilv@marshall.usc.edu

How are memory states with different time constants encoded in different brain regions? How can we determine the number of key memory components? Understanding meaningful associations among a large number of responses and predictors is key to many such modern scientific studies and business applications. This paper provides a unified framework of sparse orthogonal factor regression (SOFAR) that enables us to probe large-scale response-predictor association networks through different layers of latent factors with interpretability and orthogonality. SOFAR is connected to many multivariate techniques including biclustering, sparse PCA, factor analysis, and VAR analysis, and yields useful new methods in these contexts.

■ TC10

Fertitta Hall, 313, 3rd Floor

Competition: Entry & Exit

Contributed Session

Chair: Xiang Hui, Ohio State University, 688 Riverview Drive, Apt 10, Columbus, OH, 43202, United States, hui.40@osu.edu

1 - Who Benefits from Brand Exits? Why?

Baris Depecik, Assistant Professor, Bilkent University, Bilkent University Faculty of Business Administration MA-309, Ankara, 06800, Turkey, barisd@bilkent.edu.tr, Berk Ataman

The increasing frequency of brand exits raises two questions pertinent for both manufacturers and retailers: When a brand disappears from the market, (i) what brands are better positioned to benefit from the exit? and (ii) what marketing efforts influence the realignment of sales after the exit? To answer these questions, we develop a dynamic brand sales response model. The model allows for examination of the long-term effects of a brand exit on sales and identification of the drivers of excess demand redistribution following the exit. We apply the model to brand exit events across multiple repeat-purchase product categories. The results indicate that the market shares of a deleted and an incumbent brand, post-exit promotion strategies, and the incumbent brand's similarity to the deleted brand explain variations in sales response to exits across brands. We examine the effect of similarity on multiple dimensions and reveal what underlying product attributes are most critical in attracting consumers of the deleted brand. Our results generate insights that will help firms better manage their product portfolios and marketing investments to maximize their share of the freed up demand.

2 - Aggressive Growth in Retail: A Trade-off Between Deterrence and Survival?

Limin Fang, PhD Candidate, University of Toronto, 150 St. George Street, Toronto, ON, M5S3G7, Canada, limin.fang@mail.utoronto.ca, Nathan Yang

We study the relationship between aggressiveness and survival under the context of retail entry. Using a dynamic game of entry, we show numerically that the relationship between an incumbent aggressiveness and survival can either be positive or negative. While aggressive entry can help an incumbent survive in the long-run, it may also be harmful to the incumbent if the entrant is too strong. Using the same modeling framework, we then estimate the dynamic game with monthly data from the taco fast casual restaurant industry in Texas during 1993 to 2015. Our estimated model primitives reveal that the incumbent (i.e., Taco Cabana) faces a strong entrant (i.e., Chipotle), and in such a scenario, our analytical insights suggest that the incumbent should avoid aggressive entry strategies.

3 - Certification, Reputation and Entry: An Empirical Analysis

Xiang Hui, MIT, Cambridge, MA, United States, xianghui@mit.edu, Maryam Saeedi, Giancarlo Spagnolo, Steve Tadelis

More precise information about past performance of incumbent firms has implications for entry decisions and affects the quality distribution of firms in the market. However, this relationship has not been well studied empirically because of limited data. We exploit a policy change on eBay as a quasi-experiment, in which the "eBay-Top-Rated-Seller" badge substituted the previous "Powerseller" badge, by making the requirements more stringent. We exploit the differential impact of the policy on different sub-categories for identification. First, we document a negative correlation between the number of entrants and the share of badged sellers across categories. We find that after the policy change, categories that experience a higher reduction in the share of badged sellers have a larger number of entrants. However, this difference tends to disappear once the market adjusts to the new equilibrium after about six months. Second, we find that the distribution of quality provided by entrants has changed and has "fatter" tails. This is consistent with the prediction that entrants from the extremes of the quality distribution have stronger incentives to enter, although it could be due to similar entrants changing their behavior. Third, we find almost no change on the quality provided by incumbents. This last finding suggests that the increase in the quality provided by entrants at the tails is more likely to come from improved selection rather than from a change in entrants' behavior. The results have implications for the design of reputation and certification mechanisms in electronic and other markets.

■ TC11

Fertitta Hall, 316, 3rd Floor

New Product: Design III

Contributed Session

Chair: Taewan Kim, Lehigh University, 621 Taylor Street, Bethlehem, PA, 18015, United States, tak213@lehigh.edu

1 - The Role of Design Quality vs. Perceived Quality in Consumer Return Behavior

Xiaojing Dong, Associate Professor of Marketing and Business Anal, Santa Clara University, Marketing Department, Lucas Hall, Santa Clara, CA, 95053, United States, xdong1@scu.edu, Necati Ertekin

It is widely recognized that one way to reduce returns is improving product quality. In this research, we empirically investigate the efficacy of this solution by examining two distinct quality measures: design quality and perceived quality. Design quality is an objective measure and refers to features, styling, and other product attributes that enhance the fitness for the consumers (Fine (1986)). Performance, features, reliability, conformance, and durability introduced in the seminal paper by Garvin (1984) can be thought of as the design quality dimensions. Design quality is associated with engineering and manufacturing and has been the focus of operations management. Perceived quality is a subjective measure and refers to a customer's appraisal of a product's overall excellence (Garvin (1984); Zeithaml (1988)). Because consumers do not always possess complete information about a product's perceived quality (Garvin (1984)), they frequently rely on indirect measures such as external information, advertising, and brand names to form their perceptions about product quality. From this perspective, perceived quality is primarily associated with marketing and has been the focus of marketing. It is clear from these definitions that managing consumer returns through improving product quality is an issue of alignment between operations and marketing. Therefore, it is critical to understand whether the two distinct quality measures are related and how each quality measure influences consumer return behavior. To answer our research questions, we use a novel dataset that includes purchase and return transactions from 26,723 customers across 835 stores at a national jewelry retailer over a 21-month period. Consistent with the retail industry, non-defective returns at this retailer are estimated to be 19% of all returns. Our results demonstrate that, in contrast to the existing literature (Anderson et al. (2009)) that suggests improving design quality should reduce returns, the impact of design quality on return rate is actually statistically insignificant.

2 - Product Line Design with Expert Review

Chenxi Liao, University of Texas at Dallas, Richardson, TX, 75080, United States, chenxi.liao@utdallas.edu, Dmitri Kuksov

In the increasingly digital world, more and more people rely on a few "influencers" or "niche experts" on social media to form beliefs about a product's quality. Ostensibly, experts are better equipped to judge quality, but their evaluations are also influenced by their idiosyncratic preferences. Since the experts are not personally known to either the firm or the consumers, both the firm and the consumers need to form expectations of how much the expert's recommendation will be influenced by the product quality versus their individual preferences. This paper considers how the presence of the expert should affect the firm's optimal choice of the number of product variants and the consistency of quality. While the presence of the expert reviewer may be a force toward either an increased or decreased number of variants, generally speaking, more variants should be provided if the expert has stronger personal preference and/or higher standard for the product performance. Interestingly, the firm's expected profit may decrease when the quality of the low-quality outcome increases due to the associated lower difference between the high and low quality outcomes and therefore, lower informativeness of the expert review. We further show that the firm's knowledge about the true product quality may increase the distortion in the number of product variants it offers even when the equilibrium number of variants is pooling (i.e., the same) across the potential product qualities.

3 - The Impact of Product Concept Demonstration on Product Line Design

Taewan Kim, Lehigh University, 621 Taylor Street, Bethlehem, PA, 18015, United States, tak213@lehigh.edu, Ji-Hung (Ryan) Choi

Trade shows have become a popular venue for firms to demonstrate new products or new product concepts to their industry cohorts and to the public in general. In particular, trade shows provide an opportunity for a firm to communicate differentiating features of its new products on the horizontal and vertical dimensions. However, little research has been done regarding how product concept demonstration activities interact with the firm's product line design strategy in competitive markets. We study a game-theoretic model of duopoly where two firms competing in the market, each offering two products with two product attributes that capture both vertical and horizontal differentiation (e.g., quality and design). The equilibrium results indicate that product concept demonstrations in trade shows may have the effect of preempting competition, as well as expanding the market size for both high and low quality products under certain market conditions.

4 - Value-added Resellers Participation in the Design of a Firm New Generations of Products

Skander Essegaier, Associate Professor, ESADE, Barcelona, Spain, skander.esseghaier@esade.edu

Many firms rely on a select number of key value-added resellers to market their products. These value-added resellers often have crucial information about the evolution of consumer's expectations. In those situations, should the firm always seek to leverage the information of its value-added resellers by involving them in the design of the new generations of its product? The participation of these resellers in the co-design of the new generation of the product depends on both the firm willingness to invite its resellers, and the resellers' willingness to accept the invitation. If pooling information across participants in the co-design process improves the product and enhances its future demand, then the incentive to invite (for the firm) and to accept to participate (for the resellers) is obvious. Less obvious, however, is the disincentive to invite (for the firm) and to participate (for the resellers). In this research, we identify such a disincentive, which we call the "signal effect." This effect arises when some of the firm's resellers choose to participate in the co-design process but not all of them, thereby creating an asymmetry of information with respect to the future performance of the new product between the firm and its non-participating resellers. We analyze the trade-off that the firm and its value-added resellers face with respect to invitation and participation. An analytical model is developed. We identify three key variables that influence the participation outcome: (1) the expected size of the demand-enhancement that would result from a reseller's participation; (2) the degree of uncertainty about this demand-enhancement; and (3) the degree of « service differentiation » between the value-added resellers. Three possible outcomes can arise from the interaction of these three variables: (i) the firm does not invite any of its resellers (no participation); (ii) the firm invites its resellers, but only some of them choose to participate (partial participation); (iii) the firm invites its resellers, and all of them choose to participate (full participation).

■ TC12

Fertitta Hall, 322, 3rd Floor

Choice Models III

Contributed Session

Chair: Prithwiraj Mukherjee, Indian Institute of Management Bangalore, Bannerghatta road, Bangalore, 560076, India, pmukherjee@iimb.ernet.in

1 - Dealing with Intra-household Heterogeneity

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The authors seek to study the implications of ignoring intra-household heterogeneity in choice models estimated using scanner data. This important issue has not been addressed in the literature, possibly due to limitations of scanner panel data. Using a unique data set that identifies choices made by individual customers within a household, they estimate multinomial choice models at the household level with and without incorporating intra-household heterogeneity using the Markov Chain Monte Carlo (MCMC) procedures. Not surprisingly, they find that the estimates obtained at the customer level are significantly different from those obtained at the household level. They find targeting promotions based on customer level price sensitivity will result in outcomes that are significantly different relative to targeting based on household level price sensitivity. They offer recommendations to mitigate these differences so that a manager who does not have access to customer level choice information can still target optimally.

2 - Modeling Intra-household Heterogeneity to Explain Multiple Discrete Continuous Demand

Vedha Ponnappan, Indian Institute Of Management, Bangalore, A 202. Temple Trees, Kanakapura Road, Bangalore, 560078, India, vedha.ponnappan@iimb.ernet.in, Avadhoot Jathar, Srinivas Prakhya

Consumers often purchase market goods to accommodate the preferences of multiple members of their family. Modeling such purchases at an aggregate household level fails to consider the possibility of household members' preference heterogeneity. We explore an approach to recover intra-household preference heterogeneity when the consumption within the family is unobserved. Comparing the demand functions for various product categories of single member households of certain "type", where type is defined based on observed demographic characteristics, with those of multi-member households consisting of members of similar "type", we uncover the sharing rule for resources within the family and the power structure between the members. Using these, we develop a direct utility based structural choice model for the household by aggregating the sub-utilities of members, to explain their purchase of multiple brands/variants in a single shopping trip (Multiple Discrete Continuous demand). We estimate household's panel data using Hierarchical Bayesian methods to recover the preferences and satiation of household members. We demonstrate how the type level preferences can be used to predict the purchase pattern of households with minimal demographic information about the members. Insights from the model can be used to target offers individually, based on household member level preferences.

3 - Explaining Preference Heterogeneity with Mixed Membership Modeling

Marc R Dotson, Assistant Professor of Marketing, Brigham Young University, 660 TNRB, Provo, UT, 84602, United States, marc_dotson@byu.edu, Joachim Buschken, Greg M Allenby

Choice models produce part-worth estimates that tell us what product attributes individuals prefer. However, to understand the drivers of these preferences we need to model consumer heterogeneity by specifying covariates that explain cross-sectional variation in the part-worths. In this paper we demonstrate a way to generate covariates for the upper level of a hierarchical Bayesian choice model that lead to an improvement in explaining preference heterogeneity. The covariates are uncovered by augmenting the choice model with a grade of membership model. We find improvement in model fit and inference using the covariates generated with the proposed integrated model over competing models using standard discrete covariates. This paper provides an important step in both a proper accounting for extremes in preference heterogeneity and a continued synthesis between marketing models and mixed membership models, which include models for text analysis and more traditional discrete multivariate data.

4 - A Unified Model of Anchoring and Context-dependent Preferences

Prithwiraj Mukherjee, Assistant Professor, Indian Institute of Management Bangalore, Bannerghatta road, Bangalore, 560076, India, pmukherjee@iimb.ernet.in, Arnaud De Bruyn, Ayse Onculer

We propose a new model of context-dependent preference based on the multi-attribute utility model of Lancaster (1966), where we relax the assumption of stable preferences (or weights). Our model assumes that these preferences can be formed by anchors in the form of goods present in the choice set as well as a background set consisting of goods consumed in the past, or from informative anchors from advertising, word of mouth, etc. We propose a "weighted anchors" model, where each of these anchors can rotate a vector of preference weights towards itself. Our model predicts well-known biases such as the status quo bias, loss aversion, the compromise effect, and the attraction effect. Additionally, our model predicts pairwise transitivity of preferences and the strict preferences for a dominant good over a dominated good irrespective of context effects, all of which we prove analytically. Additionally, our model offers a physical understanding of multi-attribute value as a vector projection, making it intuitive to understand and perform complex counterfactual analyses of context-dependent choice scenarios.

■ TC13

Fertitta Hall, 327, 3rd Floor

Pricing: Freemium

Contributed Session

Chair: Reo Song, Kansas State University, Marketing Department, Calvin 104, Manhattan, KS, 66503, United States, strada@ksu.edu

1 - Augmenting One-shot Field Experiments with Longitudinal Customer Data: An Application to Menu-based Subscription Pricing

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Menu-based pricing is ubiquitous in online subscription services. Here, we establish its impact on conversion, contract choice, and customer lifetime value (CLV) using an orthogonalized, factorial field experiment. Initial subscription choices on a freemium online site dating consisting of 1-, 3-, and 6- month options, are supplemented with historical data common in longitudinal CRM databases. Long-run inference on CLV is accomplished via Hamiltonian Monte Carlo data fusion to join the 'one-shot' initial subscription observations with a 'long-tail' of resubscription data from preexisting customers in the firm's CRM database. This allows for contemporaneous measurement of the CLV effects of freemium menu-pricing without requiring resubscription behavior to play out, e.g., extending the experimental trial length, which is costly and time-consuming to the firm. Our results show that initial subscription choice strongly influences (1) future renewal decisions, as customers tend to stick to their initial contract choice, and (2) subscribers who initially chose longer-duration contracts generated higher average CLV and lower CLV variance.

2 - Uncovering Price Elasticities for Fiction Books in the Presence of Endogeneity

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Pricing for fiction books is challenging due to two main factors. One is the large number of new titles, each perceived as a new product by the consumer. The other is the need to set prices prior to publishing. Once published, most sales occur in the first weeks, leaving little room for price adjustments. Moreover, some markets inhibit any modifications through fixed book price regulations. This situation is aggravated by management expectations which give rise to endogeneity concerns. Instrumental variable and copula methods to correct for this endogeneity effect rely on a set of assumptions that leave room for debate. Therefore our research aims at providing various correction measures to uncover the most likely effect of pricing on demand. In our study we empirically analyze large samples of fiction books and take five approaches to address price endogeneity. First, we gather and take into account success predictions by managers. Second, we focus on elasticities between different formats of the same title. Third, we revisit instrumental variable (IV) estimations of prior studies. Fourth, we rely on a copula approach to avoid instruments. Fifth, we conduct a field experiment for a sample of e-book backlist titles. We find inelastic price elasticities for hardcover books and e-books as well as slightly elastic price elasticities for paperback books. Our findings provide managers with invaluable information about the price elasticities of entertainment media.

3 - Free-to-paid Transition of Online Content Providers: An Empirical Analysis of Newspapers' Paywall Rollout

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Whether and when to move from a free to a paid service model and whether to offer free service during high demand periods are important questions for online publishers. We provide insights on these questions by examining the effects of the paywall rollout of U.S. newspapers on their website traffic. In doing so, we propose a novel approach to quantify daily news significance that enables us to offer important theoretical and managerial implications. We find that most newspapers lose website traffic after paywall introduction but that the amount of loss varies greatly by newspaper characteristics. The print circulation volume of a newspaper has a U-shaped relationship to the negative effect of a paywall on traffic, with the greatest decrease in traffic occurring for newspapers with medium daily circulation. A decrease in traffic is also larger for newspapers with a more liberal (vs. conservative) political view and for those that adopt a paywall early (vs. late). We also find that temporary, short-term paywall removal does not increase website traffic.

■ TC14

Fertitta Hall, 328, 3rd Floor

Marketing & Finance III

Contributed Session

Chair: Tetsuo Horiguchi, Keio University, 1-20-6 Tamagawa Ota-ku, Tokyo, 146-0095, Japan, tetsuo.horigt@gmail.com

1 - Ceo's Marketing Experience and Firm Performance

Hooman Mirahmad, Texas A&M University, 4112 TAMU, College Station, TX, 77843, United States, hmirahmad@mays.tamu.edu, Venkatesh Shankar

Marketing academics have voiced their concern over marketing's decreasing influence at corporate strategy level. While previous research has examined the impact on firm performance of C-Suite CMO presence, marketing department's power, and board-level marketing experience, the role of CEO's marketing experience on firm-level outcomes is underexplored. This research examines the impact of CEO's marketing experience on innovation, marketing intensity, and firm value. The authors develop a conceptual model and propose direct positive effects of CEO's marketing experience. They further postulate that these effects are strengthened under intense industry competition and weakened with significant CEO ownership of the firm. The authors estimate a system of equations on a unique panel dataset of 165 U.S. publicly traded firms over 10 years, using a seemingly unrelated regression approach. The results reveal that CEO's marketing experience has a direct positive effect on R&D expenditures, the number of trademarks, SG&A intensity, advertising intensity, and firm value. It also has a positive indirect effect on the number of patents via its impact on R&D expenditures. This research provides new insights into the role of CEO's marketing experience in shaping firm strategies toward innovation and marketing investment, and how it may ultimately boost shareholder value. The findings suggest that firms should consider hiring and promoting CEOs with marketing experience and enhancing CEOs' marketing experience.

2 - How to Pay Your Executives to Build Stronger Brands?

Hanieh Sardashti, Doctoral Candidate, Michigan State University, 632 Bogue Street, Room N462, East Lansing, MI, 48823, United States, sardashti@broad.msu.edu, Hang Nguyen, Roger J Calantone

Although research in finance has provided evidence of a link between the structure of managerial compensation and firm financial performance, little is known about how executive compensation influences non-financial performance measures such as market-based assets. The marketing literature has long established that investments in market-based assets, such as customer-based brand equity (CBBE), are one of the firm's most important strategic decisions because these assets can be leveraged to enhance firm performance and create value. Thus, this research seeks to extend the marketing-finance interface by investigating the impact of executive compensation structure on the firm's brand assets. We then examine how brand assets and executive's firm-related wealth influence firm performance. Analyzing compensation data from a sample of 1,166 executives from 100 companies during the period from 2007-2015, we find that sensitivity of executive wealth to stock price (delta) is positively related to CBBE, whereas sensitivity of executive wealth to stock return volatility (vega) is negatively associated with CBBE. Nevertheless, the positive relationship between delta and CBBE becomes weaker when demand uncertainty increases. Additional analysis of the firm performance model indicates that increased CBBE results in higher firm's Tobin's Q, particularly when the firm faces decline in earnings. Likewise, executive's firm-related wealth positively affects firm performance. These results are robust when we test on a subsample of 236 CEOs. With the rise of equity-based compensation in recent years, findings from our research provide important implications for firms to employ a more effective compensation structure to build brand assets and improve firm performance.

3 - The Varying Advantage of Focus and Diversification Along the Value Chain: The Case of the Motion Picture Industry

Can Uslay, Associate Professor of Marketing, Rutgers University, 100 Rockafeller Road, Piscataway, NJ, 08854, United States, can.uslay@business.rutgers.edu, Ekaterina Karniouchina, Stephen J. Carson, William L Moore

ABSTRACT This study considers the extent to which different functions along the value chain exhibit different rewards to product focus/diversification. It concentrates on arguably the two most vital firm functions—innovation and marketing—and uses data from co-creation arrangements in the motion picture industry in which these activities are split across producers and distributors (808 films created by 62 production studios released by 40 different distributors between 1968 and 2009). The results from two hierarchical Bayesian models show that organizational benefits to focus do not disperse throughout the value chain. Being focused has a significant positive effect on financial performance for product development but not for distribution. On the other hand, diversification of new products is linked to reduced financial risk. Consistent with the resource-based view of the firm, the value of focus varies widely across producers. For example the firms that are formed by celebrity founders are able to diversify to a greater extent without performance penalty.

4 - Strategic Frameworks Lead to Myopic Decision Making?: Deliberate Decision Making of a Boundedly Rational Decision Maker

Tetsuo Horiguchi, Keio University, Tokyo, Japan, tetsuo.horigt@gmail.com

Previous research on strategic decision making generally assumes that correct use of strategic frameworks (such as SWOT) leads to optimal decision making. In contrast, this study argues that as decision makers use strategic frameworks strictly, they tend to make myopic decisions that other people easily come up with, due to following mechanisms. First, most of existing strategic frameworks require decision makers to consider multiple strategic variables (such as company's strengths, cultures, and external environments) simultaneously to design strategies. However, due to bounded rationality of a decision maker, it prevents them from finding distant strategic opportunities or threats, which other people do not find. Second, strategic frameworks fix decision makers' focus. Therefore, decision makers who use same strategic frameworks in similar situations tend to come up with similar strategies. In order to confirm the hypothesis, this study conducts an experiment using a decision-making case. This research implicates that in the case that decision makers do not use strategic frameworks, they tend to make novel but ineffective strategies because they are likely to overlook important strategic factors. In addition, when decision makers use strategic frameworks strictly, they tend to come up with effective but not novel strategies. Finally, this study implicates that when decision makers refer to strategic frameworks moderately, they tend to make effective and novel strategies, compared to other groups.

■ TC15

Fertitta Hall, 331, 3rd Floor

CRM: Customer Lifetime Value I

Contributed Session

Chair: Nhat Quang Le, Norwegian School of Economics, Helleveien 30, Bergen, 5045, Norway, nhat.le@nhh.no

1 - A Generalized Customer Lifetime Value Framework for the Health and Fitness Industry

Angeliki Christodoulopoulou, Georgia State University, 3348 Peachtree Road NE, Tower Place 200, Atlanta, GA, 30326, United States, achristodoulopoulou1@gsu.edu, V. Kumar

The increasing importance being placed on fitness and health by our society has culminated to a thriving fitness industry. Although health and fitness clubs are experiencing growth, they are still faced with problems in customer retention, similar to any other business. Our research aims to improve customer retention in this industry by employing a Customer Lifetime Value (CLV) approach. Complexities arise due to an interesting mixed-contractual relationship setting where the purchases of each customer may be contractual (e.g. memberships), non-contractual (e.g. standalone purchases), or both, and the sequence of these purchases may follow any pattern. While prior research on purely contractual and purely non-contractual relationships has been abundant, it does not address situations where both purchase elements may occur simultaneously or sequentially. To accommodate this dual dependency, we develop a generalized CLV framework that handles the complexities of this unique relationship setting. Our model incorporates the dependency between the two purchase elements and accounts for heterogeneity and endogeneity concerns. It is tested using rich panel data of customer transactions and usage behavior obtained over a three-year period from a variety of fitness studios. This comprehensive framework is general enough that it can be modified to include a one-way dependency between contractual and non-contractual as well as purely contractual or non-contractual scenarios.

2 - Extending the Customer Lifecycle: Optimal Resource Allocation Throughout the Customer Journey

Agata Leszkiewicz, Georgia State University, 3348 Peactree Road NE, Tower Place 200, Suite 204, CEBCM, Atlanta, GA, 30326, United States, aleszkiewicz@gsu.edu, V. Kumar, Angeliki Christodoulopoulou

In customer relationship management, the customer lifecycle traditionally consists of customer acquisition, customer retention, and customer churn. The link between customer acquisition, customer retention, and firm profitability has been explored in depth, insofar as churn reduction has become one of the top priorities for firms. However, despite the best retention efforts, some customers still churn, and recent developments show that customer reacquisition can lead to a profitable second lifetime. However, in empirical research this profitable "post-churn" relationship with the customer has only been studied independently, and is yet to be connected to the remainder of the lifecycle. This study offers a comprehensive framework for the extended customer lifecycle, modeling a customer's entire relationship with the firm: from the initial contact with prospects, through acquisition, retention, churn, and subsequent reacquisition(s) and lifetime(s). To this end, we develop a multivariate duration model jointly estimating the length of all stages of the customer lifecycle using individual-level subscription data. We also examine the customer value over subsequent lifetimes to compare acquisition and reacquisition efforts in terms of both feasibility and costs. The contributions of this paper are manifold. First, it incorporates customers' "post-churn" relationship with the firm to the existing and dominant customer lifecycle framework. Second, it accounts for the duration dependence between customers' successive inactivity and activity periods. Finally, it tracks customer value in different stages of the lifecycle, as well as profitability of the entire relationship, which has substantive implications for optimal resource allocation decisions.

3 - Finding the Right Balance for CRM Activities Between New and Reacquired Customers

Christian Schlereth, WHU - Otto Beisheim School of Management, Burgplatz 2, Vallendar, 56179, Germany, christian.schlereth@whu.edu, Josephine Sueptitz, Christina Hofmann-Stölting

Subscriptions have become the monetization strategy of choice for an increasing number of services. Recently, researchers and practitioners have put ex-customer winback on their agenda, i.e., the reinitiation of the relationship with customers, who have lapsed or defected from the firm. Our research complements this stream of research, by proposing a conceptual prioritization framework that enable firms to identify the right balance of efforts for CRM activities between reacquired and new customers. Using empirical data of several hundred thousand customers from a freemium subscription service spanning more than seven years in conjunction with an accelerated failure time model, we demonstrate the use of our conceptual prioritization framework. In particular, our preliminary results outline the possible contradiction that reacquired customers stay longer compared to their previous life (up to 343%), but that they stay shorter compared to new customers (about -10%). We outline implications of this contradiction for the right balance of efforts for CRM activities. We also provide a first in-depth analysis of customer value of digital freemium subscription businesses unwrapping the data potential of the full customer history even in times of subscription inactivity.

4 - The Dynamic Relationships Between Marketing Communication, Customer Commitment, and Customer Spending: A Study on Donation Behavior

Nhat Quang Le, PhD Research Scholar, Norwegian School of Economics, Helleveien 30, Bergen, 5045, Norway, nhat.le@nhh.no, Bram Foubert, Barbara Briers, Kathleen Cleeren

In an attempt to guarantee more stable flows of revenue, firms often encourage customers to migrate from a purely transactional relationship to a formal commitment. For example, museums persuade occasional visitors to accept an annual membership and mobile communication companies try to convert prepaid connections into long-term contracts. Surprisingly, little research to date has addressed the question whether and to what extent a company's communication strategy - in particular direct marketing, advertising, and publicity - can stimulate customers' migration to a more structural relationship with the firm. At the same time, an equally important question is whether the formal relationship with the company affects the customer's subsequent responsiveness to communication efforts. Our study is the first to address these issues simultaneously by investigating 1) whether marketing communication (i.e., direct marketing, advertising, and publicity) can lift customers to a higher level of commitment, and 2) whether the impact of these communication channels in turn depends on customers' level of commitment. We focus on the charity sector, where the studied questions are particularly important: charity organizations typically try to convert ad-hoc donors into regular contributors making fixed periodic payments, but at the same time heavily rely on marketing communication to solicit incremental ad-hoc donations from these committed donors. Using data from a human-rights organization, we model donors' monthly decisions 1) whether and how much to donate spontaneously (i.e., without structural commitment) and 2) whether to become a structural donor, and if so, how much to donate periodically. We examine how these decisions are affected by direct marketing, advertising, and publicity and how the impact of these communication channels on the donor's spontaneous donation decisions is moderated by the characteristics of the donor's structural commitment (if any).

■ TC16

Fertitta Hall, 414, 4th Floor

Advertising Display Ads I

Contributed Session

Chair: Lara Lobschat, University of Groningen, Nettelbosje 2, Groningen, 9747AE, Netherlands, l.lobschat@rug.nl

1 - Spillover Effect of Online Display Advertising: Brand Portfolio and Attribution Implications

Lin Boldt, Assistant Professor, Clark University, 950 Main Street, Worcester, MA, 01610, United States, lboldt@clarku.edu, Neeraj Arora

Advertising could not only benefit the products being advertised, but also invoke memories of the associated attributes and increase demand for the associated products, brands or competitors. Extant literature has found evidence of advertising spillovers on the competitors (Sahni 2016; Lewis and Nguyen 2015; Liu, Steenburgh and Gupta 2015; Shapiro 2015; Anderson and Simester 2013), on products from non-advertising firms that are consumed as a bundle with the product being advertised (Liu, Liu and Chintagunta 2016), on advertising firm's other products with the same brand (Erdem and Sun 2002), and on advertising firm's other brands (Balachander and Ghose 2003). For a firm with a portfolio of brands targeting at different quality tiers in the market, it is tricky to decide which brand(s) to advertise in order to maximize the return on advertising for the firm's brand portfolio. Launching advertising on a brand might trigger consumer response on the brand itself, on advertising firm's other brands, on competitor's brands in the same quality tier, and on the firm's or its competitor's brands sharing similar features to the brand being advertised. We disentangle these different advertising spillover effects using a panel data on users' exposure to randomized display ads on media websites and their viewing behavior on E-commerce websites. Accurate characterization of such spillover effects is important for more precise attribution of display advertising effects. This research investigates the display advertising spillover effects from the perspective of brand portfolio management, providing firms with insights on collectively maximizing the return on advertising investment for all its brands.

2 - The Impact of Display Ad Viewability on Advertising Effectiveness

Christina Uhl, WU Vienna University of Economics and Business, Welthandelsplatz 1, Vienna, 1020, Austria, cuhl@wu.ac.at, Nadia Abou Nabout, Klaus Miller

Viewability, i.e., pixel percentage in view and exposure time of an online display ad, is a recently available feature in advertisers' campaign dashboards. This study evaluates the impact of ad viewability on advertising effectiveness and, therefore, provides guidance for practitioners to target the right viewability values for their campaign goals. We measure advertising effectiveness in terms of branding outcomes (brand awareness and attitudes towards the ad and brand) as well as behavioral consumer responses (clicks, visits to a website, and conversions). Consequently, we are able to provide insights into whether ad viewability needs to be higher for branding or behavioral outcomes to be achieved. In addition, we study how these effects are moderated by ad (e.g., creative, format) and website characteristics (e.g., genre, goal orientation). For instance, whether an ad is horizontal or vertical might have an effect on the relationship between ad viewability and advertising effectiveness. Likewise, a user's goal orientation on a specific website (i.e., whether a user is goal- or browsing-oriented when visiting a website) might also influence how strongly ad viewability affects advertising effectiveness. We answer these questions by drawing on a unique data set, collected in collaboration with a large European media planning agency between January and December 2016. To identify the causal effects of advertising, we will build our research on individual-level difference-in-differences, propensity score matching, and instrumental variables estimation. To the best of our knowledge, this is the first study to deal with the effect of pixel percentage in view on advertising effectiveness.

3 - Assessing the Effectiveness of Display Advertising on Ecommerce Websites

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Spending on digital advertising has risen each year even as TV and print advertising declines. Search, the adorable asset of the digital world, is becoming saturated as advertisers compete for position in the finite number of searches performed each month. It is digital advertising and the rising tide of social media that will be driving business in the future. Availability of personalized data footprint of consumers has increased the possibility of measurability and accountability in digital advertising. Using data analytic tools, our paper assesses the effectiveness of display advertising across a wide range of Ecommerce websites. We are measuring the click- thru rate based on the position of the advertisement on the webpage. The study is being done in several ways. 1) By doing a qualitative study using in-depth interviews, 2) By designing an experiment by creating a dummy website in the behavioral lab. C) Getting actual usage data from e-commerce companies. The research seeks to answer the following questions: What factors moderate/mediate the user's propensity to click through on a banner ad. We look at some specific dimensions: a) Congruence between the website brand and its values and the values/characteristics of the product being advertised.b) The element of surprise- if the banner is tailored to customer's interest and not directly relevant to the context of the page being viewed, does an element of surprise hamper/hinder click throughs. The study throws up interesting managerial implications for brand marketers, and can aid in both media planning/selection for website advertising, as well as elements considered in designing tailored advertising based on a user's digital footprint. Findings are triangulated using a multiplicity of data collection sources and methods.

4 - Making Online Ads Great Again – The Effects of Message Content and Ad Executional Elements on Display Ad Effectiveness Along the Purchase Funnel

Lara Lobschat, Assistant Professor, University of Groningen, Nettelbosje 2, Groningen, 9747AE, Netherlands, l.lobschat@rug.nl, Norris Ignatiius Bruce, Ram C Rao, Niels Holtrop

"You're more likely to be accepted into Harvard than click on an online display ad." In today's ad-cluttered online world, consumers are becoming less likely to respond to display ads, which also becomes apparent by a considerably low average CTR of below .1% and an increasing number of ad blockers. Hence, marketers are challenged to create well-designed online ads, which are also aligned with the ad-carrying website on which they are served to increase consumers' ad responsiveness. Therefore, in our research, we focus not on how much to advertise, i.e., in term of number of exposures, but how to advertise. More specifically, we aim to explore the effects of message content (e.g., incl. celebrities) and ad executional elements (e.g., ad format) on consumers' ad responses. Since advertising campaigns have multiple goals, we explore consumers' responses along the purchase funnel, i.e., engagement and conversion behavior. We model consumers' responses as a function of an accumulation of past ad exposures by invoking the goodwill advertising structure (cf. Nerlow and Arrow 1961). We then innovate by incorporating a two-dimensional goodwill specification for both the engagement and conversion stage in the purchase funnel. In modeling the effect of ad exposures, we incorporate the fact that consumers are not really taking in an ad unless it is present for a threshold duration. Specifically, we model the zero-inflation probability as a function of whether or not the exposure time exceeds a threshold that we estimate. Using a large individual-level data set provided by the Wharton Customer Analytics Initiative, our finding provide evidence for differential effects of message content and ad execution elements for display ads presented on social versus non-social websites in the engagement versus the conversion stage in the purchase funnel.

■ TC17

Fertitta Hall, 416, 4th Floor

Brand Performance

Contributed Session

Chair: Yupin Yang, Simon Fraser University, Beedie School of Business, 8888 University Drive, Burnaby, BC, V5A 1S6, Canada, yupin_yang@sfu.ca

1 - Brand Awareness and Perforformance in Kenyan Banks

Dr, Jane Omwenga, University Lecturer, Jomo Kenyatta University of Agriculture & Technology, Kenya, 62000, Nairobi, 00200, Kenya, janeomwenga@gmail.com

Normal 0 false false false EN-US X-NONE X-NONE /* Style Definitions */ table.MsoNormalTable {mso-style-name:"Table Normal"; mso-tstyle-rowband-size:0; mso-tstyle-colband-size:0; mso-style-noshow:yes; mso-style-priority:99; mso-style-parent:""; mso-padding-alt:0in 5.4pt 0in 5.4pt; mso-para-margin-top:0in; mso-para-margin-right:0in; mso-para-margin-bottom:8.0pt; mso-para-margin-left:0in; line-height:107%; mso-pagination:widow-orphan; font-size:11.0pt; font-family:"Calibri",sans-serif; mso-ascii-font-family:Calibri; mso-ascii-theme-font:minor-latin; mso-hansi-font-family:Calibri; mso-hansi-theme-font:minor-latin; mso-bidi-font-family:"Times New Roman"; mso-bidi-theme-font:minor-bidi;} The study sought to examine the relationship between brand awareness & market brand performance in the banking sector in Kenya. The study adopted a positivist, quantitative research design method. Data was collected from a selected sample of 347 consumers of financial services of 43 commercial banks in Kenya & 43 senior managers of these banks. Correlation analysis was conducted to determine the relationship between brand awareness variables & market brand performance. The study found out that brand recall & brand recognition are positively &significantly correlated, & that brand recall & overall brand awareness are significant predictors of market brand performance. Brand recognition had no significant correlation with market brand performance. These results suggest that marketing &brand managers should continue to develop &implement effective brand awareness campaigns in order to attract &enhance consumers' attention towards their brands to enhance market brand performance.

2 - The Impact of Brand Architecture Decisions on Portfolio Sales

Burcu Sezen, Doctoral Student, Ozyegin University, Cekmekoy Campus, Istanbul, Turkey, burcu.sezen@ozu.edu.tr, Koen Pauwels, Berk Ataman

Decisions pertaining to the organization of products under brands within the company's portfolio are an important aspect of brand portfolio strategy with potentially serious top- and bottom-line implications. Despite the critical role brand architecture decisions play on profitability, there is little empirical evidence on how the strength of the link established among clusters of products within the company's portfolio impacts company performance. To advance our understanding in this domain, this paper scrutinizes the effect of different brand architecture strategies (master brand with sub-brands vs stand-alone brand strategy) in moderating the impact of marketing actions (price promotion, feature, display, and new product introduction) on total portfolio sales. Using insights from categorization theory, the authors develop hypotheses as to whether and when a certain marketing action is expected to generate greater total portfolio sales and how the differentiation level of products within the portfolio may interfere. The hypotheses are tested by means of a sales decomposition model, which traces demand redistribution in response to a focal brand's marketing actions among linked (master brand with sub-brands), unlinked (stand-alone), and other brands in the category. In the empirical application, the authors use the coffee category in the IRI Academic Data Set.

3 - Investigating Human Brand Value in Matching Equilibrium

Yupin Yang, Associate Professor, Simon Fraser University, Beedie School of Business, 8888 University Drive, Burnaby, BC, V5A 1S6, Canada, yupin_yang@sfu.ca, Liyuan Wei

Many business relationships (e.g., manufacturer-supplier, investor-entrepreneur, and movie-director) are an outcome of a matching process between two or more parties. As the decision makers, human brands involved in the process greatly influence the matching outcome. This paper empirically investigates how human brand value in the dimensions of its intrinsic brand cues (e.g., performance and experience) and social embeddedness (e.g., past collaborative ties) impacts a matching equilibrium. Applying a two-sided matching model to a dataset containing 4,807 feature films released in the U.S. between 1990 and 2010, we find a positive contribution of social embeddedness to matching and assortative matching between human brands' performance. Counterfactual simulations are conducted to examine the interactions between social embeddedness and intrinsic brand cues. Our counterfactual results suggest that social embeddedness makes it harder for the movies with higher budget to match with director brands with more experiences and higher performance. More generally, the results demonstrates that the different dimensions of human brands may interact with each other and impact the matching equilibrium.

■ TC18

Fertitta Hall, 417, 4th Floor

Consumer Behavior & Loyalty

Contributed Session

Chair: Chu-Hsuan Tsao, self, 7F., No.249, Fulin Rd., Shilin, Taipei, 11145, Taiwan, chushan14@gmail.com

1 - Captive vs. Non-captive Customers: Post-purchase Behavior and Drivers of Satisfaction

Biswajita Parida, Doctoral Student, Indian Institute of Management Ahmedabad, New campus, Vastrapur, Ahmedabad, Gujarat, Room 28, Dorm 28,, Ahmedabad, 380015, India, biswajitap@iima.ac.in

In both online & offline markets consumers have varied choices in terms of quantity, quality, price & the providers of goods & services.Companies invest a lot of money, time & workforce in creating strategies to sway customer loyalty, retention & satisfaction. But if some customers are retained for a longer period of time either because of contract or nature of product or service they are known as captive or lock-in customers. To an extent, satisfied customers are believed to be the quality indicators for organizations, hence it is essential to understand whether the factors that lead to customer satisfaction is different for captive and non-captive customer groups. This study aims to find the difference in the post-purchase behavior of captive vs. non-captive customers & the drivers of satisfaction for both the customer groups. This study reports that customers' post purchase behavior is influenced by factors like lock-in period, sincerity of the service provider, availability of other products or service providers.

2 - Asymmetrical Learning Across Categories for Consumers New to the Market

Xing Fang, PhD student, Purdue University, West Lafayette, IN, United States, lelandfang@outlook.com

The article empirically studies the asymmetrically learning process by which consumers' quality perception of a brand in a category are asymmetrically affected by their experience with the same brand in a related category due to temporal difference of brand exposure. Instead of focus on matured product category like most previous research, we study how the brand quality perceptions across different categories are formed for consumers new to the market with limited brand exposure. The model is estimated on a unique data for baby food and baby formula, in which a subset of brands share the same brand name. The fact that babies consume baby formula first before their digestion system are developed enough for baby food allows us to better study how the brand perceptions evolve across categories in the early stage. We find that the baby formula experience, which comes first, has a larger impact on the baby food purchase than the impact of baby food on baby formula purchase. Our finding could help practitioners maximized the benefit of umbrella branding by focusing more on the pivot category.

3 - Perceived Cost of Payment using Cash and Points

Hiromichi Nakagawa, Nakamura-Gakuen University, 5-7-1, Befu, Jonan-ku, Fukuoka, 814-0198, Japan, hironaka@nakamura-u.ac.jp

When do consumers decide to use the points they have accumulated in loyalty programs for making purchases? A hypothesis was developed, which stated that the major determinant of using points is the number of points that customers possess. Experiments were conducted on the use of points at electronic retail stores and grocery stores to examine the validity of this hypothesis. The results indicated that the number of points that customers possess affected their intention to use the points, the choice of payment method, and perceived cost of payment. Different from findings of previous studies, the value of the payment was not a major factor in making these decisions. These results suggest that asking customers with a few accumulated points to use these points might increase the perceived cost of a payment.

4 - Transactional or Relational Satisfaction Leading to Customer Loyalty -A B to B Case

Chu-Hsuan Tsao, National Chung Hsing University, Taichung, Taiwan, chushan14@gmail.com, Ming-Chih Tsai, Jiana Fu Wang

The idea of a transactional and relational continuum arose in theories and illuminated the importance of partnership. However, significant debates still focused on which construct can better serve as a predictor for customer future intention. Besides, relational construct may possibly complement transactional one for customer loyalty. However, the empirical evidence is hardly found and the theory is insufficiently advanced in B2B market while relational activity is intensively invested more in business customers than in consumers. Thus, this study develops a conceptual model comparing the effects of transactional and relational satisfactions for business customer loyalty, classified into behavioral loyalty and attitudinal loyalty, as well as calibrating the moderating effect of relational satisfaction on transactional satisfactions. Taiwanese manufacturers choosing air express service is chosen as empirical study. Based largely on literatures and focus groups held, 11 measurements representing transactional service quality and 12 relational strategies often used in industry are identified and the satisfactions are measured using 5 Likert scale. Using personal interview, 168 valid samples are collected. Factor analysis is applied to consolidate the measurements - three factors each to represent transactional and relational satisfaction. Thereby, regression analysis is carried out to calibrate the direct and moderating effects of transactional and relational variables on behavioral loyalty and attitudinal loyalty. The results are compared to the extant consumer studies and contribute to literatures. Empirical evidences are investigated to inspire

■ TC19

Popovich Hall, 300, 3rd Floor

JMR AE - (3:00- 3:45pm)

Thursday, 3:30PM - 5:00PM

■ TD01

Fertitta Hall, 101, Lower Level

Channels: Competition I

Contributed Session

Chair: Qingyuan Zhu, University of Science and Technology of China, 1952 S Orchard Street, Urbana, IL, 61801-6196, United States, zqyustc@mail.ustc.edu.cn

1 - Another View of Bargaining Power in the Distribution Channel: Incorporating Retailer Stackelberg

Yuichiro Kanazawa, Professor of Statistics, International Christian University, ERB-330 3-10-2 Osawa, Mitaka, Tokyo, 181-8585, Japan, yukanazawa@icu.ac.jp, Tomohito Kamai

Previous research, such as Misra and Mohanty (2008) and Draganska et al. (2010), investigating channel structure of the consumer packaged good market formulates wholesale prices as the outcome of the Nash bargaining game between a manufacturer and a retailer. However, the bargaining solution over wholesale prices in those papers treats retail prices as fixed. This assumption needs to be examined when modeling the purported power shift from manufacturers to retailers because, under this assumption, manufacturers could raise wholesale prices without decreasing its market shares. In this paper, we build on the empirical approach of Misra and Mohanty (2008) and Draganska et al. (2010), but relax the fixed price assumption to incorporae the retailer Stackelberg game into the Nash bargaining framework, in the spirit of Kamai and Kanazawa (Cogent Economics & Finance, 4(1), 2016). Empirical study using Japanese canned tuna data found that our proposal model with retailer Stackelberg formulation fitted our data better, and the retailer power is found to be much stronger than the previous approach would suggest. Interestingly, we also found that some manufacturers are actually better off when a retailer has power implying that the presence of the strong retailer may reduce the double marginalization problem, a finding consistent with the theory of Dukes et al. (2006). Though the result is limited to a specific product category in a specific market, our proposed model provides new foundation on issues of power split in distribution channel.

2 - Catching Friendly Fire: How Retailer Characteristics Influence the Impact of Manufacturer Direct-to-consumer Sales on Retail Sales

Michiel Van Crombrugge, KU Leuven, Korte Nieuwstraat 33, Antwerp, 2000, Belgium, michiel.vancrombrugge@kuleuven.be, Els Breugelmans, Kathleen Cleeren

Due to the expanding role of multichannel sales, manufacturers have developed an increasing interest in online sales points of their own, known as direct-to-consumer channels. This form of friendly fire, where manufacturers offer consumers the possibility to skip retail channels and purchase directly from the manufacturer, naturally creates tension between these partners-turned-competitors. While manufacturers emphasize increases in customer insight and brand awareness, retailers have been equally vocal in expressing their concerns towards the possibility of cannibalization. Both claims are however unexplored with no consensus on which assumption holds true. In this study, we investigate the impact of online direct-to-consumer sales on retail sales and study how the impact varies across retailer characteristics. Previous research on the topic was mainly based on game-theoretic work and survey data. Yet, this question of synergy or cannibalization may demand a more factual approach, where real sales data are used. While there exists a large body of work on standard channel competition, where the retailer owns additional channels, the findings from this literature will not necessarily transfer to the direct-to-consumer setting. To our knowledge, we are the first to study the explicit relationship between direct-to-consumer sales and retail sales. Using unique data from a top toy manufacturer's direct-to-consumer and retail channels, we first estimate a per-retailer VAR model to study the impact of direct-to-consumer sales on retailer sales and derive Generalized Impulse Response Functions to capture the over-time effect. In a second-stage regression, we link the effects of direct-to-consumer performance on retailer performance to different retailer features to quantify the moderating impact. Early results show that retailer cannibalization mostly occurs as an immediate response, while synergetic effects only emerge over the dust-settling period. Still, we find important differences between retailers.

3 - Up Against the Organized Retail the Marketing Mix Strategies of the Incumbent Small Stores Against Organized Retail Entry

Prashant Mishra, Professor, Indian Institute of Management-Calcutta, B 206 IIM Calcutta Campus, PO Joka D H Road, Kolkata, 700104, India, prashant@iimcal.ac.in, Tinu Jain

Retailing is undergoing an unprecedented change in developing economies. In India, the retail arena today is very unique. Organized retailing has started making its presence felt in the country and it is believed that the cogs are slowly but surely turning in the organized retailing sector. Entry of Modern Format Stores (MFS) has not only considerably impacted the economy, employment and wage level, but also the sales of Mom-n-Pop stores. The latter is a negative effect and in some cases has also led to the closure of the stores. The research uses unique set of real time weekly sales data to check the impact on the independent mom-n-pop stoes. Streaming down to the research objectives, the study 1) Confirms if there is significant change in the sales outcome with the entry of organized retailing to the incumbent retailers in the vicinity of the big player, and 2) Explore the changes in pricing, promotion and product assortment for the retailers affected significantly by the new entry, and 3) The research identifies if the marketing mix changes help the retailer to seize the sales loss, i.e., the overall impact of the marketing mix strategies on the sales of the incumbent retailers.

4 - Domestic or Low-cost Locations: The Impacts of Consumers' Trade Fairness Concern on Firms' Sourcing Strategy

Qingyuan Zhu, University of Science and Technology of China, 96 Jin Zhai road, Hefei, China, Hefei, 61801-6196, China, zqyustc@mail.ustc.edu.cn, Jiong Sun, Jie Wu, Yunchuan Liu

Today's consumers do not want their products to be unfairly traded, mainly with those suppliers in developing countries. Suppliers' squeezed profits are among important factors that result in their overly harsh or dangerous working conditions, underage workers, below-standard wages, etc. We study how consumers' transaction inequity concern affects firms' sourcing decision: a low-cost location with weak employee protection vs. a high-cost location with strong employee protection. Intuitively, with sufficiently high cost differences or sufficiently low consumer inequity aversion, firms prefer sourcing from low-cost suppliers. However, with moderate cost differences or moderate consumer inequity aversion, the likelihood of sourcing from low-cost suppliers decreases with the cost difference and increases with the degree of consumer inequity aversion. In addition, we show that consumer surplus is non-monotonical in the degree of inequity aversion.

■ TD02

Fertitta Hall, 102, Lower Level

Online Retailing I

Contributed Session

Chair: Shijie Lu, University of North Carolina, 100 Village Circle Way, Durham, NC, 27713-6159, United States, Shijie_Lu@kenan-flagler.unc.edu

1 - Intervention Strategies to Recover Abandoned Online Shopping Carts

Yong Chin Tan, Doctoral Candidate, Singapore Management University, Singapore, Singapore, yc.tan.2014@smu.edu.sg, Sandeep R Chandukala, Srinivas Reddy

A pervasive challenge in online retail is shopping cart abandonment (i.e., customers adding items to their cart, but leaving without purchasing). Recent findings suggest that the cart abandonment rate is close to 70% (Baymard Institute 2016; Statista 2015), representing USD 4 trillion worth of lost opportunities. According to eMarketer (2016), 1 in 2 marketing professionals struggle with implementing strategies to recover abandoned carts. This research aims to help marketing managers design recovery interventions that are most appropriate to recapture lost sales from abandoned carts. We consider three different functions of recovery interventions (i.e., to incentivise, inform, and remind) across four stages in the recovery process (i.e., revisits to the online retailer, conversion to purchase, value purchased, and value net of product returns). Specifically, our research addresses the following questions: i) Which type of interventions are more effective across different stages of the recovery process? ii) How does responsiveness to recovery interventions differ based on the nature of customers' relationship with the retailer (length, recency, depth etc.) and their browsing behaviour (browsing activity, duration etc.)? For our analysis, we assembled, from a leading online fashion retailer, a unique dataset from three different sources (i.e., cart activity, transaction history, and email history data) that are integrated at the customer level. Findings reveal that effectiveness of different types of recovery interventions vary along the stages of the recovery process, and emails sent within an hour from abandonment are most effective in recovering carts. In addition, responsiveness to recovery interventions also depends on customers' relational and browsing characteristics. Implications for the retailer's intervention and communication are explored.

2 - Curing the Curse of Choice: Smart Choice Sets Improve Decision Quality

Benedict G C Dellaert, professor, Erasmus University Rotterdam, Rotterdam, Netherlands, dellaert@ese.eur.nl, Tom Baker, Eric J Johnson

We propose Smart Choice Sets as a choice architecture to overcome consumer information overload in large choice sets. This choice architecture presents alternatives in a recommendation list that is sorted based on products' predicted attractiveness and partitioned in a small set of top recommended alternatives (the Smart Choice Set), with the option to click through to see the full list of alternatives. A Smart Choice Set improves consumers' choice outcomes by increasing the probability that they select one of the most attractive alternatives in the set and make a more balanced decision among the top alternatives. Results from two controlled survey-based choice experiments and a field study in the domain of health insurance show consistent impact on consumer choice. We formalize main drivers of optimal Smart Choice Set size. While both sorting and partitioning can help decision-makers make better choices, we also show that this result depends on the quality of the sorting. The quality of consumers' choices declines along with poorer quality of the sorting and partitioning can magnify this effect. We propose a practical classification of how Smart Choice Sets size depends on the quality of the recommendation sorting and the extent of consumer decision error in choosing from the list.

3 - Impact of Synergy Between Product Descriptions and Customer Impressions On Performance

Shilpa Somraj, University of Nebraska - Lincoln, 5801 otoe st, lincoln, NE, 68506, United States, shilpasomraj@gmail.com, Dinesh Gauri

E-Commerce websites, such as Amazon.com provide product descriptions, product ratings, customer reviews, and question-answer sections among other content. Extant academic as well as practitioner research has established that customers consider product reviews as vital decision-making components (Chevalier and Mayzlin, 2006; Tirunillai and Tellis 2014; WSJ 2016). Consequently, availability and presentation of product information in the pre-purchase stage has a direct impact on sales. However, a quantitative framework to map the association (synergy) between the producers' descriptions and customer impressions of a product does not currently exist. A product page as presented by the manufacturer or retailer describes product characteristics in the form of unstructured text, images, and videos (voice of the producer). The customers' impressions of the product are expressed in the form of product reviews, as well as question and answer interactions (voice of the customer). The central hypothesis of this research is that for a given product its market performance is directly proportional to synergy. To test this hypothesis, we propose to quantify synergy using Latent Dirichlet Allocation (LDA) Topic Models from the domain of text mining. We demonstrate the feasibility of this approach through text data mined from customer reviews, product descriptions, and question-answers for various products sold on Amazon.com.

4 - Price-based Prominence under Inventory Constraint

Shijie Lu, Assisant Professor of Marketing, University of North Carolina at Chapel Hill, 100 Village Circle Way, Apt 1425, Durham, NC, 27713-6159, United States, Shijie_Lu@kenan-flagler.unc.edu, Lin Liu, Haojun Yu

This paper studies a price-based prominence tool (i.e., buy-box) provided by online shopping platforms like Amazon Marketplace, and the role of sellers' inventory constraint in platform's provision decision. Buy-box allows a seller to make its product more prominent to consumers by charging low prices. Intuitively, buy-box seems to intensify the price competition among sellers, reduce the platform's profit, and benefits consumers. However, our findings challenge this intuition by showing that, when sellers are asymmetric in inventory constraints, a platform can benefit from the buy-box in equilibrium because of the lessened price competition: the seller without constraint might strategically raise the price to accelerate the depletion of its rival's inventory so as to exploit the monopoly benefit once the rival leaves the market, and this lessened competition encourages the rival who wins the buy-box to charge a higher price as well. In contrast, in symmetric cases in which both sellers are either with or without inventory constraints, providing the buy-box is never profitable to the platform. Furthermore, consumer surplus always decreases when the platform finds it profitable to provide the buy-box, suggesting that the price-based prominence tool actually harms rather than protects consumers. Finally, social welfare always increases when the buy-box is provided.

■ TD03

Fertitta Hall, 105, Lower Level

Panel on Digital Mobile Marketing Analytics

Invited Session

1 - Digital Mobile Marketing Analytics

Xueming Luo, Temple University, 701 S. West Street, Room 234, P.O. Box 19469, Arlington, TX, 76019, United States, luoxm@temple.edu

This panel discussion welcomes interested faculty and phd students to learn the burgeoning research opportunity in digital mobile big data marketing analytics and consumer behavior. As over 3.6 billion people worldwide are deeply engaged with digital devices, smartphones, and Internet-of-things technologies, marketers can send targeted ads and offers anywhere anytime. Marketing discipline now faces tremendous challenges and opportunities of coming up new theory and catching up or guiding industry practices in terms of marketing analytics and consumer insights.

2 - Panelist

Randolph E Bucklin, UCLA, Anderson School of Management, 110 Westwood Plaza, Los Angeles, CA, 90095, United States, randy.bucklin@anderson.ucla.edu

3 - Panelist

Anindya Ghose, New York University, Stern Sch of Bus 44 West 4th Street, IOMS Department KMC 8-94, New York, NY, 10012, United States, aghose@stern.nyu.edu

4 - Panelist

Xueming Luo, Temple University, 701 S. West Street, Room 234, P.O. Box 19469, Arlington, TX, 76019, United States, luoxm@temple.edu

5 - Panelist

Sridhar Narayanan, Stanford University, 655 Knight Way, Faculty Building East, E316, Stanford, CA, 94305, United States, sridhar.narayanan@stanford.edu

6 - Panelist

Dominique Mike Hannssens, UCLA, Los Angeles, CA, United States, dominique.hanssens@anderson.ucla.edu

■ TD04

Fertitta Hall, 125, Lower Level

Social Media & Social Influence

Contributed Session

Chair: Margherita Pagani, EMLyon Business School, 23 avenue Guy de Collongue CS40203, Ecully, 69134, France, pagani@em-lyon.com

1 - The Impact of Audience Size on Viewer Engagement in Live Streaming

Dai Yao, Assistant Professor of Marketing, National University of Singapore, 15 Kent Ridge Drive, Singapore, 119245, Singapore, dai.yao@nus.edu.sg, Xingyu Chen, Shijie Lu

Live streaming is steadily rising as a most important social platform that attracts billions of content generators and consumers. A novel function of live streaming is that viewers can send paid gifts to engage with broadcasters during a session, besides free engagement activities such as sending likes and chats. In this paper, we examine the impact of audience size on viewer participation, and viewers' free and paid engagement in live streaming. By running a field experiment on a popular live streaming app in China, we identify and establish an inverted-U shaped causal relationship between audience size and gifting behavior. This can be explained by two offsetting effects of audience size: a larger audience increases the value of image-related utility and therefore encourages gifting; a larger audience can also reduce an individual's incentive of gifting because of intensified competition for the broadcaster's attention. Furthermore, audience size is found to have only a negative effect on free engagement. This can be explained by the fact that free engagement activities usually do not contribute to self-image utility, which results in a dominance of negative competition effect of audience size. Finally, the treatment of expanding audience size is found to have a three-week-long carryover effect on post-treatment sessions.

2 - The Differential Effect of Social Reward Schemes on the Form of Contribution: Monetary Donation vs. Volunteer Work

Gil Peleg, Ben-Gurion University of the Negev, Beer Sheva, Israel, Gilpel@post.bgu.ac.il, Oded Lowengart, Daniel Shapira

Societies incentivize individuals to act prosocialy by rewarding their monetary donations and volunteer work. For most people, gaining social reward is important to reflect their prosocial identity, and hence is an important motivator for prosocial behavior. Social reward is granted not only for the economic value of the contribution but also for the benefactor's sacrifice involved in the prosocial activity. Therefore, the resulted contribution is not only determined by the ultimate goal to better with the beneficiary but is also due to the desire to exhibit self-sacrifice behavior. In order to gain more insight into these relationships, we developed an analytical economic model to analyze the benefactor's consideration trade-offs and choice given different social reward schemes. The model might explain why the choice of the form of contribution is not always in line with the benefactor relative advantage: For example, why people with low income may decide to donate money while others who have considerable monetary resources but scarce free time, choose to volunteer. Lab experiment that examines the benefactor's choices of different forms of contribution in light of different social reward schemes is used to examine the model assertions.

3 - I'll Have What She's Having: Identifying Social Influence in Household Mortgage Decisions

Avni Shah, Assistant Professor of Marketing, University of Toronto, 1265 Military Trail, Toronto, ON, M1C 1A4, Canada, avni.shah@utoronto.ca, W. Benedict McCartney

We find evidence that neighbors apply an important economic force on households' mortgage choices. We use household mortgage data, precisely geolocated real estate data, and a recently developed research design to identify the existence of social influence effects in three important household mortgage choices. We test for social influence by estimating the effect of hyperlocal block peers (i.e., neighbors living on the same block) over and above the effect of neighborhood peers (i.e., neighbors living on the same or adjacent blocks). Assuming that households can choose in which neighborhood to live but not on which specific block, block peers, conditional on neighborhood peers, are as if randomly assigned. We find that households are 2% to 5% more likely to choose a particular lender, 1.5% more likely to choose an adjustable rate mortgage (ARM), and 9.8% more likely to refinance if the share of their block-neighbors with that lender, with an ARM, or who have recently refinanced increases by ten percentage points, respectively. To provide further evidence for our hypothesis, we apply our research design to two groups: households moving to new neighborhoods and households who own but do not occupy second and third homes. We find that movers are not initially affected by their hyperlocal peers, but become so over time. Non-occupant owners' decisions about their second and third properties are never influenced by the households that live around the property but are influenced by the neighbors at their primary residence, even when their primary residence is miles away from their second or third home. Finally, we complement these empirical strategies in the lab by experimentally assigning peers and peer decisions in a variety of ways. We conclude that hyperlocal peers have an economically significant impact on how households make their own mortgage decisions.

4 - Privacy, Trusting Beliefs and Information Disclosure in Online Social Networks: A Three Market Empiirical Study

Margherita Pagani, Professor, EMLyon Business School, 23 Avenue Guy de Collongue CS40203, Ecully, 69134, France, pagani@em-lyon.com, Alessandro Ferrari

This study examines how privacy concerns affect information disclosure in online social networks across three influential markets, namely Europe, US and East Asia. The authors develop an integrative conceptual model on consumers' information disclosure in online social networks. The authors incorporate two privacy concerns dimensions, namely concerns towards organizational threats and concerns toward social threats and investigate how they differently affect the amount, honesty and conscious control of the information disclosed online and the mediating role of trusting beliefs about the OSN reliability, competence, benevolence and integrity on this relationships. The model is empirically tested with data (n=624) from Europe, US and East Asia. The findings illustrate several cross-market differences and similarities regarding the relationships between privacy concerns, trusting beliefs and information disclosure activity. Findings seem to confirm the privacy paradox (Norberg at al. 2007) which is the discrepancy between an individuals' intentions to protect their privacy and how they actually behave in the online marketplace, it's the relationship between individuals' intentions to disclose personal information and their actual personal information disclosure behaviors, which are often very different. What clearly emerged is the importance of "trust-marks" in the interaction between users and digital interfaces (Jensen et al. 2005). Research and managerial implications of these findings are discussed.

■ TD05

Fertitta Hall, 233, 2nd Floor

User Generated Content & LDA

Contributed Session

Chair: Shengli Hu, Cornell University, 1194W 36th Place, Los Angeles, CA, 90007, United States, sh2264@cornell.edu

1 - Research on User Needs Mining Model Based on Online Automobile Reviews

Deyong Kong, Tongji University, No. 1239, Siping Road, Shanghai, 200092, China, 1964941531@qq.com, Xin Zheng, Zhenhuan Shao

User needs mining is an important prerequisite for the product quality improvement, online reviews truly reflect whether users are satisfied with the product. This paper built a user needs mining model aiming at online reviews. Firstly, this paper gets the reviews data about some product, after pretreatment, subjective sentences from the reviews text are extracted. With domain ontology customized and dependency syntax analysis, this paper determines the product attributes and its corresponding subjective sentences and classify them to positive and negative ones by product themes characteristics. Then, using LDA model, this paper clusters consumer reviews to show evaluation vector and emotion of the theme property that users focus on. At the same time, this paper carries out KANO conversion and KANO evaluation with the classification results using KANO model. Lastly, this paper analyzes the evaluation results, and gets users' need-satisfaction fettle about each theme characteristic of the product, based on this, some improvement advice on the product is given. Taking the comments on the auto forum as an example, this paper verifies the feasibility of model.

2 - Joint Topic Models for Integrating Customer Information

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Many online retailers have been collecting a wide variety of customer data in their business activities. Not only customer purchase data but also customer survey data, e.g. customers' lifestyles, opinions and interests, are collected in those process. Retailers have an interest in methods for gaining customer insights by integrating and analyzing those data. The author proposes latent variable models which are able to obtain profiles of customers by analyzing the customer purchase data and customer survey data at the same time. The proposed approaches are based on a Joint Topic Model, which is the extension of the LDA (Latent Dirichlet Allocation) model and able to handle different types of data. In the Joint Topic Model, latent topics are considered to be common topics between different types of data and serve to combine them. With applying the Joint Topic Model to the customer purchase data and the customer survey data, we will obtain the joint topics which simultaneously represent the underlying motivation of purchasing and the lifestyle of customers. Additionally, the advantage of using LDA-type purchase model for customer data is the scalability for high-dimensional data. The proposed approaches are applicable to multidimensional big data. In an empirical analysis, proposed models are applied to the data provided by an online retailer. These data consist of customer purchase data and customer survey data. The author compares the fit of several models and discusses the results.

3 - Exploring Institutional Dynamic of Consumption Practices using a Quantitative Content Analysis

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This study aims at exploring the market emergence process to propose strategies of market entry and penetration. Hence, we attempt to draw market dynamics using neo-institutional theory. In this theory, institutions refer to market dynamics, which can be defined as the rules of the game that shape and dictate behaviors and actions within markets (DiMaggio and Powell 1983). The theory points that a cognitive pillar, a normative pillar, and a regulatory pillar support institutions. The first pillar refers to common conceptions that constitute the nature of social reality (Scott 2001). The second influences behaviors by defining what is appropriate or expected in a given social situation (Wick 2001). The third refers to the authority of certain actors, including the state and regulators, to formally compel behaviors with laws and rules (Humphreys et al. 2016). Moreover, "megamarketing" introduced by Kotler (1986) has been extended by neo-institutional theory, and it is increasingly receiving significant attention from researchers. It is the strategically coordinated application of economic, psychological, political, and public relations skills to gain the cooperation of a number of parties in order to enter and /or operate in a given market. Many previous works have addressed market dynamics through the concept of megamarketing extended by neo-institutional theory. However, few works examine such phenomena using a quantitative approach. In this study, we attempt to understand market dynamics by the topic model using latent dirichlet allocation.

4 - Information Design and Audience Experience

Shengli Hu, Cornell University, Ithaca, CA, 90007, United States, sh2264@cornell.edu, Shawn Mankad

We empirically test a consumer demand model for non-instrumental information goods proposed in Ely, Frankel and Kamenica (2015) that describes how suspense and surprise (and possibly other aspects of belief dynamics) shape the experienced utility function of consumers. Drawing on the concept of clause Transitivity in computational linguistics, emotion analysis methods in natural language processing, we introduce new empirical measures of narratives with respect to suspense and surprise. We show that our automatic method of measuring suspense and surprise in scripts agrees with human annotated labels of suspense and surprise to much extent. Using screenwriter guild strikes, regional political and natural events, writers' demographics and writers' other writing samples as instrumental variables, We document empirical evidences in a sample of 1088 movie scripts and corresponding consumer data in support of consumer preferences for surprise.

■ TD06

Fertitta Hall, 236, 2nd Floor

Innovation and Crowdsourcing I

General Session

Chair: Nuno Camacho, Erasmus University-Rotterdam, Erasmus School of Economics (Woodstein), Burgmeester Oudlaan 50, Rotterdam, 3062 PA, Netherlands, camacho@ese.eur.nl

Co-Chair: Stefan Stremersch, Erasmus University, Dept of Marketing & Organization (H15-02), Burg Oudlaan 50, Rotterdam, 3062 PA, Netherlands, stremersch@ese.eur.nl

1 - Beating the Going-Public Effect in Firm Innovation

Simone Wies, Goethe University Frankfurt,, Frankfurt, Germany, wies@safe.uni-frankfurt.de, Christine Moorman

Previous research shows that after going public, firms reduce their introduction of breakthrough innovations. However, not all firms succumb to this "going-public" effect in firm innovation. Analyzing the innovation patterns of IPO firms in the CPG sector, we document that a third of firms maintain or beat their levels of breakthrough innovations after going public. We theorize and find that firms in this group are more likely to have stronger pre-IPO breakthrough innovation experience. In addition, we theorize that the diversity of the firm's and its partners' product market, geographic market, and human capital market experiences serve as innovation rigidity buffers that help the firm remain innovative post-IPO. Results indicate support for a number of these buffers. Our findings challenge the view that the stock market, per se, causes firms to behave in a short-term manner and offer a positive view of how firms can maintain their innovativeness after going public.

2 - The View from the Top: How Top Management Impacts Firms' Innovation Output

Alina Sorescu, Mays Business School, Texas A&M University, College Station, TX, United States, asorescu@tamu.edu, Nooshin L Warren, Shuba Srinivasan

The extent to which CEOs have an impact of the innovation output of their firms is not well understood. In this research, we use a unique dataset of over 600 new CEO appointments to examine changes in innovation output brought about by new executive leadership. We focus on the newly appointed CEOs' experience in marketing and/or R&D, on the size of their network, and on their origin (appointed from inside vs. outside of the firm) as main determinants of new patent applications and new product announcements issued by the firm. We also examine how investors value innovation contingent upon these CEO characteristics, and how innovation impacts performance after a CEO change. Our findings shed light on the important role that marketing expertise can play in decisions made in the C-suite.

3 - Incentives, Participation, and Design Quality in Crowdsourcing Contests: A Joint Selection-Treatment Model of a Quasi-Experimental Field Study

Johann Füller, University of Innsbruck, Innsbruck, CA, United States, johann.fueller@uibk.ac.at, Gerard J Tellis, Christopher Riedl, Katja Hutter

Research is scarce on the effective design of incentives to motivate ideators in crowdsourcing contests. The authors develop theory that predicts superior performance of intrinsically motivated ideators relative to those extrinsically motivated. They test the theory with a quasi-experimental field study in a crowdsourcing contest in which 1,205 ideators could self-select their preferred extrinsic incentive from a cash prize and four non-cash prizes or remain indifferent. The authors analyze the data using a Joint Selection-Treatment Model to separate the self-selection effect from the treatment effect on idea quality. First, significant selection effects prevail with ideators who are indifferent to extrinsic incentives producing ideas of higher quality (15%) than those who choose an incentive. Second, controlling for the selection effect, significant positive treatment effects exist where allowing ideators to remain indifferent improves their performance by 16%. Third, ideators who choose a cash prize perform significantly worse than similar ideators who choose a non-cash prize (32%). However, no significant treatment effect for cash prizes. Fourth, demographics affect incentive preferences but not idea quality.

4 - The Role of Scenario Presentation in the Selection of Innovation Ideas

Nuno Camacho, Eramus University, Burgemeester Oudlaan 50, Rotterdam, 3062 PA, Netherlands, camacho@few.eru.nl, Stefan Stremersch, Wim Van der Stede, Vardan Avagyan

Innovation decision-makers inevitably must evaluate various innovation ideas in order to select which ones to fund. The adoption of scenario presentation for idea selection decisions is mixed and its use is heavily debated among practitioners. Scenarios represent plausible futures for the outcomes of innovation projects (i.e., a normal-case, a worst-case and a best-case scenario). Yet, the role of scenario presentation in idea selection is not well understood. The present study develops a conceptual framework and empirically tests the effects of scenario presentation on the perceived credibility, the perceived risk, and the likelihood that an innovation idea is funded. The authors do so using a large-scale field experiment among 745 managers. They find that scenario presentation increases the perceived credibility and decreases the perceived risk of transformational innovation projects more than of core innovation projects. Scenario presentation is especially beneficial when decision-makers are low on relative positive focus (i.e., are predisposed to elaborate more on negative rather than positive outcomes of their decisions). The authors discuss implications of these findings for marketing and innovation managers.

■ TD07

Fertitta Hall, 239, 2nd Floor

Sharing of Digital Photos in Social Media and Consumer's Lives

General Session

Chair: Kristin Diehl, University of Southern California, Marshal School of Business, Los Angeles, CA, 90089, United States, kdiehl@marshall.usc.edu

1 - Photos for the Future: Effects on Memory for Experiences

Kristin Diehl, University of Southern California, Marshall School of Business, Marketing Department, Los Angeles, CA, 90089, United States, kdiehl@marshall.usc.edu

While memories can be a source of enjoyment, people are aware that memory fades and that they may forget aspects of an experience. Consequently, people try to counteract memory loss either by recording significant parts of the experience (e.g., filming videos, writing diaries) or by investing in tangible memory cues (e.g., souvenirs) that they believe will allow them to relive the experience later. We examine how taking photos affects consumers' memory for experiences even without revisiting these photos. We also explore whether people correctly anticipate which photos allow them to best relive past experiences. We find that, without revisiting photos, photo-takers recognize more of what they saw and less of what they heard, compared to those who cannot take photographs. Further, participants with a camera have better recognition of objects they photograph, compared to objects they do not photograph. Importantly, participants who use a camera during their experience recognize even un-photographed objects better than participants without a camera. Further, when revisiting photos in order to relive experiences, consumers rely on the photos they created. Hence they must a priori decide which memory cues to invest in for the future. We examine the extent to which photos of different type (e.g. of the surroundings versus of people they shared the experience with) help people relive an experience. We find that photos that include the people they shared the experience with allow people to better relive the experience, however, that they do not always take sufficient number of such photos.

2 - Temporary Sharing, Enduring Impressions
Leslie John, Harvard University, Cambridge, MA, United States, ljohn@hbs.edu

It has been argued that the internet means "the end of forgetting" (Rosen, 2010). Digital disclosures can come back to haunt, making it challenging for people to manage the impressions they make upon others. In response, new technologies such as Snapchat place expiration dates on digital disclosures, making it ephemeral. A series of studies in which participants take and share "selfies" (i.e. photos of themselves) suggest that temporary sharing is not the panacea it may seem to be. This is because the impressions that indiscreet disclosures make upon others persist beyond their (temporary) lifespan - an issue that is compounded by the fact that temporary sharing technologies induce people to be more risqué in their disclosures (Experiments 1-3). In turn, sending an indiscreet selfie - regardless of whether the platform on which one sends it is temporary or permanent - makes a person come across as having bad judgment (Experiment 4) - a pattern that is not attenuated by having observers first take and temporarily share their own selfies prior to evaluating the target person who has also done so (Experiment 5). Although deciding to send an indiscreet photo via a temporary, as opposed to permanent, platform arguably reflects good judgment, ironically, doing so gives the opposite impression. Temporary sharing may bring back forgetting, but not without introducing new (self-presentational) challenges.

3 - How Audience Engagement (in the Form of Likes vs. Comments) on Instagram Posts Influences Subsequent Self-Disclosure
Yuheng Hu, University of Illinois-Chicago, 601 S Morgan Street, Chicago, IL, 60607, United States, yuhenghu@gmail.com, David Gal

Audience engagement is a prominent feature of social media. We examine how different forms of audience engagement, namely likes and comments, influence the degree to which consumers disclose private information about themselves on social media. We operationalize our investigation through analysis of 187 million photos posted by almost 1 million users of the social media platform Instagram using the decision to disclose one's photo location as a proxy for self-disclosure more broadly. We find that the receipt of likes on a photo is associated with increased subsequent disclosure whereas the receipt of comments on a photo is associated with decreased subsequent disclosure. There is also an interaction effect, such that the effect of both likes and comments is enhanced when the location of the prior photo was disclosed (vs. not). We attribute this result to the logic that likes are positively reinforcing; conversely, comments can be perceived as a form of unwanted intimacy when received from those with which one has particularly weak ties. We provide support for this theorizing through a series of experiments. This research thus shows that the implications of user engagement on social media arise not merely from the valence or content of the engagement but through the construal of intimacy implied through the behavior.

■ TD08

Fertitta Hall, 240, 2nd Floor

Game Theory in Marketing II

General Session

Chair: T. Tony Ke, MIT, 100 Main St, E62-535, Cambridge, MA, 02142, United States, kete@mit.edu

1 - The Benefit of Collective Reputation
Aniko Oery, Yale School of Management, 165 Whitney Avenue, New Haven, CT, 06520, United States, aniko.oery@yale.edu, Zvika Neeman, Jungju Yu

We study a model of collective reputation and use it to analyze the benefit of collective brands. Consumers form beliefs about the quality of an experience good that is produced by one firm that is part of a collective brand. Consumers' limited ability to distinguish among firms in the collective and to monitor firms' investment decisions creates incentives to free-ride on other firms' investment efforts. Nevertheless, we show that collective brands induce stronger incentives to invest in quality than individual brands under two types of circumstances: if the main concern is with quality control and the baseline reputation of the collective is low, or if the main concern is with the acquisition of specialized knowledge and the baseline reputation of the collective is high. We also contrast the socially optimal information structure with the profit maximizing choice of branding if branding is endogenous. Our results can be applied to country-of-origin, agricultural appellation, and other collective brands.

2 - The Social Value of Brands and Product Line Design
Kangkang Wang, University of Alberta, Edmonton, AB, H3A 1P2, Canada, ka8@ualberta.ca, Michelle Y Lu

The social value of a brand stems from two sources: (1) the signaling value of belonging to a higher social rank; (2) the communication value of partnering with similar identity. Previous literature distinctively studies the interactions between either the vertical or the horizontal social value and a firm's marketing strategies. We analyze the impact of the two-dimensional social value of a brand on product line design and branding strategies (i.e., choice of brand identity and umbrella branding). Though umbrella branding under single brand identity enables higher communication value among consumers, the strategic signaling incentive may break down the incentive-compatibility price schemes. To highlight this conflict, we model a "matching game" among consumers with two identities and two social ranks in a product line design setting. We show the boundary conditions of an independent branding equilibrium and an umbrella branding equilibrium. One of the applications of our model showcases common branding strategies in the fashion industry.

3 - Revision Games Part II: Applications and Robustness
Yuichiro Kamada, Berkeley-Haas, Berkeley, CA, United States, y.cam.24@gmail.com, Michihiro Kandori

This paper studies an application of the ``revision games" framework in a pricing setting. In our model, before a market opens, two firms have stochastic chances to publicly post their prices and possibly revise them. We show that this revision phase can help firms to maintain high prices in the market, compared to the prices resulting from the one-shot pricing game. Specifically, we define and characterize the unique optimal grim-trigger equilibrium strategy, and show that if there is product differentiation, equilibrium prices are strictly above the Nash prices at all times in the revision phase. It is shown that higher levels of product differentiation imply higher prices.

4 - Informational Complementarity
T. Tony Ke, MIT, 100 Main St, E62-535, Cambridge, MA, 02142, United States, kete@mit.edu, Song Lin

Information correlation among products is ubiquitous. For example, a BMW sedan and SUV share similar brand image, design, and service. Even products under competing brands can share lots of common information. For example, electric cars from BMW and Mercedes share the same country of origin, and similar engine technologies. Under a dynamic consumer search model with gradual learning, we show that correlated uncertain product information may surprisingly lead to demand complementarity between substitutes. A lower price of BMW may actually increase the sales of Mercedes, because it encourages consumers to search for information on BMW. Otherwise, these customers may not search or buy any car. It is possible that some consumers subsequently discover some negative information about BMW but positive information about the common features between BMW and Mercedes, which leads them to continue searching for information on Mercedes and eventually make a purchase. We term this effect "informational complementarity" and explore its implications for horizontal collusion, including distortions in product information, price competition, as well as product line design. The optimal level of product commonality balances demand cannibalization and informational complementarity.

■ TD09

Fertitta Hall, 241, 2nd Floor

Experiments, Models and Marketing Science

General Session

Chair: Sanjog Misra

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1 - A Comparison of Approaches to Advertising Measurement:Evidence from Big Field Experiments at Facebook
Brett R Gordon, Associate Professor of Marketing, Kellogg School of Management, Evanston, IL, United States, b-gordon@kellogg.northwestern.edu, Florian Zettelmeyer, Neha Bhargava, Dan Chapsky

Advertisers are keenly interested in knowing the effectiveness of their online advertising. However, the industry seldom uses randomized experiments to estimate effectiveness, relying instead on observational methods such as matching and regression. This is partly because, until, recently, randomized experiments have been difficult or expensive to implement in online advertising contexts, and partly because observational methods are widely considered within the industry to be "good enough." We analyze whether observational methods for causal inference can reliably substitute for randomized experiments in online advertising measurement. This is of particular interest because there have been enormous recent improvements in observational methods for causal inference (Imbens & Rubin,2015). Using data from 12 US advertising lift studies at Facebook comprising 435 million user-study observations and 1.4 billion total impressions, we contrast the experimental results to those obtained from a variety of observational methods. We show that observational methods often fail to produce the same results as the randomized experiments, even after conditioning on information from thousands of behavioral variables and using non-linear models. Our findings suggest that common approaches in industry used to measure advertising effectiveness fail to measure accurately the true effect of ads.

2 - Sponsorship Disclosure and Consumer Deception: Experimental Evidence from Native Advertising in Mobile Search

Harikesh Nair, Assistant Professor of Marketing, Stanford University, 518 Memorial Way, Stanford, CA, 94305, United States, harikesh.nair@stanford.edu, Navdeep Sahni

Recent advances in advertising technology have lead to the development of "native advertising", which is a format of advertising that mimics the other non-sponsored content on the medium. While advertisers have rapidly embraced the format on a variety of digital media, regulators have expressed concerns about whether this format materially deceives consumers when the advertising disclosure is incomplete or inappropriate. This has reignited a longstanding debate about the distinction between advertising and content in media markets, and how it affects consumers. This paper contributes to this debate by providing empirical evidence from randomized experiments conducted on native advertising at a mobile restaurant-search platform. We experimentally vary the format of paid-search advertising, the extent to which ads are disclosed to over 200,000 users, and track their anonymized browsing behavior including clicks and conversions. Our research design uses comparisons of revealed preferences under experimentally manipulated treatment and control conditions to assess the potential for consumer confusion and deception. A design based on revealed preference is important to speaking to the "material" standard of regulators, and to assessing "confusion" while avoiding direct questioning of consumers. We find that native advertising benefits advertisers, and detect no evidence of deception under typically used formats of disclosure currently used in the paid-search marketplace. Further investigation shows that the incremental conversions due to advertising are not driven by users clicking on the native ads. Rather, the benefits from advertising are driven by users seeing the ads and later clicking on the advertiser's "organic" listings. Thus, we find little support of typical native advertising "tricking" users and driving them to advertisers. Users seem to view ads and deliberately evaluate the advertisers. Overall, our results imply the incentives of the platform, advertisers and regulators with respect to disclosure are aligned: consumers value the clear disclosure regulators demand, and it benefits advertisers and improves monetization for the platform.

3 - Scalable Price Targeting

Sanjog Misra, Professor of Marketing, Chicago Booth School of Business, 5807 South Woodlawn Avenue, Chicago, IL, 60637, United States, sanjog.misra@chicagobooth.edu, Jean-Pierre Dube

With the availability of real-time data, at scale, marketers have the opportunity to build and implement algorithms that create optimally targeted marketing instruments such as advertisements and prices. This project explores whether using established economic and marketing theory, coupled with state-of-the-art methods, can increase firm profitability at a minimal cost. To examine this question, we partnered with an online firm to conducted two large-scale field experiments and used the results in combination with novel state-of-the-art econometric methodology to develop an optimized pricing policy. They predicted that incremental profits with optimal uniform and targeted pricing policies would exceed 45% and 75% of the status quo respectively. However, the results exceeded expectations, we found that uniform pricing improved revenues by 64.9% relative to the control pricing, and the targeted pricing structure improved revenues by 81.5%. Moreover, imposing the optimal model-based prices also resulted in conversion rates that were consistent with prior expectations.

4 - Optimal Targeting with Heterogenous Treatment Effects

Sanjog Misra, University of Chicago Booth School, 5807 S Woodlawn Ave, Suite 369, Chicago, IL, 60637, United States, sanjog.misra@chicagobooth.edu, Günter Hitsch

Combining machine learning approaches, large scale experiments and detailed consumer level data affords firms and researchers a unique opportunity to estimate heterogenous effects of marketing treatments and use these estimates to implement improved targeting decisions., Working with a large retailer we conducted a series of experiments and used these to implement and compare a large number of machine learning approaches to estimating individual level responses to catalog mailings. We then used these to showcase a novel approach that allows us to compare alternative mailing strategies and compute the optimal mailing policy for the firm. Our analysis reveals substantial differences across various machine learning approaches as well as the mailing strategies obtained from them. Finally, our optimal mailing strategy also documents a substantial increase in profits compared to the status-quo currently deployed by the firm.

■ TD10

Fertitta Hall, 313, 3rd Floor

Competition: Performance of Competitive Markets

General Session

Chair: Anna Dubiel, WHU-Otto Beisheim School of Management, Burgplatz 2, Vallendar, 56179, Germany, anna.dubiel@whu.edu

1 - Silicon Envy: How Global Innovation Clusters Hurt or Stimulate Each Other Across Developed and Emerging Markets

Gerard J Tellis, University of Southern California, Marshall School of Business, 814 HOH, Los Angeles, CA, 90089-0443, United States, tellis@usc.edu, Nükhet Gür

Contrary to the general focus in the literature on indigenous local factors to explain growth in innovation clusters, this study provides evidence for the existence of inter-cluster dynamics as important external drivers of cluster growth. The authors draw upon the two distinct views in the strategy literature: (1) the "regional competition" perspective emphasizes the ensuing rivalry across global clusters indicating that the emerging clusters should hurt Silicon Valley; versus (2) the "competition" view suggests mutually beneficial growth among clusters. They test these competing predictions using data on ten global innovation clusters on three innovation metrics (patents, startups and product commercialization's) for the 1999-2014 period. Results show an enduring advantage for Silicon Valley; and demonstrate the importance of inter-cluster dynamics as contributors to regional growth. Rival clusters in general facilitate rather than hurt each others growth in terms of startups, patents and new product commercialization's. Overall, the results align more with the "competition" view of global competition.

2 - Poor but Sexy: How do Rents and Cultural Amenities Impact the Evolution of Location Specific Marketplaces?

Anna Dubiel, WHU-Otto Beisheim School of Management, Burgplatz 2, Vallendar, 56179, Germany, anna.dubiel@whu.edu, Sourindra Banerjee, Jaideep Prabhu, Rajesh Chandy, Jing Wang

Why are some location-specific marketplaces evolving better than others? Specifically, why are creative businesses flourishing more in some places than in others? Scholarly research has paid relatively scarce attention to studying how the place variable, i.e. the characteristics of the location of doing business impacts firm performance. In an effort to narrow this research gap we propose rent level as well as distance to cultural amenities as drivers of births rates of creative businesses in location-specific marketplaces. We conduct a historical study over a period of 20 years (from 1981 to 2001) on the evolution of twelve location-specific marketplaces namely, twelve commercial streets in the city of Berlin, Germany. We use a uniquely compiled database of entries from business phone books (i.e., "yellow pages"), local rent directories, and land registry documents. From these sources we extract data on the different levels of creative businesses' presence, existence of cultural amenities and local residential rent levels. Our findings show that streets with lower rent levels and a higher density of cultural amenities tend to house more surviving creative businesses. To increase the validity of our findings we apply the difference-in-difference approach to compare the evolution of streets in West Berlin (capitalist from 1981 to 2001) with their counterparts in East Berlin (communist from 1981 to 1989). Our findings have implications for firm location choices both in developed and emerging economies as well as expand our knowledge base concerning the domain of economic geography of global cities.

3 - Forced to do Good: The Effects of Mandatory Corporate Social Responsibility on Firm Behavior and Performance

Nandini Ramani, University of Texas-Austin, 800 West 38th Street, Unit 4206, Austin, TX, 78705, United States, nan.ramani@gmail.com, Raji Srinivasan

The lack of environmental sustainability, increasing inequity and resultant decline in trust in companies pose a threat to business as usual. One way to restore trust eroded by irresponsible corporate behavior is to mandate that firms undertake corporate social responsibility (CSR) initiatives. Indeed, some governments are doing exactly that by mandating CSR initiatives. While there is clear evidence that CSR initiatives improve firms' reputations, it is also costly for firms? What about the effect of mandatory CSR spending? Does it provide any benefits for firms? In this research, the authors examine the effects of mandatory CSR on firms' behaviors and performance. The authors exploit a quasi-random assignment of firms to mandated CSR spending by the Indian government in 2013 to answer these questions. Using a fuzzy regression discontinuity approach, they isolate the causal effect of mandatory CSR spending on firms' spending on marketing, R&D, and employee welfare. Following that they examine the effects of firms' mandatory CSR spending on shareholder value. The results indicate, that in response to mandatory CSR spending, firms decrease spending on marketing (advertising, promotion and distribution) and employee welfare, but increase their R&D spending. While firms' mandatory CSR spending is negatively related to shareholder value, this negative relationship is mitigated by their promotion, distribution and R&D spending. Integrating these findings suggest that while firms view spending on mandatory CSR and marketing as substitutes, investors appear to perceive them as complements. The research's findings generate actionable implications for managers and policymakers on the performance implications of mandatory CSR spending and their best responses to it.

4 - Blessed from Birth? Predicting Start-up Success with Twitter

Gaia Rubera, Assistant Professor, Michigan State University, East Lansing, MI, United States, rubera@bus.msu.edu, Paola Cillo, Svetlana Khimina

Startups are critical to the creation of new markets and the prosperity of a nation. However, predicting the success of a startup is extremely hard and risky. Traditionally, banks, venture capitalists, and investors in general rely on very basic protocols and mostly on their intuition and experience to judge the potential of a startup. A customer-centric approach to innovation suggests that companies can develop successful products only when they think like their customer: In the startup context, only when a startup's founder and its potential customers share the same mindset. So far, this critical assumption has never been tested, given the difficulty of a) identifying a startup's potential customers during the early stages of its life; and b) measuring the similarity in the mindset of these potential customers and startup founders'. In this paper, we propose an algorithm, based on Twitter data, to improve the chances of predicting startups' performance in the initial stages of their life. The algorithm goes through two main steps: first, it uses Twitter to identify the set of potential customers of a startup. Then, it uses Twitter data to measure how similar the mindset of these potential customers is to the mindset of the startup's founders. We then use this measure of mindset similarity to predict startup success. We use two different measures of success: a) growth in the number of unique visitors of the startup's website, and b) revenues. We test our algorithm in a sample of 160 startups created in the 2014-2016 time frame.

■ TD11

Fertitta Hall, 316, 3rd Floor

New Product: Design Movies & Digital

Contributed Session

Chair: Peter McGraw, University of Colorado Boulder, 995 Regent Drive, Boulder, CO, 80304, United States, peter.mcgraw@colorado.edu

1 - Is This New Product a Hit or Miss?: The Role of Screenplays

JeeWon Choi, Georgia State University, 3348 Peactree Road NE, Tower Place 200, Suite 204, CEBCM, Atlanta, GA, 30326, United States, jchoi43@gsu.edu, V. Kumar

The ability to identify the success potential of a new product early process is critical to minimize risk and cost and to improve firm performance. Despite the benefits of early assessment, the current new product development (NPD) process rarely predicts commercial success potential prior to production. Utilizing the context of the U.S. movie industry, this paper assesses a movie's return on investment (ROI) based on information available at the idea screening stage known as green-lighting. This paper proposes a two-step triangulation approach that combines the quantitative text analysis (pattern element: structure of a script; emotional profile: dominant emotions in a script) and the qualitative semantic content evaluation of screenplay to reach a combined forecast. Further, we account for post-production determinants of movie performance (i.e., firm initiated marketing, audience and critic reviews) to find the true effect of screenplay properties on box office. The findings suggest that our proposed model based on textual information of screenplays and the combination of different forecasts predicts a movie's ROI more accurately than the benchmark models. The proposed model will improve the green-lighting decision making process prior to production and reduce the risk and costs for production houses.

2 - Editing Entertainment: Length Constraints, Product Quality, and the Motion Picture Industry

A. Peter McGraw, Associate Professor of Marketing and Psychology, University of Colorado Boulder, 995 Regent Drive, Boulder, CO, 80304, United States, peter.mcgraw@colorado.edu, Anika Stuppy, Justin Pomerance

Seeking to create and launch enjoyable products, entertainment producers typically create a lot of content during production and then cut low-quality elements (e.g., bad jokes, boring scenes) during post-production editing. Theoretically, producers enhance product quality by cutting bad content and keeping good content with little regard to the product's final length. We suggest, however, that industry length requirements (e.g., 22-minute sitcoms; one-hour comedy specials) can constrain producers' editing decisions and diminish product quality. Producers cut some good content when the amount of good content exceeds a maximum length constraint. Conversely, producers keep some bad content when the amount of good content fails to reach a minimum length constraint. We present theoretical and behavioral evidence that shows how keeping bad content (due to a minimum constraint) diminishes an audience's experience more than cutting good content (due to a maximum constraint). As a real-world case, we present empirical evidence that shows how a minimum length constraint contributes to low-quality Hollywood movies. Movie studios typically require filmmakers to make movies at least 90 minutes long. Thus, filmmakers who lack enough good scenes to reach 90 minutes are unable to cut some bad scenes which causes an over-representation of short bad movies.

3 - The Impact of Competition Between Stars on Market Outcomes

Mike Lewis, Emory University, Atlanta, GA, 30322, United States, Mike.Lewis@emory.edu, Suh Yeon Kim

Stars are an important factor in many entertainment categories. Consumer demand for sports, music, movies and other types of entertainment are frequently impacted by the presence of stars. The market power of individual stars is something that evolves over time based on a "star's" absolute and relative performance. Star power may increase based on high quality performances and may be diminished by failures. This is particularly true in the realm of sports where defeats can diminish the value of an athlete or a team, and where the act of physical competition can also decrease an athlete's ability to perform in the future. In this paper we study the impact of star power in the combat sports category and also study how physical interactions between fighters impacts athletes' career durations.

■ TD12

Fertitta Hall, 322, 3rd Floor

Choice Models IV

Contributed Session

Chair: Zhiguo Yang, Missouri State University, 901 South National Ave, Room359 Glass Hall, Springfield, MO, 65897, United States, zhiguoyang@missouristate.edu

1 - The Perils of Ignoring the Budget Constraint in Single-unit Demand Models

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The canonical single-unit demand model is derived under the assumption that a consumer's budget covers even the highest price he is facing in the category. We document strongly biased policy implications from ignoring the budget constraint when the price distribution extends beyond a consumer's unobserved budget. We illustrate our theoretical arguments using data from a discrete choice experiment designed to measure demand for tablet pc's, and present a simple methodology to estimate unobserved budgets in a hierarchical Bayes model using MCMC.

2 - Uncovering Goal Structure from Consumer Purchase Histories

Yang Pan, University of Iowa, S252 John Pappajohn Business Building, Department of Marketing, Iowa City, IA, 52242, United States, yang-pan@uiowa.edu, Gary J Russell

Consumer behavior in a retail setting is goal-directed behavior. Knowing this, retailers create multiple category product assortments, allowing consumers to create bundles of products to satisfy some particular needs. Typically, these bundles are assembled over different shopping occasions due to storage, budget and shopping time constraints. For this reason, consumer shopping goals may not be evident on a given shopping visit. However, over time, consumers assemble a bundle of products to meet specific long-run consumption goals. In this research, we develop a model in which consumers evolve across goal states that drive purchase behavior. At each time point, buying behavior reflects a tradeoff between current category inventory and the increased utility of purchasing a goal-appropriate assortment of categories. We construct a dynamic Multivariate Logistic (MVL) Model, which helps to identify categories that contribute to each goal and to show the sequential assembly of these categories. Our model helps to identify the current goal state(s) of a particular consumer and to predict the set of product categories that are likely to be necessary to finalize the goal(s). In this way, the model both informs management about the consumer decision process and generates product recommendations.

3 - Generating Dynamic Nonlinear Parameters for Brand Loyalty Estimation Application to the U.S. Beer Retail Market

Roozbeh Iranikermani, Penn State University, 920 Oakwood Ave., State College, PA, 16803, United States, Roozbeh@psu.edu, Edward Jaenicke

Brand loyalty, a state-dependent persistence of preference for a particular brand despite potential price changes, is commonly found in many brand-choice models. The most common method, uses a household's shopping history, accounts for habit formation via a smoothing parameter that represents the weight given to household's recent decisions in comparison to its distant shopping history. In this paper, we introduce a new method that is able to estimate dynamic smoothing parameters for heterogeneous households. Our new model integrates household observed demographics so that the brand-loyalty smoothing parameter reflects household heterogeneity and time variation. We use the Nielsen Homescan dataset for the U.S. beer market and calculate this smoothing parameter for American households during the years 2009-2011. Our results show that the smoothing parameter varies significantly not only among households but also for a single household during the time. By using this new dynamic smoothing parameter, we capture heterogeneity across time and households. In our analysis, we used the estimated results to calculate the marginal probability of choosing each beer brand by investigating both brand and household characteristics. We also calculated the elasticities of the choice probabilities. Based on our results, household characteristics have a significant effect on the smoothing parameter. Further, the model can be extended to other situations that require similar heterogeneity of state-dependent variables. Key words: Brand Choice models, Household Heterogeneity, Nonlinear State Dependent Variables, Purchase History, Household Beer Purchases, Conditional logit model, Nielsen Homescan data.

4 - Examining a Consumer Spending Habit Model in Cross Category Purchase Contexts

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This paper posits a consumer spending habit model in cross category purchase contexts. The model develops a variable representing consumer's spending habit. Further, this variable is used in explaining heterogeneous responses to price and promotion change. We use a multivariate Logit model to capture the heterogeneity. We estimate this model using 3 datasets extracted from Nielsen Consumer Panel and Scan database. Our results show that this variable captures consumer spending habit and explains consumer heterogeneity in cross category effect models. We also examine the robustness of this model across different product category groups. The results show evidence of general effectiveness of using this spending habit concept in cross category decision making model. The spending habit variable is easy to calculate and managers can easily classify consumers with it. Thus the spending habit variable can be a very useful aid in targeted marketing and personalized advertising. In terms of modeling consumer's marketing responses at an aggregate level, we demonstrate that the spending habit model could significantly improve the prediction accuracy, whereas, ignoring this factor may result in misleading inferences about effectiveness of a marketing campaign.

■ TD13

Fertitta Hall, 327, 3rd Floor

Pricing: Reference Points

Contributed Session

Chair: Dong Soo Kim, Ohio State University, 500 Fisher Hall, 2100 Neil Ave., Columbus, OH, 43210, United States, kim.5042@osu.edu

1 - Cross-category Spillover Effects of Reference Price: A SKU-level Model of Multiple Item Choice

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The dependence of purchase decisions on price reference points is a well-documented aspect of consumer choice. In this research, we develop a cross-category choice model to investigate how reference prices in one product category influence consumer purchase behavior in other categories. Our model is based upon the assumption that a consumer's subjective judgment of the fairness of the prices in one category influences the choice of items in other categories, especially related categories. The new model can be considered a generalized extension of the traditional Nested Logit (NL) to multiple-category multiple-item choice decisions (more generally pick-any choice). It is suitable for choices consisting of multiple stages (e.g., category incidence and brand choice in multiple category choice situations). We first explore the relationship between the new model and two extant multiple category models: Multivariate Probit (MVP) and Multivariate Logistic (MVL). We then calibrate the model using purchase histories from an IRI scanner panel for the cereal category. Implications of cross-category reference price processes for retailer pricing and category management are discussed.

2 - Assessing the Empirical Evidence for Loss Aversion: Errors of Omission and Commission

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Prospect theory, and specifically reference dependence and loss aversion, has been extensively researched in marketing and other disciplines to explain behavior. However, there are some unresolved questions regarding the extent to which loss aversion is empirically manifested in realistic scenarios. This research focuses on the opportunities and challenges involved in assessing the nature of empirical evidence regarding loss aversion in the marketing domain (e.g., customer response to price changes). Due to measurement issues with empirical evidence of loss aversion, both errors of omission (failing to demonstrate loss aversion when loss aversion may indeed exist) and errors of commission (demonstrating loss aversion when loss aversion may not exist in reality) are possible. Understanding the boundary conditions of loss aversion, influenced by the methodologies used, allows us to conceptualize the meaning of loss aversion in the marketing context, facilitating managerial decision making, and informing future research needs and opportunities. Furthermore, such an understanding of loss aversion is beneficial to obtain a nuanced conceptualization of the broader mental accounting principles that originate from the tenets of prospect theory.

3 - The Triple Role of Price

Jochen Reiner, Assistant Professor, Goethe University Frankfurt, Theodor-W.-Adorno-Platz 4, Frankfurt, 60629, Germany, jreiner@wiwi.uni-frankfurt.de, Julia Wamsler, Martin Natter

The authors investigate the different signaling roles of price and propose a triple role of price in the insurance industry. Based on cue utilization theory, we extend previous research on the dual role of price which distinguishes the allocative from the informational role of price. In our study, we develop a conceptual framework that argues that in addition to these well-established signaling dimensions, price also exerts a risk-revealing role and is used as a cue to infer individual consumer risk in the insurance industry. We empirically test our conceptual framework using a series of choice-based conjoint studies. The results, based on hierarchical Bayesian models, show substantial heterogeneity across respondents with respect to the three signaling roles of price. We explore these differences in heterogeneity and discuss consequences with respect to optimal pricing.

4 - Reference Price and Opportunity Cost Consideration

Dong Soo Kim, Ohio State University, 500 Fisher Hall, 2100 Neil Ave., Columbus, OH, 43210, United States, kim.5042@osu.edu, Mingyu Joo, Greg M Allenby

Reference price effects - consumers' responses to positive or negative deviation of prices from reference points - have been widely observed in the empirical literature with market transaction data. Empirical studies have added gains or losses from reference prices as additional utility components to explain such phenomena. However, as reference prices do not affect either out-of-pocket costs or consumption utility, extant models have been considered to be inconsistent with traditional economic theory. This paper proposes a theoretical model showing that reference price effects can be explained by potential substitution with outside options in a normative utility maximization framework. Consumers compare the maximum attainable utility from potential outside options, so called opportunity cost, with marginal utility from inside options in a purchase occasion. Therefore, consumers' choice probability of an inside option is positively affected by the expected prices of outside options, which are considered to formulate reference prices in empirical studies. In addition, our model predicts that the equilibrium price of an outside option at which consumers may opt out from the current purchase occasion is lower than the mean of expected outside option prices, leading to asymmetric responses to gains versus losses. The proposed theoretical model potentially explains wider-range of phenomena in a unified framework, such as cross-reference effects and price evaluability.

■ TD14

Fertitta Hall, 328, 3rd Floor

Marketing & Finance: IPOs I

Contributed Session

Chair: Minghui Ma, VH303, 1 Hawk Dr, New Paltz, NY, 12561-2507, United States, mam@newpaltz.edu

1 - The Short & Long Term Impact of Customer Concentration on Firm Performance

Alok Saboo, Assistant Professor of Marketing, Georgia State University, 35 Broad Street, STE 1339, Atlanta, GA, 30096, United States, asaboo@gsu.edu, V. Kumar, Ankit Anand

Customer relationship management literature has long touted the value of developing strong relationships with major customers. However, using the notion of customer concentration that relates to the spread of supplier revenues across customers, we argue that instead of focusing on individual customer relationships, firms must focus on evenly spreading the revenues across their customers. Although major customers provide short-term benefits, building on modern portfolio theory and industrial organizational literature, we argue that concentration of revenues expose the firm to the idiosyncratic risks of individual customers and reduces the supplier firm's bargaining power relative to its customers. This increases the overall risk and negatively affects the ability of the supplier firm to capture value. Using a sample of 1,023 IPO firm and robust econometric methods, we find that customer concentration has a positive impact on IPO market capitalization, but significantly harms firm value in the long run. Our results suggest that a 20% increase in customer concentration reduces profitability by 3.35% (or about $7mn) in the subsequent year or 10.7% cumulative over the next 4 years (or about $23.25mn). Further, we find that the long-term negative effects are moderated by organizational (marketing, technological, and operational) capabilities and credit quality of the customer base.

2 - Rush to Tell? The Strategic Value of Preannouncements and Launch Announcements

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The authors develop theory and hypotheses of about the magnitude and direction of returns when firms choose to make only a preannouncement, only a launch announcement, or both. Furthermore, the authors control for the selection effects of the content of the announcements. The authors test their hypotheses on 654 preannouncements and 937 launch announcements (including preannouncements with matched launch announcements) from 59 firms across five markets. Results show that launch announcements that follow a preannouncement have significantly lower returns than launch announcements that do not and significantly lower returns than preannouncements that precede them. Content cues (such as price, brand, length of announcement, and CEO) significantly predict the announcement strategy and explain the selectivity bias in choice of strategy. In addition, preannouncements have an advantage over launch announcements in that they earn a modest compounded interest due to the time value of money. On the other hand, preannouncements suffer a high penalty if they are late on the promised date of launch. These findings have important implications for managers.

3 - Insider Influence on Post IPO Marketing Activity: Self-serving or Value Enhancing?

Minghui Ma, Assistant Professor, SUNY New Paltz, VH303, 1 Hawk Dr, New Paltz, NY, 12561-2507, United States, mam@newpaltz.edu, Jian Huang, Frank Chen

Initial Public Offering (IPO) share overhang refers to the share retention in an IPO by pre-IPO shareholders, who are predominantly insiders of the newly public firm. We evaluate the link between share overhang and the strategic value of post-IPO marketing activity. IPO overhang is positively related to post-IPO marketing spendings. On average, a one-standard deviation increase in overhang leads to an additional $4.6 million being spent on marketing during the three years after IPO. Furthermore, in these three years, high overhang firms that spend more on marketing significantly outperform their counterparts. We also find that, while greater marketing spendings are associated with enhanced equity market liquidity for the firm's stock, insiders do not derive an economically significant benefit. Overall, our results suggest that the positive link between share overhang and marketing is more a reflection of insiders' interest alignment than a self-serving desire to boost the short-term stock performance or the stock's liquidity prior to exit. The extent of this positive link is moderated by the existence of both major financial stakeholders such as venture capitalists and non-financial stakeholders such as key customers. Despite the capital infusion and the rapid growth they realize from IPO, newly public firms should not consider aggressive marketing a universal choice, as it is value-enhancing only when pre-IPO shareholders' interests are aligned.

■ TD15

Fertitta Hall, 331, 3rd Floor

CRM: Customer Lifetime Value II

Contributed Session

Chair: Peter Landry, University of Toronto, 105 St George Street, Room 555, Toronto, ON, M5S 2E8, Canada, peter.landry@rotman.utoronto.ca

1 - Instant Customer Base Analysis: Re-assessing the Performance of Managerial Heuristics

Patrick Bachmann, University of Zurich, Andreasstrasse 15, Zurich, 8050, Switzerland, patrick.bachmann@business.uzh.ch, Markus Meierer, Rene Algesheimer

Valuing customers is essential to any firm and enables marketers to identify key customers. Customer lifetime value (CLV) is a central metric for valuing customers. It describes the long-term economic value of customers and gives managers an idea of how customers will evolve over time. To model CLVs in continuous non-contractual business settings, probabilistic customer attrition models such as the Pareto/NBD model are the preferred choice in literature and practice. Their ability to simultaneously forecast both, customer's actual lifetime and future transactions is unique. However, empirical evidence suggests that standard probabilistic customer attrition models do not outperform basic management heuristics. A possible explanation is that standard probabilistic customer attrition models do not consider important contextual factors, such as direct marketing or regularity purchase patterns. Recently an implementation that allows the inclusion of such time-varying contextual factors for the continuous non-contractual setting has been proposed. In this study, we compare the predictive accuracy of this model extension, the standard Pareto/NBD model, and managerial heuristics based on three key metrics: (1) distinction of active and inactive customers, (2) forecasts of future purchase level and (3) aggregated purchase volume of the entire customer base. The comparison is carried out for multiple datasets and multiple prediction horizons. Our findings have strong implications for both, marketing practice and research. Besides giving detailed recommendations on when to use which modeling approach, we also provide practical advices for applying probabilistic customer attrition models.

2 - Effect of Trust in Green Services on Consumer Brand Relationship

Abhishek Mishra, Assistant Professor, IIM Indore, J203, Academic Block, IIM Indore, Rau Pithampur Road, M.P., Indore, 453331, India, abhishek@iimidr.ac.in

Despite plethora of studies on sustainability, the concept of green service encounters (GSE), referring to elements of a service that are environmental friendly, and its implications remains an area less researched. This work empirically investigates the hierarchical development of repatronage intention from various dimensions of green service encounters through trust, with hotels taken as the context, besides exploring the moderating role of travel purpose and environmental values on this relationship. The first step was creating items for measuring green service encounters. After a thorough qualitative investigation to arrive at 37 items, empirical analysis for scale validation proceeded in four steps: (1) assess data normality; (2) assess reliability and validity of the constructs. Data was found to be normal with skewness and kurtosis within limits, while confirmatory factor analysis (CFA) reported satisfactory fit indices. For model

validation, the full hypothesized research framework was tested for the entire sample (n=302). The fitness of the path model indicated reasonable model-specification. In addition, the mediation and moderation tests also came out to be significant. Not only do we contribute to the literature by introducing novel constructs to measure green service encounters but also expect our findings to help practitioners in services involving green aspects and building strong re-engagement.

3 - Slipping Down the Retention Reaction Curve – Some Paradoxes of Optimal Customer Retention Value

Igor Sloev, Associated Professor, NRU Higher School of Economics, Kirpichnaya 33/5, Moscow, 105187, Russian Federation, isloev@hse.ru, Gerasimos Lianos

Customer Residual Value (CRV) has been established as a central concept in analytical marketing theory and practice. CRV is the present value of the stream of profit accruing to a firm over the complete horizon of its relationship with a customer. CRV is a forward-looking metric, which shifts the perspective on customer relations from the short to the long term and brings customer relations at the center of long-term strategic planning.

An important driver of CRV is Customer Retention Rate (CRR) that is, the probability that customer will continue its relation with a firm in the next period. In the tradition of Blattberg and Deighton, we consider CRR as dependent on the costly effort a firm exerts to maintain relationship with a customer, with greater effort increasing both customer retention and marketing costs. In this way, maximizing CRV results in finding the optimal level of the retention effort. We show that the CRV-maximizing process may result in the "paradoxes" that a greater customer profit margins may be associated with smaller firm per-period profit and lower costs of retention may increase retention expenses and decrease the profits of the firm. We argue that these results give deeper insights on properties of all forward-looking metrics for customer evaluation in stark contrast with backward-looking metrics and we discuss some challenges for the implementation of the CRV calculus in practice.

4 - Behavior-based Servicing

Peter Landry, Assistant Professor of Marketing, University of Toronto, 105 St George Street, Room 555, Toronto, ON, M5S 2E8, Canada, peter.landry@rotman.utoronto.ca, Mengze Shi

Behavior-Based Servicing (BBS), a practice that rewards loyal customers with service priority, has become ubiquitous in service industries. A unique feature of BBS is its dual externality effect: while high-priority customers receive better service, low-priority customers receive worse service; moreover, the effect of BBS on service quality for one tier of customers is amplified by the number of customers in the other tier. This paper uses a stylized duopoly model to examine the competitive effects of BBS in a market consisting of both brand-loyal and brand-neutral consumers. We find that when the degree of prioritization is high, BBS creates large switching costs that deter firms from poaching brand-neutral consumers who previously purchased from their competitor. When the degree of prioritization is smaller and/or the market has a bigger brand-neutral segment, firms have more incentive to poach this segment despite their priority status in other firms. Interestingly, these non-priority customers then generate positive externality values for priority customers and increase equilibrium prices and profits. We also investigate the effect of BBS on competing firms' market shares and identify conditions under which BBS can arise endogenously.

■ TD16

Fertitta Hall, 414, 4th Floor

Advertising Display Ads II

Contributed Session

Chair: Alexander Eiting, TU Braunschweig, Schleinitzstrasse 23a, Braunschweig, 38106, Germany, a.eiting@tu-bs.de

1 - The Moderating Impact of Clutter on Display Advertising Effectiveness

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In this paper, we examine the moderating impact of clutter on display advertising effectiveness. We dissect clutter into two classes, local and global, and examine the influence of each. Within a browsing session, local clutter measures the intensity of non-focal advertising served concurrent to a focal ad. Global clutter represents all other non-focal advertisements viewed during the session. To examine these effects, we leverage a large proprietary dataset assembled in collaboration with a demand side platform. The data combine digital display advertising information from nearly 400 advertisers with browsing information from nearly one million users across myriad third party sites. Our findings have managerial implications for advertisers purchasing online display advertising, publishers optimizing online advertising revenue, and researchers seeking to understand the empirically impactful aspects of clutter.

2 - The Effects of In Site Display Advertising

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Online retailers, such as Amazon, carry many brands that compete with each other, and manufacturers of these brands can consider to buy display ads on the retailer's website. Existing research focuses on the effects of display ads on third party websites, comparable to out-of-store advertising. Little attention has been paid to effects of in-site display advertising, i.e., display advertising on the website where the advertised product can be purchased, similar to in-store advertising. For retailers it is important to understand the effects of in-site display advertising because it may generate a revenue stream beyond product sales and impact the category. While for manufacturers, display ads might boost their brand engagement metrics and sales. We explore the effects of display ads on a focal brand's engagement metrics, sales, and competitive brand sales using a large-scale randomized field experiment with nearly 140,000 consumers across 6 countries. We also investigate the differential impact of display advertising on brand engagement, interest and purchase across two disparate channels of desktop and mobile devices as mobile devices are typically used more for browsing rather than purchasing. Results indicate that brand attention and interest are indeed higher for the focal brand. Further, impact of display advertising on purchase is mediated by brand attention and interest. While brand attention is higher on desktop, brand interest conditional on attention is higher on mobile. Finally, we investigate post-advertising impact on the brand and category sales of the retailer. Implications for the retailer by better understanding in-site display ads are explored.

3 - Consumer Privacy, Imperfect Information, and Advertising Avoidance: Evidence from Retargeting

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The most common method of identifying and tracking online consumers' activity involves the placement of cookies on a consumer's hard drive that are then offered back to the website during subsequent visits by the consumer. Against this background, online advertisers face a decisive challenge: As online advertising becomes more personalized, firms run the risk that Internet tracking will elicit a "creepy" feeling of being followed and that customers will find the advertising invasive of their privacy and that reactance will lead them to resist the ad's appeal (White et al. 2008). Despite advances in information technology, advertising and solicitations through the Internet are not perfectly targeted and consumers do avoid marketing (Hann et al. 2008; Johnson 2013). So any "do not track" mechanism would facilitate consumer self-selection by their expected net benefit (Goh, Hui, Png 2015). To learn about the motivations and mechanisms behind consumer opt-out, we accessed Federal Trade Commission's fairly large-scale panel discussion series (FTC 2009-2012). This exploratory pre-analysis helps us set up the model, understand consumer behavior and mechanisms, and interpret the data. To estimate our econometric model we conducted a large-scale field experiment in cooperation with a major fashion and sporting goods retailer. Results suggest that consumer engage in mental trade-offs of privacy concerns and benefits - so-called privacy calculus (Laufer, Wolfe 1977) - leading to situations in which they will choose to protect their privacy and other situations in which protection is seen as too costly and data sharing is preferred. This privacy calculus seems to be mediated by the extent of customer knowledge about the opt-out mechanism. By exploiting a large-scale quasi-experiment in cooperation with an online retailer for fashion goods, furniture, interior design, and home textiles, study 2 quantifies the effect of consumer opt-out on advertising agency as well as shop related performance outcomes.

4 - Advertising Response of Local Restaurants to a Better Online Rating a Regression Discontinuity Design

Ying Lei, Assistant Professor, Peking University, Beijing, China, ylei@gsm.pku.edu.cn

This paper analyzes the advertising spending patterns of US local restaurants that have different ratings on Yelp.com using a regression discontinuity design. Rating information on Yelp includes display ratings and review distributions. Yelp's rounding algorithm creates a discontinuity in display ratings. Therefore, using a regression discontinuity design, I can identify the causal effect of a higher display rating on local restaurants' advertising spendings. I find that, for restaurants with ratings above 3, there is a significantly negative effect of display rating (i.e. Yelp stars) on advertising. An extra half-star on Yelp causes restaurant yearly advertising spending to reduce by about one-third, which is more than 5k dollars on average. However, when display ratings are constant between two thresholds, a higher (raw) average rating is associated with slowly increasing advertising. This is the first paper that distinguishes the raw average rating and the rounded display rating in the analysis of firms' strategic response to word of mouth.

■ TD17

Fertitta Hall, 416, 4th Floor

Branding: Generics

Contributed Session

Chair: Anand Nandkumar, Indian School of Business, AC 3 Level 1 #3101, Hyderabad, 500032, India, anand_nandkumar@isb.edu

1 - Store Brands and Category Captaincy

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In several product categories, retailers have launched store brands to compete with national brands on both price and quality. Furthermore, in some of these categories, retailers have appointed a national brand manufacturer as category captain to help expand its sales in all quality tiers within the category. However, category captains may exhibit opportunistic behaviors and even diminish the competitiveness of the store brand. Using a model of vertical differentiation, we aim to understand the strategic implications of category captaincy for the competing national brand, consumers, and the store brand. One may believe that on adopting category captaincy, the retailer gives up the power emanating from the store brand. However, our analysis shows that the retailer leverages the power to make category captaincy more profitable. Our naive intuition also suggests that category captaincy may hurt both the competing manufacturer and consumers. In a mature product category, however, the presence of the store brand turns category captaincy strictly beneficial to the competing manufacturer. In an emerging product category, category captaincy always improves consumer welfare irrespective of the presence of the store brand. Finally, when allowed to make product line recommendations, the category captain recommends the removal of the competing national brand. The resulting pruning of the product line increases both the total channel profits and consumer welfare.

2 - Branded Drugs Marketing Support Around Nonequivalent Generic Entry

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The introduction of generic drugs results in significant cost savings for society because they are typically cheaper than branded drugs. Generic entry greatly reduces sales of the equivalent branded drug. Anticipating this sales decline, branded drugs tend to reduce their marketing support before generic entry. Little is known about the behavior of nonequivalent branded drugs that are active in the same drug category. In this paper, we fill this gap by exploring how the marketing support for nonequivalent brands changes around generic entry. We estimate fractional logit models on data for 354 brands from a large number of categories. Our results show that brands increase their marketing-to-sales ratio as generic entry nears. This result particularly applies to younger brands. Our results are of great importance to public policymakers because nonequivalent competing brands' proactive response to generic entry potentially reduces the cost savings for society resulting from the availability of the relatively cheap generic drug.

3 - Building a Local Brand for Fresh Fruits and Vegetables: The Rule of Animosity

Amir Heiman, Associate Professor, Hebrew University, Rehovot, Israel, amir.heiman@mail.huji.ac.il

The WTO agreements and the Uruguay Round of negotiations called for elimination of all tariff and non-tariff measures which are widely used in order to protect local industry. The alternative of building a strong local brand and regulating labelling of country of origin are considered to be legitimate protection strategies. Local branding can be viewed as a "hidden flag" that directs patriotic feelings to increase the support level in the agricultural sector and acts as a non-tax barrier to global competition. The motivation of consumers to pay more for local fresh fruits and vegetables are better quality, environmental concerns, supporting the local community, altruism, and ethnocentrism. In this study we add animosity feelings to these considerations. Animosity is a very strong feeling that can result in not considering the option to purchase product from a seller (country) that stimulated animosity even though the product has similar quality and is offered at lower price. This study empirically analyzes consumers' attitude toward local agricultural production, perceptions of the contribution of the agricultural sector to society and how these perceptions are interacted with patriotic beliefs and socio-political variables. Thus geo-political landscape may help shape the consumer's preferences and willingness to purchase particular products.

4 - Change in Patent Regime and the Role of Branded and Generic Drugs on Price and Quantity: Evidence from the Indian Pharmaceutical Industry 1995-2009

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We explore how the strength of patents influences the mix of innovative and imitated products, as well as, the prices and the quantity consumed in those markets. The literature assumes that stronger patent regimes decreases supply and therefore increases prices and decreases the quantity consumed, a prediction is contingent upon the homogeneity of products in a market so that the only factor that influences consumer preferences is the price of the product. Contrary to prior work, we explore the effects of product patent regimes on the product mix, prices and the quantity consumed using a setting in which products within a market are heterogeneous and there is a preference for innovative products. Using a natural experiment in the Indian pharmaceutical industry in which product patents were reintroduced in 18 disease categories at different points in time, we explore how the introduction of product patents alters the mix of products, prices and the quantity consumed. Our study suggests that due increased appropriability of product R&D investments, product patent regimes increase the introduction of innovative products. Interestingly, it also stimulates imitation and increases the growth of imitated products. The net effect of such increases is that stronger patent regimes increase the market share of the more expensive innovative products. However, due to a preference for innovative products, product patent regimes also appear to increase both the market prices and the quantity consumed. Our findings thus highlight the how the effect of product regimes on prices and the quantity consumed in a market with heterogeneous products is contingent upon underlying preferences and how the product composition in a market is altered when product patents are introduced.

■ TD18

Fertitta Hall, 417, 4th Floor

Consumer Behavior, Brand & Luxuries

Contributed Session

Chair: Qiang Lu, University of Sydney, Discipline of Marketing, School of Business - Econ Building H69, Sydney, 2006, Australia, steven.lu@sydney.edu.au

1 - Consumers' Perception of Celebrity Endorsement and Celebrity Co-branding: Similarities and Differences

Olivier Reimann, Teaching and Research Associate / PhD Student, University of Vienna, Oskar-Morgenstern-Platz 1, Institute of Marketing, Vienna, 1180, Austria, olivier.reimann@univie.ac.at, Heribert Reisinger, Udo M Wagner

While there exists substantial research on Celebrity endorsement (CE), the concept of celebrity branding gained more interest in theory and practice during the last decade. One of the reasons is that celebrities are human brands that can be used to trademark a product instead of creating a new brand from scratch. This constitutes an interesting opportunity for marketers in times when building new brands imply costly and risky investments. However, one variation of celebrity branding gained little attention from academic research so far: celebrity co-branding (CCOB). In order to investigate the differences and similarities between CE and CCOB in the perception of consumers, we carried out two studies. The first one is qualitative: eight focus group interviews investigate differences between CE and CCOB. Depending on the celebrity application condition (CE vs. CCOB) subjects were exposed to manipulated versions of an ad for a fictitious premium store brand. In addition the composition of these groups is systematically varied with respect to panelists' demographics (students, working people below 30, working people above 30, elderly). The results revealed that common concepts like attractiveness, credibility, match-up and mean transfer from CE research also apply to CCOB. However, due to the closer link between product and celebrity in the COOB condition consumers perceive a higher level of celebrity involvement with the product. This has consequences for product and brand evaluations. Study two is a quantitative experiment conducted in order to test the qualitative findings empirically.

2 - You Are What You Wear: Millennials' Conspicuous Consumption
Sua Jeon, Texas Wesleyan University, 1201 Wesleyan Street, Fort Worth, TX, 76105, United States, sjeon@txwes.edu, Retno Suryandari

In the time of economic downturn, conspicuous consumption receives its portion of attention due to its role in shaping consumer excessive consumption behavior. The declining economic growth is thought as the turning point of the diminishing conspicuous consumption, however the business practice has suggested that economic downturn is the time to adjust the strategy and strengthen the market of luxurious, high end products. Notwithstanding increased interest to Millennials customer segment, scant attention has been paid to the segment and its behavior with respect to conspicuous consumption pattern. This study examines the determinant factors of conspicuous consumption, and the particular customer behaviors which might surface as the consequences of customers' conspicuousness. The result indicates that three constructs shape the conspicuous consumption including uniqueness seeking, social status seeking and conformity seeking. The factors which strongly determine the conspicuous consumption are materialism, self-monitoring, and facility. Self-concept, and need for competitiveness are only partially influence the conspicuous consumption. The results show that the underlying factors of conspicuous consumption lead the Millennials' tendency to buy branded products and also affect the consumers' perception of the brand value. In today's ever changing marketplace, this study provides reliable assistance to deal with the phenomenon of conspicuous consumption in the marketplace. For instance, knowing that Millennials are driven by conspicuous consumption, practitioners would benefit from instilling the core brand associations known to promote conspicuousness.

3 - For the Love of Luxuries: On Brand Love and Consumer Personality Traits in the Luxury Fashion and Accessories Market
Julia Finnegan, Assistant Professor, Canadian University Dubai, 308th Road, Dubai, 117781, United Arab Emirates, julia.finnegan@cud.ac.ae, Yvonne Kreis

Emotional consumer-brand relationships like brand love have attracted a lot of attention in marketing research (e.g. Carroll & Ahuvia, 2006; Batra et al., 2012). Luxury brands and their glamour provide (intangible) benefits to consumers (Kim et al., 2011), thus offering great potential for close, emotional consumer-brand relationships, namely brand love. However, brand love in the context of luxury has been largely left unexplored. In this paper, we analyze factors influencing the formation of brand love and its impact on willingness-to-pay among German luxury consumers. We find that luxury consumers show stronger brand love tendencies than mass-market consumers and that materialistic characteristics and tendencies for conspicuous consumption strongly influence brand love in the context of luxury goods. Our results further document brand love to be positively linked to willingness-to-pay. Hence, luxury brands focusing on long-lasting emotional consumer-brand relations may increase their revenues and profits, not just through quantity of items sold but also higher prices. In addition, our results indicate that inconspicuous consumption may have a kind of conspicuousness to it, i.e. consumers shopping for subtly branded luxury items signal their status to other luxury consumers. This implies that the design of subtly branded products should feature details small enough to be below the radar of logo-oriented consumers, but particular enough to be recognized by other luxury consumers. Our research provides insights into the formation of brand love and how it informs luxury consumption. Implications focus on the marketing mix of luxury brands to leverage brand equity.

4 - The Impact of Social Media Influencers on Consumer Engagement with Luxury Brands
Qiang Lu, University of Sydney, Discipline of Marketing, School of Business - Econ Building H69, Sydney, 2006, Australia, steven.lu@sydney.edu.au, Zhen Yi Seah, Zhiyong Wang

Approximately 28 percent of marketers employed social media influencers as brand endorsers in 2015. The rise of this new type of celebrities has fundamentally altered contemporary marketing practices. However, luxury brands still prefer to hire traditional celebrities over social media influencers. This paper attempts to address this counterintuitive phenomenon by investigating the congruence between celebrities and luxury brands. Specifically, based on construal level theory, we develop a conceptual framework to study the impact of celebrity endorsement type on consumer engagement with luxury brands. This study finds that social media influencers who have a shorter social distance from consumers generate less consumer engagement with luxury brands; however, the effect is reversed after controlling for social distance. This study also finds that product type moderates the effect of social distance on brand engagement. Finally, this study demonstrates that new celebrities can cause consumers to engage in a more concrete manner. The managerial implications of our results are also discussed in this paper.

■ TD19

Popovich Hall, 300, 3rd Floor

JMR ARB - (3:45 - 5:00pm)

Friday, 8:30AM - 10:00AM

■ FA01

Fertitta Hall, 101, Lower Level

Channels: Competition II

Contributed Session

Chair: Florentine Frentz, University of Siegen, Unteres Schloss 3, Siegen, 47068, Germany, florentine.frentz@uni-siegen.de

1 - Trust and Betrayal Aversion in Principal-agent Settings
Zuhui Xiao, University of Minnesota, Suite 3-150 CSOM, 321 - 19th Avenue South,, Minneapolis, MN, 55455, United States, xiaox169@umn.edu, George John

Trust behavior is described as exposed investments in multi-person settings that would not be undertaken by purely self-interested individuals. The trustor's exposure arises from the unenforceable reactions of a trustee who must act faithfully to produce the payoff. Numerous experimental and observational studies conclude that trust improves economic outcomes, but critics have observed that exposed investments are really just risky investments made by self-interested parties (i.e., Williamson 1996). Fehr's influential (2009) review of trust studies in neurobiology (e.g., Kosfeld ,2005) and behavioral experiments (e.g., Bohet and Zeckhauster, 2004) concludes that the trait of betrayal aversion, an additional emotional cost incurred when a trustee does not honor the trust reposed in him by a trustor, offers the most promising avenue to distinguish risk from trust. While this is a promising foundation for describing trust, the absence of analytical models incorporating this trait obscures its novel implications. Paradoxically, introducing a betrayal aversion cost on the trustee would appears to inhibit, not facilitate exchange. How might the additional cost burden lead to the observed improved outcomes by trust? In this paper, we build an analytical model where the principal offers a fixed wage to the agent for unenforceable effort. Following Akerlof (2001), the parties perceive a work/effort norm, so the agent incurs a psychological cost for his effort choices below the normative level. Following Fehr (2009), the parties are betrayal averse. Comparing equilibrium choices, we find that betrayal aversion and normative work rules combine to improve output, but their marginal effects go in opposite directions; output decreases with betrayal aversion sensitivity, but increases with effort norm sensitivity. Extending our model to heterogeneous agents, we find greater heterogeneity in abilities may crowd out trust. Our results have implications on online/offline trust and for institutional designs that facilitate leveraging these mechanisms of trust.

2 - Changing the Power Equation: A Structural Analysis of the Impact of Used Cars in the Distribution Channel
Sivaramakrishnan Siddarth, Associate Professor, University of Southern California, 701 Exposition Blvd HOH 331, Marshall School of Business, Los Angeles, CA, 90089-1424, United States, siddarth@marshall.usc.edu, Dinakar Jayarajan, Jorge Mario Silva-Risso

Most new car dealers also sell used cars from the same physical location and typically choose to sell used vehicles that are relatively good substitutes for new cars, i.e., those of more recent vintage and with fewer miles on them. In this paper we seek to gain a better understanding of this phenomenon, by formulating a structural model of the demand and supply of new and used cars that includes manufacturers and dealers. We estimate the model parameters using transaction data from the mid-sized sedan segment to gain insights into the nature of competition between the new and used car markets and its impact on channel profits. On the demand side, we find that new car prices have a higher impact on used car sales than vice versa. On the supply side we compare channel profits when dealers price new and used cars jointly to those obtained when pricing decisions in the two markets are independent and find the surprising result that all of the incremental channel profit generated from the former, joint, pricing strategy is captured by the dealer. Thus, the ability to sell used cars and the accompanying pricing flexibility appears to enable new car dealers to gain more power in the distribution channel relative to manufacturers.

3 - Managing Used Products: Who Should Refurbish?
Ahmed Timoumi, Indian School of Business, ISB, Sector 81, Mohali, 160062, India, ahmed_timoumi@isb.edu, Narendra Singh

We study a channel where a manufacturer sells new products through a retailer and decides whether to refurbish used products itself or to let the retailer refurbish them. We examine whether and when should a manufacturer allow the retailer to refurbish the used products. We model the problem as a two period game between the manufacturer and the retailer. In the first period, the manufacturer produces new products that are sold by the retailer. In the second period, the products sold in the first period become used and can be refurbished either by the manufacturer or the retailer. The refurbished products compete with the new products in the second period. The decision on who refurbishes the used products moderates the cannibalization effect in the second period.

4 - Online Grocery Shopping: How Users Experience the Shopping Process and Their Willingness to Return
Florentine Frentz, Research assistant, University of Siegen, Unteres Schloss 3, Siegen, 47068, Germany, florentine.frentz@uni-siegen.de

In light of the increasing popularity of online grocery shopping (OGS) worldwide and the growing competition in the market, this study seeks to find out (1) whether OGS can be an acceptable alternative for different consumer groups (young professionals, parents, and elderly) to shop groceries, (2) which motives these consumer groups have to shop groceries online, (3) how they experience the OGS process, and (4) which barriers and obstacles still need to be removed to ease the process. In this qualitative study, ten members of each of the three consumer groups, who did not have any previous OGS experience, completed several OGS tasks in an existing online grocery shop while thinking aloud. Afterwards, they took part in an extensive interview on this particular OGS experience and on their general views on OGS. The results show that OGS can be an acceptable alternative for consumers to shop groceries, however, only when grocery shopping in brick and mortar stores is somehow complicated. Consumers are aware of the advantages of OGS, but they miss the shopping enjoyment, the sensory experience and the social interaction that they have when shopping in brick and mortar stores. Furthermore, when shopping groceries online, consumers face different kinds of barriers (e.g. the unknown environment, information overload, and missing assistance) that make the shopping process difficult. This paper contributes to the existing literature by focusing on consumer groups for which OGS might be more beneficial than others and by giving insights into their behavior and their decision-making process online. Furthermore, it provides companies with valuable insights into the needs and wishes of consumers regarding OGS and helps them offer better support for online shoppers and increase their shopping enjoyment.

■ FA02

Fertitta Hall, 102, Lower Level

Online Communities & Newspapers

Contributed Session

Chair: Eunho Park, Texas A&M University, 800 Marion Pugh Dr., College Station, TX, 77840, United States, epark@mays.tamu.edu

1 - Coaches and Cheerleaders: Leaders and Followers in Online Brand Communities
Keith Smith, Assistant Professor, Northeastern University, 360 Huntington Avenue, Boston, MA, 02115, United States, ke.smith@northeastern.edu, Scott Thompson, John Hulland

Increasingly, marketers desire to engage in product or communication seeding, an attempt to identify influential consumers and utilize those consumer's connections to spread marketing communication and influence. Often this practice attempts to identify leaders and followers of brand community discussion as prime targets for seeding. Yet relying on traditional metrics of online discussion leadership might lead marketers to focus on the most vocal or most active consumers. Drawing on concepts from social identity theory, it is proposed that these individuals actually more resemble followers than leaders of brand community discussion, and that an entirely different set of consumers may be more appropriate targets for product or communication seeding, depending on the goals of the firm. Utilizing a dataset collected from online brand communities comprising over 874,000 messages collected from more than 30,000 unique users across a 60 month period, an investigation into leadership and followership is conducted. Results support the concept that brand community conversation leaders participate across a wider range of communities, and at an early period than traditionally defined brand community leaders. The data further suggest that community leaders defined by volume of activity may actually be members of the rival brand community who enter the preferred brand community in order to evangelize and recruit to the rival brand community.

2 - Are Breaking News Worth Paying For? Exogenous Demand Shocks and the Effect of Paywalls on Online Newspaper Readership
Kathrin Gruber, Vienna University of Economics, Welthandelsplatz 1, Vienna, 1020, Austria, kathrin.gruber@wu.ac.at, Klaus Miller

The problem in the publishing industry is two-fold: Declining print revenues due to a loss in subscriber base on the one side and only slowly rising online advertising revenues on the other side. Many publishers turned to compensate these losses by charging consumers for access to their content by introducing so-called paywalls. However, charging users for online content is difficult as early hard paywall implementations that only allow minimal to no access to content without subscription, suffered from a massive decrease in readership and as a result even further depressed advertising revenues. In order to remedy these issues, publishers lately started to experiment with soft paywalls, which have the advantage that they generate subscription and advertising revenues from heavy-users without losing the advertising revenues from light-users. We study the implementation of such a soft paywall at a daily online newspaper using weekly data from 2015 to 2017 and analyze individual-level usage patterns of more than 2.3 Million Unique Clients within a Bayesian hierarchical model. We exploit the effect of several unanticipated demand shocks such as the terror attacks in Paris, Brussels, and Nice or the unexpected outcomes of the Brexit referendum and the past U.S. elections, as a natural experiment to study the effect of a paywall on online newspaper subscriptions, usage and retention. For that purpose, we use a GAMM framework that allows the specification of non-trivial random effects by mixing covariates of different type (e.g., customer cohort membership, non-linear time-effects or marketing actions) and to capture unobserved customer-specific heterogeneity. Our results will provide detailed insights into the mechanics and management of a paywall in online publishing and ultimately add to the literature on moving from free to fee in digital businesses.

3 - Customer Valuation in Online Community; Roles of Social Contagion and Customer Engagement
Eunho Park, Texas A&M univ., Wehner Building 4112 TAMU, College Station, TX, 77843-4112, United States, epark@mays.tamu.edu, Ramkumar Janakiraman

Social interactions in online communities and customer engagement with online communities are key factors in the success of the online community business. In this study, we assess the customer value in online communities building on the roles of social contagion and customer engagement. We leverage a unique individual level dataset from an online gaming community to calibrate our econometric model. Based on our results, we discuss the roles of customers' engagement and social features on customer values in online communities. This study offers novel implications for managers of online communities.

■ FA03

Fertitta Hall, 105, Lower Level

Mobile Marketing: Usage

Contributed Session

Chair: Mark Rodgers, PhD, Rutgers University, Rutgers University, Newark, NJ, 08, United States, markrodgersphd@gmail.com

1 - The Impact of Mobile App Introduction on Grocery Shoppers
Boram Lim, Ph.D. Student, University of Texas-Dallas, 800 West Campbell Road, Richardson, TX, 75080, United States, bxl131330@utdallas.edu, Ying Xie, Ernan E Haruvy

Grocery stores can realize substantial revenue growth by tapping the potential of mobile channels. We examine a comprehensive data set on grocery shoppers in South Korea who adopt mobile channels. Using a unique dataset from a two-channel (online/offline)-based grocery retailer, we evaluate the changes in customers' shopping behavior upon adopting mobile applications. We find that as they adopt mobile applications customers spend more each month. We show that multi-channel users are more likely to spend more at the retailer. We investigate the impact of the mobile adoption on adopters' basket size, the amount of the order in dollars, and the variety of items in the basket. We also investigate the impact of mobile adoption on shopping trip intervals. We find that customers don't change their basket size, on average, but they tend to shop more frequently after adopting the mobile application. Furthermore, customers who shopped strictly offline before launching the mobile application are more likely to increase their monthly consumption once they adopt the mobile application. Managerially, we recommend that grocery retailers should encourage offline-shoppers to adopt the mobile application.

2 - Examining Preceding Factors of User Innovation Behaviors: A Case Study on Smartphone Applications

Bosul Yoo, Osaka University, Toyonaka, Osaka, Japan 565-0824, 1-7 Machikaneyama,, Osaka, Japan, bosulyoo@gmail.com, Sotaro Katsumata

This study examines preceding factors of user innovation behavior using a case of smartphone applications. Increasing penetration of smartphones, and the growth of mobile social media are driving the emergence of new business models, causing changes in consumers' communication behaviors. In addition, it has become easier to offer user innovation using smartphones or social media platforms. Based on these points, this study attempts to explain indirect and direct effects of consumers' attitudes on user innovation through smartphones. Specifically, it focuses on involvement, as well as consumer knowledge and customer orientation, as attitude factors. To measure user innovation behavior, Twitter and Instagram are chosen as the representative cases of user-generated content business models. The number of followers and the frequency of transmission on Twitter and Instagram are measured as qualitative and quantitative indicators of such behaviors. Overall, the following four hypotheses are tested in this study using structural equation modeling: (H1) Consumers' involvement with smartphones has a positive impact on smartphone familiarity; (H2) Consumers' involvement with smartphones has a positive impact on customer orientation regarding information transmission via smartphones; (H3a) Consumers' familiarity with smartphones has a positive impact on user innovation behaviors via smartphone applications; (H3b) Consumers' customer orientation regarding information transmission using smartphones has a positive impact on user innovation behaviors through smartphone applications. The results partially support the hypotheses; however, the role of customer orientation in user innovation is emphasized. This study holds implications for new business models and future innovation research.

3 - A Hidden Markov Model of Mobile Application Usage Dynamics

Shaohui Wu, Tsinghua Uiversity, School of Economics and Management, Beijing, 100084, China, wushh.14@sem.tsinghua.edu.cn, Yong Tan, Yubo Chen

This study develops a stochastic model to investigate the dynamics of mobile application usage behavior. A hidden Markov model (HMM) is proposed and calibrated using longitudinal data from more than 1,000 mobile users. Three latent mobile application states (leisure, utilitarian, and hedonic) are identified, and the marginal effects of the factors affecting individuals to transition between these states are estimated. Our findings reveal different patterns of mobile application usage in different usage states. Individuals in the utilitarian state are more likely to use communication and information searching applications, whereas entertainment and shopping applications are more preferred in the hedonic state. Leisure state accounts for only a small percentage of the total application usage. We also find that the effect of time of day is most significant for utilitarian state while hedonic state is less affected by either time or location. The HMM modeling framework in this study contributes to the development of a theoretically grounded understanding of mobile application usage behavior of individuals. Such a theory and associated findings have important managerial and operational implications for mobile advertising and ecommerce recommendations.

4 - Does Perceived Cyber Security Influence Moral Judgment and Purchase Intention

Waymond Rodgers, Professor, University of Texas, El Paso, USA, Cottingham road, Hull, HU6 7RX, United Kingdom, w.rodgers@hull.ac.uk, Wen-Ling Liu

As business-to-consumer mobile shopping grows, mobile commerce (m-commerce) channel providers will need to explore ways to anticipate consumers' needs to deliver an effective and efficient shopping experience. Yet the consumer's decision-making process and its influential factors in mobile commerce is not well-investigated. This paper seeks to understand what influences, such as cyber security protection, affect consumers' purchase intentions in a Throughput Model. More specifically, the authors provide a unique pathway approach to analyzing m-commerce purchasing decisions. These pathways are implemented in order to compare and contrast significant relationships regarding consumer purchasing intention. When influences like perceived cyber security risks and information are combined, they may complement one another and enhance performance relevant to moral judgment, which in turn influences purchase intention. The structural equation modelling analysis results from 278 WeChat's users suggest the trust formation (perceived cyber security, third-party seals, familiarity) on moral judgment behavior has changed. Nonetheless, cyber security trust perception had a statistically significant impact on consumers' decision choices. That is, antecedents of online trust may be necessary to influence purchase intention in order to adopt m-commerce through a specific pathway in the thinking process. Results of this research provide some support that cyber security issues along with other relationships may yield implications for academics and marketers in mobile commerce, and focus on marketing their products and services.

■ FA04

Fertitta Hall, 125, Lower Level

Social Media Network Analysis

Contributed Session

Chair: Ke Li, New Jersey City University, Jersey City, NJ, kli@njcu.edu

1 - A Value-in-context Service Perspective of an Online Health Community: Examining the Macro, Meso and Micro Levels with Social Network Analysis

Cynthia M. Webster, Associate Professor, Macquarie University, Sydney, Australia, cynthia.webster@mq.edu.au, Susan Stewart Loane, Jennifer Chandler

Online health communities provide a place for consumers to engage and co-create valued health information and support. This paper takes a value-in-context service perspective and responds to calls for empirical work that explores value co-creation at the macro, meso and micro levels. The aim is to discover the mechanisms by which consumers within online communities collaborate to create value for each other. Social network analysis, coupled with graph visualization techniques, are used to examine how the different levels interact and influence consumer exchange experiences. The dataset comes from six intermittent weeks of observation within an online community for people suffering from Inflammatory Bowel Disease. The data include 4653 posts within 325 threads posted by 474 unique pseudonyms with 696 posts by 270 community members involved in value co-creation. Results at the macro level reveal a core-periphery structure with both experienced and newer members of the core actively creating and receiving value. A triad census at the meso level indicates that value is not limited to bounded clusters but instead flows throughout the wider community with the directed line is the most frequent connected triad, while complete triads are the rarest. Moreover, the micro level analysis finds few members involved in direct reciprocated value creation. Together the findings across the three levels illustrate the presence of generalized value exchange and an informal stewardship role in which certain community members actively encourage and reward the contributions of others.

2 - Testing the Stability of Supply Chain Networks Exclusive Channels with Hyundai

Hyojin Song, Post Doc Researcher, Microsoft Research, Office 4617, 14820 NE 36th St, Redmond, WA, 98052, United States, hyojins@microsoft.com

Supply chain networks are a complex, dynamic system. An accurate understanding of the supply chain structures is important in the formation of various marketing strategies. However, stability issues have not been largely explored. This paper investigates the stability of the supply chain networks using the entire supply chain networks data in the Korean auto market in 2008 and 2013. I define the stability as the distance between two observed adjacency matrices and test the significance. This is the first direct test and I take two different approaches: the graph spectra approach and the geometric network comparison approach. The graph spectra approach measures the distance between eigenvalues of two observed matrices. The geometric network comparison approach by Asta and Shalizi (2014) measures the distances of projected nodes on Hyperbolic spaces. Hyperbolic spaces are negatively curved metric spaces. Embedding networks in Hyperbolic spaces solves many problems as highly skewed networks behave nicely on Hyperbolic spaces and thus, the number of dimensions decreases tremendously with less biases. The geometric test procedures contain bootstrapping to test if two matrices originally come from the same distribution. Both approaches provide us with a consistent result. the supply chain in the Korean auto market is significantly stable and the stability is derived by long-term and exclusive partnerships with Hyundai and Kia. The results carry direct implications for marketers and strategists.

3 - Exploring Anti-brand Idea Flow Spread Across Brand Community Platforms in Social Networks

Jesheng Huang, Assistant Professor, Tamkang University, 151 Yingzhuan Road, Danshui Dist, New Taipei City, 25137, Taiwan, iamjesheng@gmail.com

The authors adopt a construct of idea flow, i.e., the propagation of behaviors and beliefs through a social network by means of social learning and social pressure (Pentland, 2014), to examine and categorize the anti-brand idea flow spread across brand community platforms in social network. The purpose of this study is to identify what's the anti-brand critique and to explore how these anti-brand critiques can form an anti-brand idea flow spread across brand community platforms. For research design, firstly, the authors use the NodeXL, a social network analysis software, to do text mining jobs of collecting related messages posted on The Wall of target Facebook and then to organize their relationship from the Tables of Edges and Vertices; secondly, all of anti-brand critiques from brand communities are identified through the examinations of SAS Text Miner software; finally, anti-brand idea flow can be formed by constructing the main critical opinion spam spread across brand communities. This study collect users' anti-brand critiques from three brands' Facebook Timeline messages through one year, namely McDonald Taiwan, Mi Taiwan and HTC Taiwan. The result shows that most of users' negative opinion spam are caused by experience avoidance, including new product failures, injustice or lack of fairness on pricing vary, time losses due to line up for new product release, and poor service recovery. More specifically, the anti-brand idea flow not only formed from oppositional loyalty of competitors' consumers, but also from the current brand loyal consumers themselves, which provides our re-examination insights of brand loyalty.

4 - Learning and Predicting the Online Community Evolution

Ke Li, Assistant Professor, New Jersey City University, 110 First St, Apt 20J, Jersey City, NJ, 07302, United States, kli@njcu.edu

Since the birth of social networks, marketers have been leveraging the social networks to build deeper and stronger relationships with their customers. One of the approaches is to foster virtual community through social networks. Traditionally, the analysis of brand community has been static and focused on single snapshots. With the utility of social networks, the online community evolves even more dynamically than ever. In this paper, we apply the probabilistic graphical models to study how online brand community evolves when location, temporality, social context and social media interactions change. The effects of firm- versus customer-initiated engagements on the online brand community evolution are also examined. Our study helps firms to understand how brands may use social media strategically in the important area of building brand loyalty and strengthening customer relationships.

■ FA05

Fertitta Hall, 233, 2nd Floor

User Generated Content & Managerial Response

Contributed Session

Chair: Chunyu Li, Guangdong University of Foreign Studies, 2 North Baiyun Road, Guangzhou, 1, China, chunyuli@ln.hk

1 - A Question to Big Data: When Do Injured Consumers Stay Satisfied ?

Sash Vaid, University of Houston, 8450 Cambridge Street, Apartment 2156, Houston, TX, 77054, United States, svaid@uh.edu

In a first, the author combines big data with a Double Quasi-Experiment predictive model to study more than 4.6 million injuries between 2003 and 2012 reported at U.S. hospital emergency departments. To the best of my knowledge, extant literature has still not probed the impact of Injurious Consumption Outcome on Overall Customer Satisfaction. Also, the big data used in this paper is being put to use for the first time in marketing literature, fulfilling requirements of both volume (over 4.6 million observations) and variety (numeric and text) while offering a longitudinal perspective on a fundamental question that should be of interest to both academic researchers as well as managers. I contribute to the product harm crisis theory and managerial practice by showing the limits of the impact of high Consumer Sentiment on Overall Customer Satisfaction in the presence of a Serious Injury. However, a positive Consumer Sentiment is effective in a product context, minimizing the damage caused by sensitive consumer product injuries by enhancing the overall customer satisfaction. But, economic Growth Prospects appear to have a broader affect than Consumer Sentiment as they attenuate not only the impact of all sensitive injuries but also that of Injurious Consumption Outcome related Sensitive Injury on customer satisfaction. First, I find that on its own Injurious Consumption Outcome's impact on Overall Customer Satisfaction is non-significant, but it is the sensitivity of the consumer product injury that hurts Overall Customer Satisfaction. Second, there are limits to the impact of high Consumer Sentiment on Overall Customer Satisfaction - in the presence of a Serious Injury a positive Consumer Sentiment is effective in a product context. Third, economic Growth Prospects, appear to have a broader affect than Consumer Sentiment. Finally, in case of Injurious Consumption Outcome, Gender does not have much of a role to play when the outcome of interest is Overall Customer Satisfaction. Unstructured part of this big data is modeled through Distributed Cloud Computing and Machine Learning.

2 - Dynamic Effect of Digital Badging on Content Consumption and Generation on User-generated Content Platforms

Ying Xie, Associate Professor of Marketing, University of Texas-Dallas, 800 West Campbell Road, SM #32, Richardson, TX, 75080-3021, United States, ying.xie@utdallas.edu, Shijie Lu, Celine Chen

Many user-generated content (UGC) platforms have utilized gamification tactics such as digital badging as a key mechanism to incentivize user engagement. Yet, the understanding of the effectiveness of digital badging is lacking. In this study, we empirically examine the effect of digital badging on individual user's content consumption and generation behaviors on a UGC platform. We develop a dynamic choice model to jointly capture a user's content consumption and generation, both of which is affected by the user's underlying relationship with the platform and digital badges received. We distinguish two types of digital badges based on their senders: digital badges awarded by the platform (FDB) and digital badges received from peer users (UDB). Using a unique panel data set on users' daily activities from a large UGC platform, we find three distinctive underlying relationship states: a "publisher" state characterized by frequent content generation, a "lurker" state where users avidly consume content yet refrain from generating content, and an "inactive" state where users lack interest in either content consumption or generation. In the short run, while the UDB generally encourages both content consumption and generation for users in all three states, the FDB tends to increase content consumption by publishers and lurkers but decrease content generation by publishers. More importantly, our results reveal a double-edged effect of digital badges in the long run: both the UDB and the FDB tend to encourage content generation but suppress content consumption. We discuss several managerial implications for platform design based on our results.

3 - The Effects of Online Management Responses on Market Demands

Hui Cen, The Chinese University of Hong Kong, CYT Building, 11th Floor, Hong Kong, Hong Kong, huicen@baf.cuhk.edu.hk, Yiwei Li, Chunyu Li, Geng Cui, Jianmin Jia

In our study, we empirically examine how online management responses to the customers' online reviews affect market demands of products. For experience goods, whose true quality can hardly be ascertained before consumption, people tend to explore much information about the target product online. Literatures show that previous customers' electronic word-of-mouth (eWOM) (i.e. online reviews) has been continuously gaining the credibility of the potential customers. Furthermore, platforms, such as TripAdvisor, start to allow hotels' managers to respond to the reviews of previous customers online. As online management responses always go immediately after online reviews and are always publicly observable, management responses will intervene in the information searching and learning stage of potential customers' decision process. On one hand, communication between management responses and corresponding customer's reviews may reveal more information about the product to potential customers (informative effect); on the other hand, the sentiments of management responses may affect the way how potential customers perceive the quality of the products (persuasive effect). In our study, we try to quantify these two effects on market demands of hotel-booking using the data from TripAdvisor. Furthermore, we will also investigate the moderation effects of hotel attributes (e.g. Luxury vs economical) on these two effects. Our study contributes to the burgeoning literature on management responses to WOM, and provides managerial implications in integrated marketing communications strategy, corporate image maintenance as well as customer retention.

4 - Managerial Responses to Online Word of Mouth: Its Dynamics and Impact on Sales

Chunyu Li, Lecturer, Guangdong University of Foreign Studies, 2 North Baiyun Road, Guangzhou, China, chunyuli@ln.hk, Yiwei Li, Peng Ling, Xiangnan Feng, Jianmin Jia

A growing body of literature starts to explore the effect of managerial responses (MR) on online reviews. This paper extends the existing literature by pinpointing the impact MR to online word of mouth (WOM) exerts on firm's revenue. Also, whereas previous literature only examines the effect of initial MR, this paper considers every instance of MR and its dynamic impact on both subsequent rating behavior and product sales. Furthermore, this paper distinguishes between the effects of MR to positive reviews (MR-P) and that of MR to negative reviews (MR-N). Controlling WOM dynamics, we first measure the asymmetric impact of MR-P and MR-N on the arrival of future ratings using dynamic hazard models. We then model sales as a function of ratings and MR to capture both the direct and indirect effects of MR on sales. Results show that MR-N not only directly increases sales but also indirectly does so through its positive effect on future ratings. Counterintuitively, MR-P has a negative effect on future rating and consequently indirectly decreases sales, though it does not have a direct influence on sales. Simulations show that the effect of MR-N is larger than that of MR-P on both future ratings and sales, resulting in a seemingly overall positive effect of MR. These findings inspire managers to leverage the power of MR-N and at the same time avoid possible negative consequences brought by careless MR-P.

■ FA06

Fertitta Hall, 236, 2nd Floor

Crowdfunding I

Contributed Session

Chair: Jihoon Hong, University of Southern California, Los Angeles, CA, United States, jihoon.hong.2020@marshall.usc.edu

1 - Dynamics of Social Influence in Online Crowdfunding

Yiwei Li, PhD candidate, The Chinese University of Hong Kong, Room 1133, 11/F,Cheng Yu Tung Building, 12 Chak Cheung Street, Shatin, N.T. , HK, Shatin, N.T., 999077, Hong Kong, victorli@baf.cuhk.edu.hk, Yuho Chung, Naiqing Gu, Jianmin Jia

Crowdfunding societies are comprised of two types of actors: project creator who proposes a project to be funded, and backers who provide financial support to the project. A growing body of literature starts to explore social impact in crowdfunding and has identified the effects of social influence from the creator's perspective. That being said, which one is more effective, social influence from creator's network or from backers' network? Also, previous literature assumes a time-invariant effect of social influence during the entire fundraising period. This paper aims to make a dynamic comparison of social influence between creator's network and backers' network using a unique data set from reward-based crowdfunding platform and a social networking site. Results show that social influence from creator's network and backers' network display distinctively different dynamic patterns. Social influence from creator's network is more stable and moderate, while social influence from backers' network is more volatile but plays a more important role in increasing the raised amount. Furthermore, the dynamic effects of social influence from the backers' network demonstrate a clear U shape pattern, indicating a strong social impact of backers' influence at the beginning as well as the end of the project. These findings shed light on the dynamic aspect of social influence in crowdfunding and provide fruitful managerial insights in answering to whom and when a project can receive more financing.

2 - Backer Networks and Their Impact on Project Outcomes on Crowdfunding Digital Platforms

Yee Heng Tan, Singapore Management University, 50 Stamford Road, Singapore, 178899, Singapore, yeeheng.tan.2013@pbs.smu.edu.sg, Srinivas Reddy

Crowdfunding platforms like Kickstarter connect project creators seeking funding to backers. Recent research has focused on understanding how project and creator characteristics impact project success. However, there has been little research on how crowdfunding platforms facilitate the development of implicit backer networks and how central backers within these networks influence the outcomes of projects. The current research focuses on developing a method to estimate the backer network along with identifying the central backers of this network and their impact on crowdfunding project success. We propose that central backers will have an impact on other backers and, through them, affect the outcomes of projects, namely a) the success rate b) total percentage of goal funded and c) speed at which the funding goal was achieved. Using project and backer data from Kickstarter, the leading crowdfunding platform, we construct an implicit backer network based on over 1 billion joint backing incidences in projects backed by 46,537 backers. These results indicate that a central backer can benefit the platform by increasing the likelihood of funding success by 82.02%, increase the amount of funds collected by 95.68% and decrease the time taken to reach the funding goal by 3%. Overall, this research sheds light on how a backer network can positively affect crowdfunding project outcomes and offers suggestions on the possible avenues to approach in developing the backer network and gives important implications for platforms trying to balance privacy concerns against the benefits of disclosing backer information.

3 - Making the Product Happen: A Driver of Crowdfunding Participation

David Zvilichovsky, Tel Aviv University, Tel Aviv, 47216, Israel, davidz@tau.ac.il, Shai Danziger, Yael Seinhart

Crowdfunding campaigns, where entrepreneurs seek consumer funding to develop new products and services, foster dynamics that go beyond traditional seller-buyer transactions. This research finds that when participants believe their contribution is pivotal to the creation of a new product their willingness to support crowdfunding campaigns increases. Our findings indicate that the creation of a new product motivates participation above and beyond the desire to help the entrepreneurs. Four controlled experiments garner support for this "making-the-product-happen" motivation. The studies show participants' willingness to back is higher when an all-or-nothing campaign is drawing to a close and its financing target is within reach, and that this effect is driven by future product availability more than by product newness. Furthermore, conditions are identified where making-it-happen dominates herding and an increase in the backing actions of others decreases one's willingness to back. Lastly, consistent with the notion that believing one is pivotal increases participation, an analysis of over 200,000 Kickstarter projects shows 33% of all successful campaigns hinge on the marginal support of no more than three average backers.

4 - Drivers of Serial Success in Crowdfunding Contests: Talent or Luck?

Jihoon Hong, University of Southern California, Los Angeles, CA, United States, jihoon.hong.2020@marshall.usc.edu, Gerard Tellis

It is undeniable that crowdfunding has become one of the most important financial sources to support for generating new ideas and innovation. In the field of entrepreneurship, there are plenty of evidences that serial entrepreneurs are more likely to succeed and raise more funds than novice entrepreneurs. However, the research about the serial creators in crowdfunding is still limited. Therefore, this study analyzes whether serial creators are more successful than novice creators in the crowdfunding platform and investigates whether the serial creators achieve their success by chance. For the analysis, the data was scraped from Kickstarter, one of the largest reward-based crowdfunding platforms. Using Heckman Sample selection model, the authors analyze the impact of prior success on the launch decision for the serial projects and on the performance of the serial projects. The study shows that prior success positively affects the decision to launch the next project and the performance of the next project, and examines that the decision and the performance are positively correlated.

■ FA07

Fertitta Hall, 239, 2nd Floor

Digital Marketing II: Content and Price Management

General Session

Chair: Michaela Draganska, Lebow College of Business, Lebow College of Business, Philadelphia, PA, 19104-6340, United States, draganska@drexel.edu

1 - Determinants of Price Sensitivity for Freemium Products

Julian Runge, Humboldt University Berlin, Berlin, Germany, julian.runge@gmail.com, Michaela Draganska, Daniel Klapper

Freemium - a hybrid pricing scheme that offers the free use of a product in perpetuity and premium upgrades against payment of a fee - is becoming the dominant pricing strategy for digital products. Using data from a large-scale field experiment that randomly allocated users of a freemium mobile game to different price points, we investigate the determinants of user price sensitivity. We find that, beyond exogenous heterogeneity, user behavior and the resulting product experience determine price sensitivity. Importantly, we find evidence that price knowledge may be endogenous to users' intensity of product use: Stronger use of a freemium product leads to higher price knowledge (and saliency). At the same time, conceptually, more intense use of the product is associated with higher utility. Users who use a freemium product intensely hence have better price knowledge (which may increase their price sensitivity) but also have higher utility for the product and therefore higher likelihood to purchase (which implies lower price sensitivity). This study investigates these countervailing effects and discusses their influence on pricing policies for premium upgrades.

2 - Enhancing Freemium Model Performance: Impact of Product Line Extensions

Xian Gu, University of Maryland, College Park, MD, 20783, United States, xian.gu@rhsmith.umd.edu, P. k. Kannan, Liye Ma

Freemium is a widely adopted business model in which a basic version of product is provided free of charge in order to acquire a large group of customers, and a fraction of this customer base pays a price to access a version with increased functionality. The objective of this paper is to investigate how to improve the performance of the freemium model by increasing the number of customers purchasing the premium version. Specifically, we examine the effectiveness of adding a new premium version to the product line on spurring demand for the existing premium version. We conducted a randomized field experiment with a content provider, the National Academies Press (NAP), which offers a free PDF version of books as well as sells a paperback version of the products online. Overall, we show that titles assigned with an additional new version, either e-book or hardcover, have a higher paperback sales quantity than those unassigned. Second, the positive impact on paperback sales is stronger for titles which are highly popular or lower in price. Surprisingly, our results reveal that introducing the e-book significantly increases paperback sales when the e-book price is closer to the paperback price. Finally, our results of analysis of customer choices at the individual level using the data on experiment involving hardcover titles indicate the existence of compromise effect in the empirical setting. These findings have important managerial implications for marketers seeking to improve the performance of their freemium model.

3 - Digital Content and Customer Subscription Behavior
Michaela Draganska, Lebow College of Business, 3141 Chestnut Street, Philadelphia, PA, 19104-6340, United States, draganska@drexel.edu, Pradeep Chintagunta, George Knox

Digital content is increasingly becoming a key differentiator and driver of revenues for service providers. Developing quality content is costly, and there is an abundance of free content monetized through advertising or affiliate programs. Hence, a key question facing managers is how to profitably manage their digital content to attract and retain customers over time. In a digital environment, there is no limit to the assortment a provider can offer. Moreover, the composition of the assortment can change rapidly as new content is added daily or weekly. Providers face a tradeoff between satisfying heterogeneous, potentially variety-seeking, customers and overloading customers with a large number of options. Using a comprehensive database of the transactions of over three million customers of an adult online entertainment website tracked over seven years, we are able to assess the effects of the amount of content and the rate at which it is offered on the acquisition and retention of paid subscribers. Our findings indicate that the content variety offered is more important in attracting new customers rather than retaining existing ones. We also show that customer behavior is affected not only by the total amount of variety, but also the rate at which content is added.

4 - Anatomy of Gaming Communities: Value of Facilitating Social Interaction for Content Engagement
Yulia Nevskaya, Washington University in St. Louis, 334 N Newstead Avenue, Saint Louis, MO, 63108-2708, United States, ynevskaya@gmail.com

Consumption of digital content is often accompanied by social interactions, which take different forms and can originate organically and/or is facilitated by the content provider. This study uses data on social interactions of consumers engaged in playing an online video game. Gamers accumulate experience with the product over considerable period of time, such as weeks or even months, by progressing through the game levels. Consumers can join social groups to explore the content in a social setting and leave any group at any time. The unique aspect of the data is that it records evolution of the complete universe of gamers' social groups and contains a complete record of associations with and behavior in the groups for each gamer. The study suggests an empirical model for users' choice and movement between groups and measures the importance of the drivers that guide associations with groups. The counterfactual analysis is focused on understanding how the availability and diversity of social groups affect the intensity and length of engagement with the content of the game, which employs a monthly subscription business model. This analysis puts a value on the firm's effort in facilitating social interactions in content consumption for this product.

■ FA08

Fertitta Hall, 240, 2nd Floor

Game Theory in Marketing III

Contributed Session

Chair: Luc R Wathieu, Georgetown University, McDonough School of Business, Rafik B Hariri Building #110, Washington, DC, 20057, United States, lw324@georgetown.edu

1 - Repeated Interaction in Teams: Duration and Performance
J. Miguel Villas-Boas, Professor, University of California, Berkeley, Haas School of Business, Berkeley, CA, 94720-1900, United States, villas@haas.berkeley.edu

Many of the activities performed in firms are done by teams, where a common output is observed, but where outsiders cannot observe the individual contributions of each element of the team. This then leads to the possibility of free-riding by some of the elements of the team on the contributions of others. Repeated interaction of a team can then potentially lead to cooperation among the members of the team under the credible threat of returning to a free-riding equilibrium. However, repeated interaction under efficient cooperation of a team may lead to decreasing overall output through time because the benefits of the team working together may be decreasing through time. This then leads for a duration of a team to be finite but stochastic, create inefficiency, but be sufficiently long so that the elements of the team have an incentive to cooperate. This provides a theory of successive team formation and termination in a firm. The possibility for a too long duration for efficient team cooperation, may then lead the firm to reduce the extent of team cooperation, in order to be able to reduce the expected duration of a team, in order to have less losses of the team lasting for too long. When one considers team size, it may also be optimal to reduce the team size at the cost of efficiency, in order for repeated interaction to possibly induce more cooperation among the team members.

2 - Vertical Probabilistic Selling Under Competition: The Role of Consumer Anticipated Regret
Lin Liu, University of Central Florida, Orlando, FL, United States, lin.liu@ucf.edu, Yong Chao, Dongyuan Zhan

This paper studies probabilistic selling with vertically differentiated products when firms compete and consumers anticipate the potential post-purchase regret raised by possibly obtaining inferior products. Intuitively, anticipated regret hurts the attractiveness of probabilistic selling. However, we find that probabilistic selling can be more profitable for the random product provider, and more likely to arise with anticipated regret than without it. This is due to "reverse quality discrimination" (perceived quality of the random product is decreasing in consumers' tastes for quality at the competition margin) in the presence of anticipated regret, which increases the perceived differentiation, and where the random product may still maintain sufficient attractiveness for infra-marginal consumers.

3 - Informal Lending in Emerging Markets
Shubhranshu Singh, Johns Hopkins University, 100 International Drive, Baltimore, MD, 21202, United States, shubhranshu.singh@jhu.edu, Weining Bao, Jian Ni

Micro-entrepreneurs in emerging markets often rely on informal lenders for their routine borrowing needs. This paper investigates micro-entrepreneurs' and informal lenders' incentives to participate in a lender-borrower relationship in a market in which repayments are neither law-protected nor asset-secured. We consider a borrower who seeks a short-term loan, invests in a project, and repays in full using her project earnings if the project is successful. If the project fails, the borrower uses her outside option to repay over a period of time. The analysis uncovers an interesting effect of the borrower's outside option on the loan rate offered by the lender - the loan rate first increases and then decreases with the borrower's outside option. An important policy implication is that an increase in the outside options of the poor micro-entrepreneurs might actually reduce their surplus. Finally, we find that lenders in emerging markets may be more likely to engage in informal lending compared to those in developed or poorer markets.

4 - Over-diagnosis Equilibria: The Willful Marketing of False Positives
Luc Wathieu, Professor, Georgetown University, Hariri Building, 37th and O Streets NW, Washington, DC, 20057, United States, lw324@georgetown.edu, Jeeva Somasundaram

In many markets, the decision to buy a product is preceded by a decision to take a diagnostic test (or, more generally, to gather information about personal relevance). Testing is itself a proliferating industry in many domains, and critics have argued that, particularly in the medical context (but the problem is broadly relevant for many classes of consumer searches), consumers tend to engage in unnecessary amounts of testing. The purpose of this paper is to analyze over-diagnosis as a market equilibrium. We start with a rational analysis of a doctor's decision to test for the presence of a medical condition. Then, we take the perspective of a monopolistic firm that develops and sells diagnostic tests, and we identify this firm's decisions in terms of optimal test coarseness and pricing. We find that it is optimal for firms to offer a sequence of tests of increasing diagnosticity and price, such that a significant pool of consumers will be over-diagnosed initially, as compared to the socially optimal outcome (where the marketed tests would involve fewer false positives). We show how free entry competition on the testing market will not necessarily resolve the over-diagnosis problem.

■ FA09

Fertitta Hall, 241, 2nd Floor

Structural Models and Online Marketplaces

General Session

Chair: Kosuke Uetake, Yale School of Management, 165 Whitney Avenue, Room 5477, New Haven, CT, 06520, United States, kosuke.uetake@yale.edu

1 - Working under Search and Information Frictions: Evidence from an Experiment in an Online Crowdsourcing Platform
Kosuke Uetake, Yale School of Management, 165 Whitney Avenue, Room 5477, New Haven, CT, 06520, United States, kosuke.uetake@yale.edu, Yusuke Narita

We empirically examine the design of fee schedule in an online crowdsourcing platform, where employers may face search and information frictions. To do so, we conduct a large-scale randomized controlled trial and manipulate platform usage fees and the amount of information regarding the fee schedule, respectively. Using the experimental variation, we first estimate average treatment effects of the usage fee and the information. We then exploit detailed information observed in the platform to estimate a structural model of employers and employees to back out labor elasticity of supply in terms of both intensive margin and extensive margin as well as the degree of search and information frictions. These estimates of the structural model allow us to implement counterfactual simulations to examine how to design profit maximizing fee schedule in the crowdsourcing platform.

2 - The Non-Market Effects of Direct-to-Consumer Pharmaceutical Advertising

Bradley Shapiro, University of Chicago Booth School of Business, Chicago, IL, Bradley.Shapiro@chicagobooth.edu

The American Medical Association has recently called for a ban on direct-to-consumer pharmaceutical advertising (DTCA). While there have been several studies linking DTCA to drug sales, there has been relatively little work on the social welfare implications of such advertising. For prescription drugs, the relationship is ambiguous, since consumers of drugs largely do not pay the full cost of the drug at the margin due to cost sharing from insurance. The social desirability of DTCA hinges upon whether the patients who are advertising-marginal stand to gain significantly from treatment. I study this question using advertising data from AC Nielsen on DTCA for antidepressants, cholesterol lowering drugs and rheumatoid arthritis treatments from 2005-2010 as well as insurance claims and work absence data from Truven MarketScan. Using variation arising from the random locations of TV market borders, I study the effect of advertising of these drugs on relevant health and economic outcomes.

3 - Online Marketplace Advertising

Carl F Mela, Duke University Fuqua School of Business, Durham, NC, United States, mela@duke.edu, Hana Choi

This paper considers the allocation of "shelf space" in the context of online marketplaces, where items' positions are linked to advertising. While featuring advertised products makes search less efficient, lowering transaction commissions, it incentivizes sellers to compete for better placements via advertising. We consider this trade-off by modeling both sides of the platform. On the demand side, we develop a joint model of search (impressions), consideration (clicks), and choice (demand). On the supply side, we consider sellers' advertising competition under various fee structures and ranking algorithms. Using buyer, seller, and platform data from an online marketplace specializing in handmade goods, we find that sorting goods by consumer preferences decreases platform profits, as it leads to more lower price item purchases. On the seller side, the high advertising commissions create an incentive for sellers to advertise items in the hope of selling them elsewhere with lower fees. Reflecting this hope, there is a negative valuation from demand for the sellers who advertise, whereas the median valuation for consideration is estimated to be $0.13. We find that both the platform and its sellers are better off when the platform lowers the cost-per-action (CPA) and instead increases the cost-per-consideration/click (CPC).

4 - Identification of Present-biased Discount Functions in Dynamic Discrete Choice Models

Oeystein Daljord, University of Chicago, Chicago, IL, United States, Oeystein.Daljord@chicagobooth.edu, Jaap Abbring

The experimental literature has documented time preferences that in many domains are consistent with present-biased discounting. We derive conditions for partial identification of sophisticated, present-biased discount functions in dynamic discrete choice models. The identification is based on exclusion restrictions that reflect common intuition from the experimental literature. The identified set is characterized as the solutions to a set of moment conditions. Moment based estimators of the discount functions follow directly from the analysis. The estimators are illustrated with an application to observational data.

■ FA10

Fertitta Hall, 313, 3rd Floor

Sales Force: General

Contributed Session

Chair: Helen Si Wang, The University of Hong Kong, The University of Hong Kong, Hong Kong, 85281, Hong Kong, helensw@hku.hk

1 - Does Empathy Improve Marketing Performance? Evidence from High Autonomy Sales Environments in Bangladesh

Sourindra Banerjee, University of Warwick, Warwick Business School, Coventry, CV4 7AL, United Kingdom, sourindrab@gmail.com, Toby Norman, Jaideep Prabhu

Increasingly companies empower salespeople with a high degree of autonomy in how they price and sell services. This practice is particularly prevalent in emerging economies, especially where companies such as Unilever attempt to reach remote rural markets through autonomous salespeople drawn from those communities. The performance of salespeople, however, varies greatly across individuals in these environments. Why do some salespeople in high autonomy environments perform better than others? The authors argue that behavioral characteristics such as empathy play a key role in driving sales performance. Specifically, drawing on recent neuroscience research they propose that a salesperson's ability to see the world from a customer's perspective (cognitive empathy) versus their ability to feel what a customer feels (emotional empathy) differentially influences pricing, volume, and service quality outcomes. The authors test their thesis on data from a high-autonomy salesforce in Bangladesh. The dataset combines multi-respondent survey data from salespeople, supervisors and customers coupled with longitudinal, objective data on prices and sales volume over an 18 month period, creating a comprehensive view of empathy and real sales performance. To deal with the possibility of a potential omitted variable that simultaneously drives both cognitive empathy and sales performance, the authors use the ratio of the number of daughters relative to the number of children that salespeople have as an instrument for cognitive empathy. The results using this instrumental variable approach suggest that cognitive empathy increases salesperson prices, sales volume, and service quality outcomes while emotional empathy increases sales volume but decreases prices and service quality outcomes.

2 - Exploring the Interaction Between Networking Behaviors and Marketing Communications: An Empirical Investigation

Srinath Gopalakrishna, University of Missouri, Trulaske Sr. College of Business, 434 Cornell Hall, Columbia, MO, 65211, United States, gopalakrishnas@missouri.edu, Andrew Crecelius

Salesperson networking behaviors may be viewed as a marketing communications tool to be integrated with other communications mix elements. This research investigates whether such networking behaviors are substitutes for, or complements to, other elements of the communications mix (e.g., advertising). With a focus on advertising executed at the level of individual salespeople, I distinguish between standardized advertising (impersonal, one-way communications such as television) and rich advertising (personal communications involving two-way contact such as local sponsorships), as well as between traditional (i.e., face-to-face or telephone) networking behaviors and social media-based networking behaviors. I consider the generation of both relational (i.e., likely to stay with one firm) and transactional (i.e., focused on a single transaction) prospects as outcomes of interest. I conduct an empirical analysis using a combination of survey and archival data from a large Midwestern auto insurance sales force. Generally speaking, rich advertising interacts positively with social media networking and negatively with traditional networking, while standardized advertising interacts positively with traditional networking and negatively with social media networking. Results are consistent with theories from the communications literature. These findings encourage marketing managers to carefully consider salesperson networking behaviors when making advertising allocation decisions; for example, all else being equal, salespeople favoring traditional networking ought to be supported with a greater degree of standardized advertising.

3 - Interaction Transition: How Managing Dynamics of Professional Service Conversations Influences Advice Adherence

Helen Si Wang, The University of Hong Kong, The University of Hong Kong, Hong Kong, 85281, Hong Kong, helensw@hku.hk, Chi Kin Bennett Yim

For many professional services, advice adherence is an important service outcome determining the service success for both customers and service providers. While service conversations are the main vehicle for value cocreation and greatly influence advice adherence, robust research shows that typical professional service conversations lead to low advice adherence. Drawing from common ground theory and power approach-inhibition theory, we examine how managing dynamic change in professional service conversations influences advice adherence. We use the term "Interaction transition" to capture the extent of change from providers' dominance during the problem diagnosis-advice development stage to customers' dominance during the advice deliberation stage. We show that interaction transition improves advice adherence because it enhances common ground of mutual understanding and shared knowledge. Providers' (technical- vs. customer-) focused consultation and customers' prior knowledge moderate this effect. Using mixed methods of analytical modeling of naturally occurring doctor-patient conversations, controlled and field experiments, we validate the model in contexts of healthcare, financial services, and fitness-wellness counseling. The findings offer important theoretical and managerial implications for managing professional service conversations and advice adherence.

■ FA11

Fertitta Hall, 316, 3rd Floor

New Product Diffusion Takeoff & Technology

Contributed Session

Chair: Herbert Bucheli, Aduno Group, Hagenholzstrasse 56, Zurich, 8004, Switzerland, herbert.bucheli@aduno-gruppe.ch

1 - Zooming in on the International Takeoff of New Products

Margot Loewenberg, University of Zurich, Andreasstrasse 15, Department of Business Administration, Zurich, 8050, Switzerland, margot.loewenberg@business.uzh.ch, Markus Meierer, Rene Algesheimer

Firms need to predict the success of new products early on. Thus far, studies focus mostly on aggregate level such as the takeoff of new product categories. This paper introduces the concept of firm-level takeoff as a more precise measure for predicting and benchmarking the success of new products across various country markets. Thereby, we examine whether firm-level takeoff depends on a firm's entry decision relative to the category-level takeoff. Further, we look at intra-country (e.g. competition) and inter-country (e.g. takeoffs in neighboring

countries) dynamics. This study differs from previous literature in several ways. First, this is the first study to apply the concept of takeoff to firm-level data. We use quarterly subscriber rates of 428 broadband Internet operators across 81 countries from 1996 to 2011. Second, this study introduces the timing of market entry in relation to category-level takeoff as a new metric to predict new product success. Thereby, we control for endogeneity by applying a control-function approach. Third, this study considers both inter- and intra-country dynamics. Fourth, we control for a variety of firm-level and country-level determinants, e.g. cultural variables. Finally, by applying a random coefficient discrete-time hazard model, we address the shortcomings of previous studies by accounting for heterogeneity at the country level and modelling cross-level interaction effects. The study reports the following results: (1) Firm-level takeoff depends on a firm's entry decision relative to category-level takeoff. (2) The effect of competition depends on the economics status of the country. (3) Early product success in neighboring countries shows a mixed impact. Important managerial implications are discussed in detail.

2- Situated Technology Acceptance

Herbert Bucheli, PhD Student, Aarhus University, Fuglesangs Allé 4, Aarhus, 8210, Denmark, herbert.bucheli@aduno-gruppe.ch

Herbert Bucheli, PhD Student, Aduno Group, Viseca Card Services SA, Hagenholzstrasse 56, Zurich, 8050, Switzerland, herbert.bucheli@aduno-gruppe.ch, Joachim Scholderer, Joachim Scholderer

To identify critical factors driving end-user acceptance of new technologies, several framework models have been developed. These include the technology acceptance model UTAUT and its extension. Like other models of IS adoption, both were originally developed for organizational context to assess the acceptance of new workplace technologies among employees. Venkatesh et al (2012) proposed a further extension from UTAUT to UTAUT2, tailoring the model to the context of technology acceptance among consumers. Although the framework has evolved, an attractive property remained: the model is still a "one size fits all" model, typically applied with only minor contextual adjustments. However, some constructs in the extended models are inherently tied to situational context (e.g., facilitating conditions) or are known to vary as a function of such conditions (e.g., hedonic motivation, social influence). In this paper we understand the different factors in the UTAUT2 framework as different attributes in a multi-attribute decision problem. We show empirically that including the context of the choice situation can lead to significant better prediction of whether a new technology will be accepted by consumers. In cooperation with a Swiss credit card issuer, we conducted an online experiment about the adoption of NFC-based mobile payment solutions. Situational context (eight typical payment situations, varied in terms of familiarity and security risk) was experimentally manipulated. UTAUT2 questionnaires with either situation-specific or -unspecific item formulations were used. Choice of payment methods (cash, card, or mobile payment) was measured as the dependent variable. Multi-sample structural equation modelling was used to establish the measurement invariance of the UTAUT2 questionnaire across payment situations and payment methods. Discrete choice modeling techniques showed that the predictive validity of the situation-specific formulation of the UTAUT2 questionnaire was significantly higher than the predictive validity of the situation-unsepcific formulation.

■ FA12

Fertitta Hall, 322, 3rd Floor

Choice Models V

Contributed Session

Chair: Arun Gopalakrishnan, Washington University in St Louis, Olin Business School, One Brookings Drive, St Louis, MO, 63130, United States, agopala@wustl.edu

1 - Solving Large Linear-ordering Problems

Khaled Boughanmi, PhD student, Columbia Business School, 3022 Broadway at 117th Street, Uris Hall, New York, NY, 10027, United States, kb2662@columbia.edu, Rajeev Kohli

The classical linear ordering problem concerns the aggregation of multiple rankings or paired comparisons into a single representative ranking over a set of alternatives. More recently, the problem has been used in meta-search, and for selecting items in Facebook's news feed and Twitter's ``while you were away'' lists. These problems can have hundreds or thousands of alternatives, a small subset of which is selected for a user. The solutions need to be found quickly, sometimes in real time. Conventional approach to solving the problem cannot handle such large numbers of alternatives. We describe a solution method combining statistical and optimization techniques. A maximum likelihood procedure is used to estimate the parameters of a rank-ordered logit model. These parameters are used to implement a randomized algorithm. The maximum likelihood value characterizes a lower bound on the expected value of the randomized solution. We present an application using pairwise-comparisons data collected by TestTube, a YouTube laboratory. Each participant compared multiple pairs of funny videos. The full data has over 20,000 videos, 300,000 pairs of videos and one-million paired comparisons. We used a subset of 2,000 videos that accounted for about 60% of all paired comparisons. Results suggest that the proposed method can quickly obtain near-optimal preference rankings of the videos for problems with up to two thousands alternatives.

2 - Latent Class Random Regret Minimization for Market Structure Analysis

Jooyoung Lim, KAIST College of Business, 85 Hoegiro, Dongdaemoon-gu, Seoul, 02455, Korea, Republic of, xleemjux@business.kaist.ac.kr, Minhi Hahn

Identifying the segments and their sensitivities to marketing mix variables have been one of the most important issues in marketing due to associated marketing implications. Various models have been developed to incorporate the taste heterogeneity in a discrete choice model. However, most of extant researches are limited to the random utility maximization theory. With the growing interest in developing models that are more behaviorally realistic than the conventional random utility maximization model (RUM), the random regret minimization (RRM) model has been recently proposed which has a fundamentally different decision mechanism where consumers are assumed to choose so as to minimize the anticipated regret which can be experienced when foregone alternatives perform better than the chosen one. Increasing attention on the RRM has been made in limited disciplines such as transport, and relatively little effort has been devoted to incorporate taste heterogeneity into it. We aim to fill this research gap in marketing literature by proposing a latent class random regret minimization discrete choice model for consumer choices. In line with extant literature, consumers are probabilistically assigned to segments, but with a different decision rule. A unified market structure can be delineated with the own- and cross-price elasticities derived from the proposed framework. The price elasticities of regret-based and utility-based models yield evidently different implications. Via the Monte Carlo simulation experiment, we show the consequences of imposing incorrect data generating mechanism assumption on the estimated model. Specifically, it results in biased parameter estimates as well as noticeably different model fits and predictions. Further, we provide empirical applications of the framework using scanner panel data and stated preference data on consumers' residential energy use, and compare the managerial implications from the two paradigms.

3 - When do Consumers Prefer to Resolve Uncertainty: Theory and Empirical Evidence

Arun Gopalakrishnan, Assistant Professor, Washington University in St Louis, Olin Business School, One Brookings Drive, St Louis, MO, 63130, United States, agopala@wustl.edu, Raghuram Iyengar, Robert J Meyer

Dynamic consumer decisions have been studied in a variety of marketing contexts such as new product adoption and multipart tariffs with a focus on how "forward-looking" consumers are in making such choices. However, these models remain silent on preferences consumers may have on whether they want to resolve uncertainty as soon as possible, as late as possible, or somewhere in-between. In this paper, we study an important consumer domain - making a sequence of health decisions - in which consumers may have preferences over resolving uncertainty in their health status. We show experimentally that standard discounted expected utility models do not capture the full richness of consumer preferences, and propose an empirical model based on Epstein-Zin preferences that better fits the data. Our work also discusses the conditions necessary for separately identifying preferences for resolving uncertainty from temporal discounting and risk aversion. Our work has implications for researchers estimating dynamic models using field data as well as for policy makers looking for tools to shift consumer health behaviors.

■ FA13

Fertitta Hall, 327, 3rd Floor

Pricing: Tariffs

Contributed Session

Chair: Haojun Yu, Shanghai University of Finance and Economics, Shanghai University of Finance and Economics, Los Angeles, CA, 20043, United States, yu.haojun@mail.sufe.edu.cn

1 - How Many Pricepoints? Theoretical Model and Empirical Evidence

Katerina Kormusheva, Australian National University, Canberra, Australia. katerina.kormusheva@anu.edu.au

This research contributes to pricing theory in product line pricing. The research builds and tests a mathematical model for determining the optimal number of price tariffs and the length of the product line in discriminatory pricing approach for product pricing, together with a theory framework on deciding on product line length in managerial pricing decisions.

In determining the optimal length of the product line pricing, research to date has established that this length is determined by the tradeoff between the demand and cost effects and that it can be obtained by maximizing the total profit with regard to (Chen, 2009). However, existent literature does not answer the questions: which cost effects are relevant to the optimization problem, what characteristics of demand affect the optimization, and how in a mathematical model this can be calculated and optimized. We also respond to direct calls for further research "to determine the optimal number of tariffs and the optimal interval between them" (Lambrecht, 2007, p.709). In differential pricing strategy, how many tariff points to stop at: three or thirteen or thirty? What factors to

consider in this optimization decision? What demand and supply factors are relevant as inflection points for the optimization?
Our mathematical model is based on optimizing the firm's profit function, and in pricing with long product lines, we propose optimization constraint conditions based on three factors: firm capacity, differentiation costs, and elasticity of demand.

2 - An Analysis of Menus of Multi-part Tariffs

Ji-Hung (Ryan) Choi, Eastern Michigan University, 469 Owen Bldg, 300 W. Michigan Avenue, Ypsilanti, MI, 48197, United States, jchoi20@emich.edu, Taewan Kim

It is a widely known that a more sophisticatedly designed tariff brings a higher profit than a simple pricing scheme. We theoretically study which characteristics of three-part tariffs (3PTs) generate greater profit than two-part tariffs (2PTs) and examine the optimal values of 3PTs. The results show that, given a full extraction of low type segment's surplus, the seller can extract more of high type surpluses, whose magnitude is dependent on both the level of quantity allowances and the fixed fee for high type consumers. Literatures argue that when either the taste parameter or proportion of low type is small, offering high type contracts only will be more profitable for the firm since keeping the low type would result in too much information rent being given to the high type. However, by using 3PTs, since the firm can charge greater rent from the high type (by adjusting the level of free allowance and fixed fee), offering both contracts for high and low segments will be more profitable even if the taste parameter is extremely low, regardless of the proportion of the low type.

3 - On the Optimality of Three-part Tariff Plans

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Two and three-part tariffs are widely used, for selling goods, to compensate workers, and in procurement contracts. They are the practical alternatives to the revenue-maximizing non-linear tariff, and are particularly common in services and technology industries, such as telecommunications, software and web services. Two-part tariff (2PT) and three-part tariff (3PT) both impose a fixed (access) fee and a per-unit (usage) fee, but 3PT in addition also bundles some free units (an allowance) into the fixed fee. Intuitively, compared to 2PT, the free allowance (bundled units) in 3PT provides an additional lever to the firm, which allows firm to charge differential marginal rates to improve profitability. However, designing even a single 3PT plan for general cases is a challenging problem. In this paper, we offer a reformulation of the 3PT optimization problem that not only helps us identify optimal solution but also generate new theoretical insights. Our analysis reveals that, when the distribution of consumers' willingness to pay in the market follows increasing demand elasticity, a condition that is commonly satisfied, the optimal 3PT outcomes are identical to 2PT outcomes. Based on our finding now managers can confidently make choice between 3PT or 2PT based on relevant factors (e.g, consumer demand heterogeneity and consumer bias) that may influence outcomes.

4 - A Sequential Search Model with Partial Depth Evaluation

Haojun Yu, Shanghai university of finance and economics, Shanghai, China, yu.haojun@mail.sufe.edu.cn, Lin Liu, X. H. Wang, Yuxin Chen

Conventional sequential search models typically assume that consumers either evaluate all relevant information of a product or do not evaluate any information. This paper provides a sequential search model in which consumers can optimally choose how much information to evaluate by selecting an evaluation depth (e.g., how many attributes to evaluate) for each selected product. We prove that, when there are infinite number of products, there is a stationary stopping rule for the sequential search process with partial depth. In addition, our results show the optimal evaluation depth is also stationary in the search process. Specifically, consumers optimally choose to evaluate products at a partial depth when search cost is sufficiently large. Otherwise, full depth evaluation will be used, as in the conventional sequential search models (e.g., Wolinsky 1986). We also show that firms' prices decrease in search cost through reduced evaluation depth and this makes consumer surplus increase in search cost. Thus, due to partial depth evaluation, firms' prices and consumer surplus are both non-monotonic in search cost. In contrast, when the number of products is finite, we show that the optimal stopping rule is still stationary, but the optimal depth is not and it depends on the previous search outcomes and the number of unevaluated products. In addition, our simulation shows that the equilibrium prices drop as the number of products increases.

■ FA14

Fertitta Hall, 328, 3rd Floor

Marketing & Finance: Advertising & Brands

Contributed Session

Chair: Larisa Ertekin, Texas A&M University, Mays Business School, 220 Wehner Building, College Station, TX, 77843, United States, lertekin@mays.tamu.edu

1 - Marketing in Mutual Funds Industry

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In 2016, active mutual funds in the U.S. managed a total of 11.6 trillion dollars, an amount comparable to the nation's GDP. This industry's revenue is on the order of $100 billion, with over one third of this amount representing expenditures on marketing. Concerned with the size of this expenditure and its potential impact on investor welfare, SEC currently restricts it to be less than 1% of the total net assets (TNA) under a fund's management. In this paper, we study the role of marketing in mutual funds industry, particularly its relation to the allocational efficiency of the industry. We start with the benchmark model of Berk and Green (2004), which prescribes the efficient asset allocation of mutual funds in a frictionless market. By estimating the structural parameters of the model, we document substantial differences between the efficient allocation and the observed distribution of fund size. To explain these differences, we introduce information frictions using the search model in Hortaçsu and Syverson (2004), and further relate these frictions with the funds' marketing activities. In our model, both the expense ratio and broker compensation are endogenous choices of each fund. We find that the marketing intensity explains more variation in fund size than price and historical returns. Further, our counter-factual analysis indicates that tightening of the SEC restriction on marketing would result in a less efficient capital allocation within the active fund sector. At the same time, the overall allocation would become more efficient as more investors would choose passive funds, increasing the overall investor welfare.

2 - Did Hedge Funds Circumvent the Advertising Ban?

Debanjan Mitra, Warrington College of Business, P.O. Box 117155, Dept of Marketing, Gainesville, FL, 32611, United States, dmitra@ufl.edu

A product's advertising is known to increase its umbrella brand affiliated products' sales. Given this beneficial sales spillover effect, we argue that the product's advertising decision could, in turn, be influenced by its umbrella brand affiliated products that need to advertise but unable to do so for some reason. We term this influence as decision spillover. Isolating decision spillover is possible in the asset management industry, where it was illegal to advertise hedge funds but legal to advertise mutual funds until 2013, after which the JOBS Act lifted this restriction. Before the JOBS Act, we find an umbrella mutual fund's advertising increased after an affiliated hedge fund experienced low sales (i.e., fund inflows) or suffered from poor quality (i.e., fund returns), even after controlling for the mutual fund's own circumstances. We argue that this finding is a result of decision spillover as funds with poor sales or quality sought investor interest through affiliate mutual funds' advertisements. Indeed, we find that post-JOBS Act, such decision spillover weakened or disappeared, as hedge funds no longer needed mutual fund affiliates to advertise for them. Overall, our findings support decision spillovers and imply umbrella branding can be used to circumvent advertising restrictions.

3 - Soapbox Profits: How Brand Activism Impacts Abnormal Stock Returns

Yashoda Bhagwat, Assistant Professor, Texas Christian University, Fort Worth, TX, United States, y.bhagwat@tcu.edu, Joshua Beck, Nooshin Warren, George Watson

Brands are increasingly taking public positions on polarizing issues. For example, in 2016 Google, Apple, Starbucks, and many other firms called for a repeal of a North Carolina law regarding LGBT rights. Notably, Target Corporation made headlines over its bathroom policy regarding transgendered customers. While some customers passionately support such firms for their positions, others vehemently disagree and organize nationwide boycotts. From a marketing perspective, brand activism—public statements regarding controversial issues—is questionable. It may please some customers but alienate others. However, there is no empirical evidence of how brand activism impacts firm value. Thus, we conduct an event study methodology of over 200 such instances to understand the impact of brand activism on shareholder value, both in the short and long term. Our findings shed light on the sorts of brand activism that have the largest impact on firm value. Thus, we provide insight to brand managers and contribute to social activism theory by articulating the marketplace incentives that encourage and discourage brand activism.

4 - Hands Off My Brand! The Financial Consequences of Protecting Brands Through Trademark Infringement Lawsuits

Larisa Ertekin, Texas A&M University, Mays Business School, 220 Wehner Building, College Station, TX, 77843, United States, lertekin@mays.tamu.edu, Alina Sorescu, Mark B Houston

Well-known brands are frequently imitated, misused or tampered with. Many of these actions are illegal and constitute trademark infringement. Firms faced with these threats routinely turn to the legal system and file trademark infringements lawsuits in an attempt to prevent revenue losses and brand equity dilution. Despite the prevalence of these lawsuits and the significant negative consequences of trademark infringement, brand protection is a largely unexplored topic in the marketing literature. In this article the authors propose a taxonomy that categorizes all threats that brands can face in the marketplace. Using this taxonomy and a sample of trademark infringement lawsuits filed in the United States, the authors assess the financial consequences of defending a brand in court, contingent on the type of threat and the case outcome. Specifically, the authors examine the stock market reaction at the time of filing, respectively termination of trademark infringement lawsuits. Findings from this research indicate that while investors react negatively in the short-term to firms' filing and even to firms' winning such cases, the long-term performance of firms that successfully leverage the legal system to protect their brands is positive. This research provides the first detailed examination of the threats that brands have to fend in the marketplace as well as insights on how brand protection through the legal system impacts the short and long-term performance of firms.

■ FA15

Fertitta Hall, 331, 3rd Floor

CRM: Customer Loyalty I

Contributed Session

Chair: Filipe Sengo Furtado, WU - Vienna University of Economics and Business, Service Marketing and Tourism, Vienna, 1020, Austria, filipe.sengo.furtado@wu.ac.at

1 - Estimating the Breakage Rate of a Frequent-flyer Program using Individual Level Data

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Airlines' frequent-flyer programs reward their best customers with miles that can be redeemed on future trips. These miles constitute liability that airlines need to report in their financial statements. However, an important proportion of these miles are never redeemed. The breakage rate corresponds precisely to the proportion of mileage credits expected to never be redeemed. In this article we develop a methodology to estimate the breakage rate considering how costumer earn and redeem miles and how the firm decides to expire them. We use individual-level data from a major regional airline and estimate the breakage rate for several customer segments. Finally we evaluate the impact of several changes in the structure of the reward program in the overall breakage rate.

2 - The Impact of Loyalty Reward App on Customer Behavior

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Many firms have launched loyalty reward mobile applications to boost customer loyalty by helping customers manage and redeem their rewards. We empirically examine the impact of such an app on customers' redemption and purchase behaviors using a unique data set from a large consumer goods company. One important challenge in assessing the causal impact of the app is that customers choose whether or not to use the app, and therefore app users could systematically differ from non-users. We apply methodologies from observational studies, including propensity score caliper matching and sensitivity analysis, in order to address the self-selection issue in drawing causal inference. Our results show that the loyalty reward app has an economically and statistically significant positive impact on customers' rate of redemption of loyalty points. More interestingly, the increase in point redemption does not come at the expense of regular purchases from customers, implying that point redemption and regular purchases are not substitutes. We also find that the use of the loyalty reward app primarily increases customers' redemption for products that they have not purchased before. This research sheds light on the potential of loyalty reward app that could stimulate customers to try products that they have not experienced yet.

3 - Loyalty Programs: The Impact on Loyalty, Revenue, and Profit

Federico Bumbaca, Doctoral Candidate, University of California, Irvine, 7116 Palo Verde Road, Irvine, CA, 92617, United States, ricobumbaca@gmail.com

Due to few and small longitudinal panel-based studies of loyalty programs, it remains uncertain whether these programs are effective. Using a very large and comprehensive dataset that consists of panel-based transaction-level purchases for two million customers of a quick-service restaurant chain over a two-year period, we study the impact of a loyalty program on loyalty, revenue, and profit. This is the first comprehensive study of a loyalty program that we aware of that considers the differential impact of a loyalty program on participating versus nonparticipating franchisees (competitors), loyalty program members versus nonmembers (customers), and time, while controlling for the chain's program characteristics, customer characteristics, and marketing programs such as market-specific and national promotions. As compared to nonmembers, we find that loyalty members spend more, increase their spending over time at a lower rate, are more loyal after a hiatus, are less sensitive to market-specific and national promotions, increase spending after accumulating a minimum balance of points, increase spending after a learning period, and increase spending with cash (gift) card balances that exceed a threshold. Loyalty members' share of spending at franchisees that participate in the loyalty program increase more for heavy users, with time, point balances, learning, and cash (gift) card balances that exceed a threshold, but decrease with market-specific promotions. The impact of the loyalty program on profit increases with loyalty membership equally for all customer types (heavy, moderate, and light), at a lower rate than members over time, is independent of a hiatus, decreases with point balances, and increases with cash (gift) card balances that exceed a threshold.

4 - Predicting Share of Wallet and Share of Category Requirements using Customer Loyalty Card Data

Filipe Sengo Furtado, WU, Vienna, Austria, filipe.sengo.furtado@wu.ac.at, Thomas Reutterer, Oded Netzer

Many companies collect large amounts of data from their customers on a daily basis, but there is still a lot of unexplored potential behind the information that is collected. The aim of this study is to use such data to predict consumer behavior outside the focal company's stores. This goal is achieved by combining information on inter-category purchase patterns collected for members of a customer loyalty program with data on purchase activities outside the focal firm obtained through a survey for a subsample of these customers using list augmentation techniques. In this research, the authors focus on Share of Category Requirement (SCR) (across several categories) and Share of Wallet (SOW) as two central outward-looking customer relationship metrics. In order to improve the quality of predictions and the overall knowledge about the industry, several idiosyncratic aspects associated to store location, category-specific purchase activities and their interactions are taken into account since they might drive differences in purchasing habits. The findings of this study can improve the understanding about previously untapped sales potential in customer databases and thus help firms to design their targeting strategies in a more effective and efficient way.

■ FA16

Fertitta Hall, 414, 4th Floor

Advertising Content Design

Contributed Session

Chair: Scott Koslow, Macquarie University, Building E4A, Room 639, North Ryde, NS, 2109, Australia, scott.koslow@mq.edu.au

1 - Optimal Content Monetization on Online Platforms

Christian Hotz-Behofsits, Vienna University of Economics and Business, Welthandelsplatz 1, Vienna, 1020, Austria, christian.hotz-behofsits@wu.ac.at, Nils Wloemert, Nadia Abou Nabout

Many online platforms (e.g., video streaming platforms such as YouTube) allow content creators (i.e., human brands such as PewDiePie) to monetize their content through advertising, or subscription fees, or both. Content owners face the challenge of finding the right mix of income streams. On the one hand, providing content free of charge to consumers might increase their human brand value by attracting a large audience. On the other hand, charging for (part of) the content increases the per-play income from content usage. However, this strategy entails the risk of decreasing the human brand's popularity by restricting access to their content. In addition, charging for content that was previously available for free might lead to a consumer backlash, which might, in turn, negatively affect human brand value. So far, no conclusive evidence exists regarding the question, which of these effects dominates. The present study exploits a natural experiment that recently occurred when the largest video streaming platform worldwide allowed content providers to monetize content through subscription fees in addition to generating income through advertising. This unique setting allows us to analyze how the introduction of a paywall influences demand for content created by the human brand and how it affects its brand popularity on social media channels (e.g., Facebook, Twitter). To test these effects, we analyze a dataset comprising more than 1,500 human brands and more than 162 billion video views over the period of 16 months. We control for unobserved individual effects by relying on a difference-in-difference approach, which allows us to compare the key indicators (e.g., subscribers, plays likes, shares) before and after the paywall launch and relative to those human brands that did not adopt a paywall for their content. Human brands might use these insights to optimize their mix of income streams.

2 - Dynamic Team Composition and Creativity a Qualitative Study of Balancing Novelty and Usefulness in Advertising

Afra Koulaei, PhD student, University College of Southeast Norway, Ringerike, Norway, afra.koulaei@usn.no

Although there is an agreement that creativity is the generation of an idea or a solution, that is both novel and useful, yet, generating ideas that are seen as high in both dimensions- balancing novelty and usefulness- can be difficult. Because novel ideas are by definition different from useful ideas, and indeed in theory novelty and usefulness are negatively related and driven by different psychological processes. Change in team composition is an organizational practice that stimulates creativity, however, our knowledge, of the connections between team compositions and creativity is limited. Because generating successful creativity requires teams to rely on dynamics that imply some form of interactions aim at balancing novelty and usefulness throughout a creative process. We conducted a qualitative study of teams-in creative projects in advertising context-to understand how focusing on balancing novelty and usefulness might shape the interactions in teams and how these interactions evolve throughout the creative projects over time. Advertising teams are unique among group types in that their work is focused on balancing novelty and usefulness in creativity. Dynamic team composition, which emerged from our qualitative study, is driven by the need of balancing novelty and usefulness in creative projects. Throughout the project, in order to achieve their goals and accomplish their task, members of creative teams deliberately compose and decompose. Our analysis reveals that- rather than two distinct concepts- there is a more complementary relationship between novelty and usefulness.

3 - Co-creation or Agency Theory in Marketer-ad Agency Relationships: Do Competitive Account Reviews or Performance-based Compensation Systems Work?

Scott Koslow, Macquarie University, Building E4A, Room 639, North Ryde, 2109, Australia, scott.koslow@mq.edu.au, Sheila Sasser, Huw O'Connor

Currently, many marketing managers apply an agency theory orientation when they seek accountability from their marketing partners by giving incentives for better work. Although this may work in many situations, research shows that it may backfire when used in the creative world of advertising agencies. Actually, the most replicated effect in creativity research is that extrinsic motivation—through rewards and incentives—usually leads to less creativity rather than more. Thus, paying for performance systems that might work with other partners fail to motivate advertising agencies. Within this context, two practices are researched: use of competitive account reviews and performance-based agency compensation and whether they are effective in agencies. Both provide real, tangible rewards for better creative work. The data comes from two natural field experiments involving major advertising agencies from London, Sydney, Melbourne and Auckland, all highly regarded creative markets. Competitive reviews do enhance strategy, originality and creativity in campaigns, but the more critical issue is why? Through moderation analysis, we find that when in competitive reviews, clients are more willing to explore creative ideas, and they are also more likely to get the agency's first choice of work—factors that are entirely within the control of clients not agencies. There are no direct effects for performance-based compensation, but these systems destroy the positive influence that trust has on driving more strategic and original work. Overall, performance-based systems that may work well for subcontracting firms do not apply to advertising agencies, and marketing clients need co-create as a partner with their agency to get the best creative work.

4 - Automatic Abstraction of Commercial

Shasha Lu, University of Cambridge, University of Cambridge, Trumpington Street, Cambridge, CB1 9YS, United Kingdom, fdshashalu@gmail.com, Min Ding

Advertisers strive to produce effective commercial ads with smaller budgets, which are largely determined by the length of the commercial. Building upon the literature on video abstraction and machine learning from computer science as well as research on commercial advertisements from marketing, the authors propose a method to automatically extract critical information from different types of commercials and produce shorter length commercials with minimum loss of effectiveness. This method can potentially reduce the length of commercial without jeopardizing advertisement effectiveness, thus reduce the cost of ad campaign. We test the commercial abstraction model in an empirical study where effectiveness of commercial is measured by recall, attitudinal variables as well as purchase intention. The application of the proposed model is expected to greatly reduce ad campaign cost while maintaining effectiveness of the commercials.

■ FA17

Fertitta Hall, 416, 4th Floor

Brands & Social Media I

Contributed Session

Chair: Arnaud De Bruyn, ESSEC Business School, Avenue Bernard Hirsch, Cergy, 95000, France, debruyn@essec.edu

1 - The Relationship Between Brand Post Characteristics and Customer Engagement on Social Media

Teerawut Techachaicherdchoo, PhD Candidate, Maastricht University, Tongersestraat 53, Maastricht, 6211 LM, Netherlands, t.techachaicherdchoo@maastrichtuniversity.nl, Jos Lemmink, Ko de Ruyter, Tapanan Yeophantong

Over the last decade, the use of social media has experienced an explosive growth and it rapidly became part of our everyday life. While numbers continue to grow, firms have also recognized its potential as a means to interact with their customers. Next to being a valuable source of customer insights, it offers companies a platform for faster and easier communication. This explains why companies around the globe use social media platforms to share content such as text messages, images and videos on their social media accounts. However, some companies still doubt the effectiveness of social media. Prior business research show that content which have poor proofreading, poor grammar, and difficult to digest the content did not drive the customer engagement. Therefore, in this paper we assess the relationship between brand post characteristics (text complexity, syntactic complexity and noisy text) and customer engagement on social media (number of favorites and retweets). We do this by analyzing 5,238 brand posts on Twitter from nine international brands spread across two industries. The results show that text complexity, syntactic complexity and hyperlinks to websites have a negative influence on how many times the brand post was added to favorites and retweeted. However, the results also show that some variable of noisy text as abbreviation and special characters can enhance the number of favorites and retweets of the content, while the use of non-standard words may decrease this metric.

2 - Effects of Branded Celebrity Posts on Customer Engagement in Social Media

Goetz Greve, Professor of Marketing, HSBA Hamburg School of Business Administration, Adolphsplatz 1, Hamburg, 20457, Germany, goetz.greve@hsba.de, Andrea Schlüschen, Claudia Fantapié Altobelli

Celebrities' social media accounts opened new ways for companies to promote their brands and products. Although celebrity endorsement in social media is already a heavily used marketing technique, research on the topic is still in its infancy. In this study, 468 posts on U.S. celebrity Facebook fan pages were identified as advertisement by their use of the hashtags "#ad" and "#sponsored", and analyzed to find out the content characteristics that influence customer engagement regarding "likes", "shares", and a net comment score that accounts for the valance of the users' comments. To estimate the main effects as well as testing the hypotheses, partial least squares was used. The study provides insights in two aspects: First, a model for explaining customer engagement behavior on a Facebook celebrity fan page is derived. Second, analysis shows - contrary to prior studies - a significant difference of the impact of brand posts on celebrity pages to brand pages. In contrast to brand pages, showing no significant effects, the focus should not be on persuasion oriented content characteristics. Including rich media elements like photos or videos, which were partly advised against on brand pages, do have a significant and positive influence on the customer engagement. These elements should ideally show both the celebrity and the brand together to increase the number of likes. It is recommended to keep interactive content on a moderate level and moreover, to select a celebrity endorser that already has a high number of page likes to enhance post likes. The research findings can guide marketing managers to successfully adjust branded posts to the special settings of a celebrity page to increase customer engagement.

3 - The Charitable Giving and Market Entry of Walmart

Jinghui Qian, Rotman School of Management, 105 St George Street, # 573, Toronto, ON, M5S 3E6, Canada, jinghui.qian12@rotman.utoronto.ca, Andrew Ching

Anecdotal evidence suggests a company may use charitable giving to smooth its market entry especially when the market entry may encounter oppositions (e.g., protests). Does this suggest that charitable giving can serve as a strategy tool to facilitate a company's business? Or how much benefits can a firm obtain via charitable giving? To answer these questions, we deviate from the conventional marketing and economic literature that assume free market entry and factor in political entry opposition. We use detailed information about Walmart charitable giving, its market entry related activities, and social media WOM to study Walmart's charitable giving and market entry interactions. We exploit the variations of social media WOM and Walmart's charitable giving in city level to evaluate the effect of Walmart's charitable giving on improving its images. We find that Walmart's charitable giving has a positive effect on improving its corporate image and on increases its success of market entry. In the counterfactual simulations, we show that charitable giving has a much higher value than the cost for Walmart and shutting down charitable giving would cause Walmart a significant reduction in store establishment. In addition, banning entry oppositions (e.g., protests) will have a moderate effect on reducing Walmart's charitable giving.

4 - The Spillover Effects of Online Word-of-Mouth on Rival Brands

Arnaud De Bruyn, Professor of Marketing, ESSEC Business School, Avenue Bernard Hirsch, Cergy, 95000, France, debruyn@essec.edu, Anatoli Colicev

The authors develop a conceptual framework for the spillovers effects of positive and negative word-of-mouth on rival brands' consumer purchase journey decomposed in three main stages: consideration, purchase and recommendation. Using a unique daily level dataset of 146 brands in 73 sectors over a period of 575 days they find evidence for the (1) existence (2) direction and (3) strength of positive and negative word-of-mouth direct and spillover effects on consumer purchase journey of two rival brands: market leader and a follower. First, they find that both negative WOM and positive WOM are strong predictors of both leader's and follower's stages of consumer purchase journey. Second, they show that spillover effects are asymmetric. In particular, they conclude that market leaders are partially "shielded" from negative WOM, but contrary to intuition and prior findings, their top-of-mind awareness make them more susceptible to negative spillover effects when a crisis hits their followers. Third, they find that the strength of the WOM spillover effects depend on brand awareness and similarity. Specifically, if both the leader and the follower are (1) well-known or (2) similar brands, the association between them is higher and thus, a higher spillover effect of WOM.

■ FA18

Fertitta Hall, 417, 4th Floor

Consumer Behavior Anomalies

Contributed Session

Chair: Kangjun Choi

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1 - Evaluation of Multistage Service Experience using Experimental Design

Sheila Roy, Assistant Professor, S. P. Jain Institute of Management and Research, I 704 Raheja Vistas Raheja Vihar, Chandivalli, Mumbai, 400072, India, sheila.roy@spjimr.com, Indrajit Mukherjee

Customers usually experience service through a series of interrelated stages partitioned by logical breaks. In behavioral sciences, researchers had studied the phenomenon of evaluative judgement of partitioned experiences to discover the rules of integration that individual use to combine stimuli for overall evaluations (Ariely and Carmon, 2000; Ariely and Zauberman, 2003). They find that when experiences are partitioned, the overall evaluation of the experience is impacted by summary evaluations of each partition rather than gestalt characteristics, such as peak experiences or evaluation of the various service attributes that give rise to the experience (e.g. responsiveness). However, the impact of the experience evaluation of earlier stages or partitions on subsequent customer experience, and finally on the overall evaluation of the service experience remains unexplored. This effect is termed the 'cascade effect' and implies that the output of each stage is influenced by attributes in that particular stage and also by outcomes from previous stage(s). This paper attempts to understand 'cascade effects' of customer experience in prior stages by undertaking a factorial experimentation design.

2 - Pain of Payment and the Moral Tax: The Neural Basis of the Credit Card Effect

Sachin Banker, University of Utah, Salt Lake City, UT, United States, sachin.banker@eccles.utah.edu, Derek Dunfield, Alex Huang, Drazen Prelec

Credit cards are believed to heighten the willingness to pay for products by alleviating the pain of payment during purchase. We tested this hypothesis at a neural level. In a functional magnetic resonance imaging (fMRI) shopping task, participants bought items available either with credit card or with cash. They were more inclined to spend on high-priced items when offered for sale with credit card rather than cash. Purchase decisions were neurally distinguished from non-purchase decisions differently based on both the payment method and the price of the item. When shopping for products using credit, price did not matter: purchase decisions were differentially associated with heightened striatum and ventromedial prefrontal cortex (VMPFC) activity, regardless of the cost. However, when shopping for products using cash, price mattered: for low priced items, purchases were again associated with heightened striatum and VMPFC activity, but for high priced items, purchase decisions were instead differentially related to deactivation in the right anterior insula cortex (rAIC). Furthermore, participants displayed sustained activity in the striatum and VMPFC after choosing to purchase high priced products, but only when they were paying with credit rather than cash. This evidence together suggests credit cards can drive greater spending by numbing people against the pain of payment and heightening reward sensitivity.

3 - Is Time Money and Money Time? Mindset as Moderator

Dipankar Chakravarti, Virginia Tech, Ellicott City, MD, United States, dchakra1@vt.edu, Debjit Gupta

Time and money, considered as distinct resources, influence consumer judgment and behavior by inducing differing perceptions of resource slack (Zauberman and Lynch 2005), or shifting evaluative focus through personal connection (Mogilner 2010, Mogilner and Aaker 2009). However, other decisions require mapping time to money or vice versa, with the mapping direction depending on the given situation. For example, courier services offer expedited delivery time as a service with a price (money) schedule linked to delivery speed. In some situations, consumers may consider a desired level of delivery speed (e.g., due to a time constraint) and assess an appropriate price that they are willing to pay. In others, the consumer may need to assess the appropriate service level that they are willing to accept in return for a specific amount of money (dictated, say by a budget constraint). The mapping direction may also be induced by whether the consumer is in a participative or a posted price situation. This paper examines whether the mapping of time and money is invariant across these two judgment situations. The direction in which the mapping is elicited (money to time versus time to money) may matter because of differences in implied endowment effects (Kahneman, Knetsch and Thaler, 1990), exchange asymmetries (Plott and Zeiler 2005, 2007), and/or the information processing mindset (analytic or affective primacy) induced in judgments of time and money (Lee at al. 2015). We experimentally examine how the mapping direction impacts the mapping of time and money and the moderating effect of a mindset prime. The results suggest that these factors may produce systematic and robust differences in implied price sensitivity, with implications for the managerial use of posted versus participative pricing.

4 - Can Foods Nearing Expiration Look More Attractive?: The Effect of Nearing Expiration Date on Purchase Intention for Vice and Virtue

Kangjun Choi, Yonsei university, Seoul, Korea, Republic of, kjun628@gmail.com, Jaeyoung Lee, Byeongkyu Kim, Keunwoo Kim

Expiration date generally refers to the last day on which a product, typically perishable like foods or beverages, must be sold to end-users. There is a common belief that products closer to the expiration date have less value to consumers, so they are often sold at discounted prices. In this study, however, we claim that consumers perceive products closer to the expiration date even more attractive in some cases. To be specific, we expect that closer expiration date tends to make vice products more attractive but virtue products less attractive. In this study, we elaborate on the theoretical ground behind our prediction, and examine the argument with three different empirical studies. In the first study, we analyze the sales data of an online retailer which majorly deals products that expire in a year or less. Next, we run a lab experiment where respondents are asked to reveal their willingness to pay for different imaginary products with different expiration dates. Finally, a field experiment is conducted where real products are sold in convenience stores around the campus. The empirical results of three studies are consistent to our theoretical prediction, and we discuss the theoretical and managerial implication of our findings.

Friday, 10:30AM - 12:00PM

■ FB01

Fertitta Hall, 101, Lower Level

Channels: Competition III

Contributed Session

Chair: Lingling Zhang, University of Maryland, College Park, 3457 Van Munching Hall, College Park, MD, 20742, United States, lingzhang@rhsmith.umd.edu

1 - Cooperative Advertising for Competing Manufacturers: The Impact of Long-term Promotional Effects

Salma Karray, Associate professor, University of Ontario Institute of Technology, 2000 Simcoe street north, Oshawa, ON, L1H 7K4, Canada, salma.karray@uoit.ca, Guiomar Martin-Herran, Simon-Pierre Sigue

The effectiveness of cooperative advertising programs is studied in a market where two competing manufacturers deal with an exclusive retailer and two products. Two two-stage game theoretic models are developed to analyze the long-term effects of retailer's promotions, which can be positive or negative, on the effectiveness of cooperative advertising. Closed-form equilibrium solutions are obtained and compared. We find that the level of product substitutability and the sign and magnitude of the long-term effects of retailer's promotions on sales determine whether cooperative advertising should be offered and accepted by the manufacturers and retailer. In particular, depending on the level of product substitutability, cooperative advertising can benefit both the manufacturers and retailer even when retailer's promotions negatively affect future sales. Conversely, it may not be in the interest of the manufacturers to offer cooperative advertising when the products are fairly undifferentiated regardless of the nature of the long-term effects of promotions. Finally, the manufacturers and retailer may refuse to respectively offer or participate in cooperative advertising programs that enhance total channel profits.

2 - The Factors Associated with Consumer Accessing E -commerce Sites: Pre-purchase Search and Selecting Other Channels

Naoki Akamatsu, Chiba University of Commerce, 1-3-1 Konodai Ichikawa-shi, Chiba, 272-8512, Japan, akamatsu1986@gmail.com

The Japanese government department shows that sales in e-commerce sites tend to increase year by year and this trend will continue in the future in Japan. And e-commerce sites are more associated with other channels (e.g. offline channels, catalog selling, etc.) by the widespread of smartphone (Brynjolfsson et al.2013; Verhoef et al.2015). Then we should consider the consumer selecting other channels to understand the consumer behavior in terms with accessing e-commerce sites. In addition we consider consumer pre-purchase search because consumer behavior in e-commerce sites and internet environment is quite different for the ability for information search (Alba et al.1997; Hoffman and Novak1996). Thus this study analyzes the factors, pre-purchase search and selecting other channels, associated with consumer accessing e-commerce sites. As a result we show that (1) e-commerce sites accessing or not is associated with the internet experience level (e.g. page view of Google, Yahoo!, etc.), (2) each channels are different in the relationship with e-commerce sites, for example, consumers who regularly purchase in a shopping mall or a department store do not frequently tend to access e-commerce sites (alternate relationship) on the other hand consumers who regularly purchase in a general merchandise store or a book store tend to access e-commerce sites frequently (complementary relationship) and (3) interaction between purchase in each channels and pre-purchase search is associated with consumer accessing e-commerce sites. Consumer behavior in terms with selecting channels is changing by the widespread of smartphone. Therefore these findings are the basic knowledge of selecting channels including e-commerce and contribute the future studies.

3 - Channel Contracts Among Asymmetric Players with Incomplete Information: The Role of Marketing Interventions under Preference Heterogeneity and Quality Differentiation

Shameek Sinha, Assistant Professor, IE Business School, IE University, Calle de Maria de Molina, 12, 5th Floor, Madrid, 28006, Spain, shameek.sinha@ie.edu

Incomplete information about market structure and asymmetric competition between upstream and downstream channel partners poses challenges in contractual negotiations. Horizontal and vertical product quality differentiation accentuated by service effort and marketing actions by the players requires competitive reactions within and across channel hierarchies. Also, idiosyncratic preference heterogeneity of consumers introduce dynamics during bargaining with direct repercussions and indirect spillovers. We model the design of contracts in multidimensional channels, where power structures differ between manufacturers and retailers. Starting with the symmetric Hoteling-type framework of product quality differentiation and preference heterogeneity, we gradually introduce asymmetric retailers and manufacturers, information incompleteness as well as service effort and marketing actions. The principal-agent model structure satisfies incentive compatibility and individual rationality constraints. Finally, we incorporate demand uncertainty to replicate realistic demand functions and sequential bargaining between players to address differences in negotiating powers. With symmetric manufacturers and asymmetric retailers, greater effectiveness of effort with low costs lead to lower manufacturer wholesale prices and higher retailer effort, but lowers profitability of the channel. When asymmetric manufacturers and retailers contribute to effort, there is tradeoff between the retailer and manufacturer effort, contingent on cost and effectiveness of effort and channel profits increase. Product and preference differentiation is pronounced. Demand uncertainty lowers effort levels and profits. Sequential bargaining with asymmetric players moderates effort levels and mitigates market power.

4 - Strategic Channel Selection with Online Platforms: An Empirical Analysis of the Daily Deal Market

Lingling Zhang, Assistant Professor, University of Maryland, College Park, 3457 Van Munching Hall, College Park, MD, 20742, United States, lingzhang@rhsmith.umd.edu, Doug J. Chung

The prevalence of online platforms opens new doors to traditional businesses for customer reach and revenue growth. This research seeks to understand the dynamics of platform choice. We compile a unique and comprehensive data set from the U.S. daily deal market, where the merchant makes a tradeoff between current and future payoffs, and the platform makes a tradeoff between earning revenues and growing its network size. We specify and estimate a two-stage structural model based on Nash bargaining solutions and generate insights on how the size of platforms, the commission rate, and the allocation of bargaining power jointly determine price setting and platform differentiation among different types of merchants. We find that merchants' price-bargaining power varies and that larger chain merchants have a stronger influence on price setting than smaller independent merchants. We also find that merchants pay lower transaction costs and have greater bargaining power on the smaller platform, suggesting that merchants can take advantage of the smaller platform's lack of market power despite its smaller customer base. Our counterfactual results show that larger chain merchants are more incentivized to use the larger platform when higher sales compensate for higher commission rates and lower bargaining power.

■ FB02

Fertitta Hall, 102, Lower Level

Online Design

Contributed Session

Chair: Alexander Bleier, Boston College, 140 Commonwealth Avenue, Fulton Hall 448, Chestnut Hill, MA, 02467, United States, bleiera@bc.edu

1 - The Effects of Digital Payments Adoption on Charitable Giving

Subroto Roy, Professor of Marketing, University of New Haven, 584, Derby Milford Road, Orange, CT, 06477, United States, Dr.SubrotoRoy@gmail.com, K. Sudhir

Around the world, firms and governments are seeking to encourage consumers to use digital payments, given their overall lower costs. We plan to use a natural experiment around demonetization of high value currency notes that led to a cash shortage and increased usage of digital payments in India to study spillover effects of digital payment adoption on charitable giving. First, do credit card payments increase even with donations over mail, even if there have been no change in the ability to use checks? Second, do consumers shift to online payments in response to their greater comfort with the use of digital cash? Third, do consumers under greater time pressure around the tax deadline increase giving, as they are now more comfortable with online payments, while previously they may decide not to give at all? Our results have implications for firms seeking to understand the spillover implications of digital payment adoption on channel usage and purchase timing.

2 - Improving Engagement with Firm-generated Social Media Content Through Computer Vision

Eugene Pavlov, Doctoral student, University of Washington, 4009 15TH AVE NE APT 822, Seattle, WA, 98105, United States, epavlov@uw.edu, Natalie Mizik

Visual social media content is becoming an increasingly important component of firms' marketing strategy. We develop a computer vision-based model to predict consumer engagement with firm-generated visual content and show that engagement is affected by consumer sentiment. First, we use over 80,000 images of original art created and shared in 2004-2016 through deviantart.com and extract low-level visual features of digital artwork (e.g., HSB and RGB color distributions, edges, corners, etc.). We link these features to "image sentiment" (high/low valence and arousal of the images). Image sentiment is inferred through mining image description and user comments for sentiment-specific keywords using ANEW dictionary. Our model has over 70% out-of-sample accuracy in identifying image sentiment based on visual features. Next, we use time-series of likes for each image to develop a dynamic model of daily liking for visual content and link it to consumer sentiment. We use natural language processing techniques to analyze content from top 70 news providers to generate daily consumer sentiment series. Our consumer sentiment index is positively correlated with liking of high-valence art and is negatively correlated with liking of low-valence art. Importantly, we show that engagement with visual content depends on both, image and consumer sentiment. We validate this finding with differences in differences analysis exploiting the differential in the US vs. UK sentiment and engagement with firm-generated visual content. Our visual sentiment model provides firms with a real-time tool to develop visual content for social media to increase user engagement.

3 - Digital Marketing on Enterprises

Maria Gomes, Lusofona University of Lisbon, Lisbon, Portugal, mariagomes794@gmail.com

Digital marketing can be considered the way a brand, product or service is promoted over the digital sources. The objective is to create and strengthen relationships with established target audiences, resulting in an increased sales and customer satisfaction and loyalty. These can be served by various media and platforms such as: websites, social networks, mobile applications (apps), email marketing, sms's, among others. These examples are very present in our daily lives. More and more we are "interrupted" during our daily scrolling on social networks like Instagram, Facebook or Twitter that shows us new products of a certain brand or reminds us of the event that a brand / company has created in order to boost its visibility and positioning in the market. Many brands nowadays also bet on digital marketing through bloggers/models/celebrities with many followers on the social networks or even on the blog they own, if that is the case, to try to get their product into to the intended audience. There are numerous techniques for placing this type of advertising to be viewed by a greater number of people and to achieve the established objectives. This is something that I will deepen in this paper. Through some research, and exercises I'll show which are the benefits that companies obtain through these media, what are the disadvantages and if it is something that has a promising future or can be a source that will be discontinued over time.

4 - Effective Selling on the Web: How Content Factors Influence the Performance of Online Product Listings

Alexander Bleier, Boston College, 140 Commonwealth Avenue, Fulton Hall 448, Chestnut Hill, MA, 02467, United States, bleiera@bc.edu, Colleen Harmeling, Robert Palmatier

The importance of the Internet as a commercial platform is ever-growing. With more and more firms selling vast amounts of products, competition becomes increasingly fierce. Today, success in the online retail environment hinges not only on offering superior products, but on their effective presentation. While previous research has examined the influence of various web design content factors on consumer response and firm performance, these studies typically focus on a limited set of content factors and a single business context. Research on the impact of multiple factors across contexts is missing. Yet, this knowledge is highly important for firms in order to create effective content for individual product listings. To bridge this gap, we collaborate with an online content agency and four international manufacturing firms. We conduct a series of 16 large-scale lab experiments to investigate how 13 content factors shape the online experience of product listings and ultimately determine their performance. In addition, we demonstrate the moderating effects of brand and product characteristics. Our results further extant research on online content strategies and provide managers with concrete guidelines for their retail marketing efforts on the Web.

■ FB03

Fertitta Hall, 105, Lower Level

Mobile Marketing & Advertising

Contributed Session

Chair: Kaiquan Xu, Nanjing University, Business School, 22 Hankou Road, Nanjing, China, kaiquan.xu@gmail.com

1 - Personalizing Ad for Mobile Targeting

Zhuping Liu, University of Texas at Austin, 1 University Station, Stop B6700, Austin, TX, 78712, United States, zhuping.liu@utexas.edu, Vijay Mahajan

We integrate each shopper's past behavior into mobile targeting and empirically test how marketers should target shoppers, and when targeting personalization can help with mobile engagement, shopping duration and a visit to a retailer online or offline. In a large-scale field experiment, We construct each shopper's affinity score to each retailer based on shoppers' past in-app browsing behavior and/or offline shopping behavior, randomize the targeted push message sending time, and manipulate the push message content (e.g., general message, specific offer, etc.). Using data from the field experiment, we fit an empirical model to understand the effects of personalization in mobie targeting by controlling for factors like each shopper's distance from the location a push message is received to the nearest store.

2 - The Effects of Volume and Valence of Communication, Service and Earned Touchpoints on Customer Satisfaction: A Real Time Attribution Approach

Umut Konus, Associate Professor, Amsterdam Business School, Amsterdam Business School, Plantage Muidergracht 12, Amsterdam, 1018TV, Netherlands, u.konus@uva.nl

Jing Li, Hugh Wilson, Emma MacDonald, Fred Langerak

This study investigates the effect of communication, service and earned touchpoints on customer satisfaction in banking, healthcare and telecommunication industries and focuses on the effect of the (i) sequence of touchpoints and (ii) the interactions among different touchpoints along customer journey on customer satisfaction. Previous studies on customers touchpoints consider only one or two types of touchpoints, by focusing on on either volume or valence of a touchpoint and not on both metrics. This is an important gap; because for many researchers and managers it is crucial to understand which touchpoints matter more/the most in different situations to enhance customer satisfaction. In our research we fill this gap by using a real-time tracking approach where customers report their touchpoint encounters in real-time through mobile devices. We analyze multiple types of touchpoints and metrics in multiple industries. Our results reveal that the valence (affective emotional response) have stronger effects on satisfaction than the volume (frequency) of touchpoint encounters. Our findings also suggest that that valence of communication, service, and earned touchpoints positively impact customer satisfaction and researchers should particularly consider the effect of the valence of the last/ most-recent encounter that most positively impacts the satisfaction.

3 - Effectiveness of Location-based Behavioral Ads

Christine Eunyoung Sung, Assistant Professor, Montana State University, College of Business & Entrepreneurship, Bozeman, MT, 59718, United States, ChristineSung@montana.edu

Mobile marketing is becoming attentions to companies and consumers these days. Precise tailoring of mobile advertising saves advertisers' money by avoiding sharing ads with consumers who will not be interested in them. It also avoids annoying consumers with superfluous information. Thus, the current study is to answer the questions what determines the effectiveness of personalized mobile advertising in the context of location-based mobile apps. In the current study, it is to investigate the effects of personalized behavioral advertising targeting (i.e. time, place, and special season/holiday) on advertising clicking and re-visiting intentions moderated by brand trust levels, applying different experimental conditions to test their impact using a location-aware app. The present study is also to investigate these personalized behavioral mobile ads compared to non-personalized behavioral ads on consumer ad responses moderated by advertising interest (e.g. design, text), and anticipated gains and loss. ANOVA, MANOVA and SEM were conducted to analyze and explain the relationships from experimental ad stimuli to ad responses with moderators among four groups (high vs. low trust with behavioral ad vs. non behavioral ad groups). Findings indicated that the existing brand trust contributes to behavioral and non-behavioral advertising responses, which, in turn, affects positive advertising clicking and revisiting rates of the received ads via mobile. The behavioral ad works best when consumers have high existing brand trust toward the received behavioral (i.e. time & location) ads. Otherwise, due to dissonance theory, consumers who do not have high trust toward brand are looking for others to respond their received ads (e.g. ad design, text).

4 - What Happens when TV Advertisement Meets Mobile? The Impacts of Mobile App in TV Shopping

Kaiquan Xu, Dr., Nanjing University, Business School, 22 Hankou Road, Nanjing, China, kaiquan.xu@gmail.com, Xi Chen

With mobile device is becoming the key component to connect multi-screens. It is necessary to explore the impacts of the emerging mobile devices on the effectiveness of TV advertisement. In this study, we use a nature experiment to identify the TV advertisement's effectiveness after mobile app is adopted in a TV shopping platform. The findings show, although the total purchase amount increase after mobile device is used, the increase does not come from the TV advertisement, but from the rise of purchase of non-advertised products. The findings of this study contribute to the multi-channel marketing and advertisements, and also help sellers to plan effective advertisement strategies.

■ FB04

Fertitta Hall, 125, Lower Level

Social Media Networks I

Contributed Session

Chair: Juliana Huppertz, University of Hamburg, Welckerstraße 8, Hamburg, 20354, Germany, juliana.huppertz@wiso.uni-hamburg.de

1 - Can an Advertising Message Impact the Content of Mass Media? An Examination of the Dove Campaign for Real Beauty

Jun Bum Kwon, PhD Student, University of Toronto, 35 Charles Street West, APT 604, Toronto, ON, M4Y 1R6, Canada, junbum.kwon12@rotman.utoronto.ca, Avi Goldfarb

This study explores whether advertising messages can change the topics reported in mass media. Specifically, it examines whether Dove's real beauty campaign increased the incidence of real-beauty-related topics in newspapers. We compare the content of newspapers in the U.S., U.K., and Canada during the campaign in those countries, with the content of newspapers in those countries before and after the campaign, and with the content of newspapers in Australia and New Zealand, where the campaign started later. Using a topic model, we segment beauty-related topics and identify topics related to real beauty. The number of sentences labeled as real beauty topics increases during and one month after the campaign. This is not driven entirely by reporting on the Dove campaign: The significant relationship holds after excluding all articles that mention Dove. Furthermore, words related to social or cultural change were more often used during the campaign. Overall, these results suggest that advertising can affect the topics covered by mass media. While the Dove campaign's significant impact on real beauty topics around the time of the campaign holds even in newspapers without Unilever ads, the impact is larger in newspapers containing Unilever ads during the campaign. Overall, this evidence is consistent with both a mass media's public service role and an advertiser pressure influencing mass media content.

2 - Financial Constraints and Word of Mouth

Stephanie Tully, University of Southern California, Los Angeles, CA, United States, Stephanie.Tully@marshall.usc.edu, Anna Paley, Eesha Sharma

In an increasingly interconnected world, consumers rely more on social media to discuss their purchases. About 40% of online shoppers share product-related content on social media, and these posts are large drivers of purchase decisions, with 81% of consumers indicating that social media posts directly influence their purchases (Dotcom Distribution 2015; Forbes 2012). The current work examines a far-reaching, consequential psychological factor influencing product-related word of mouth (WOM): perceived financial constraints. Perceived financial constraints influence many consumer decision making stages (e.g., attention, preference, choice), but less work has examined post-choice implications. Our focus on post-purchase WOM aims to address this gap. We predict that consumers feeling more financially constrained are less likely to engage in WOM because discussing items on which they have spent money reminds them of their financial deficits, causing discomfort and decreasing likelihood of discussion. We test our proposition in five studies that investigate the relationship between perceived financial constraints and WOM using consumers' real purchases across a range of purchase categories. We use a variety of WOM measures, including activity in a real online chatroom and willingness to share on various social media platforms. We find that consumers feeling financially constrained engage in less WOM compared to those in a control condition and find evidence consistent with our proposed mechanism. Accordingly, the effect is attenuated when the cost of a purchase is less salient (e.g., when people consider gifts or events rather than purchases). Other explanations are considered and ruled out (e.g., impression management, social detachment, feelings of powerlessness).

3 - Driving Demand by Managing Network Structure and Network Communication

Juliana Huppertz, PhD Student and Research Assistant, University of Hamburg, Moorweidenstraße 18, Hamburg, 20148, Germany, juliana.huppertz@wiso.uni-hamburg.de, Mark Heitmann, Florian Stahl

This paper evaluates how network communication impacts the dynamic evolution of network structures and subsequently online success within an online social network. Current research has already investigated how different structural elements of a social network impact online success. This study aims to extend these findings by investigating the interplay between the content of network communication, network structure and network success. Our data covers 441 personal networks of music artists with dynamic information on music popularity, communication activity as well as network structure. We study the ego-network of music fans connected to the artist by obtaining measures of degree centrality, ego-network density and ego betweenness. We further differentiate four types of networking activities- friendship requests, song uploads and sending comments. Additionally, we coded the communication content within the network along four different categories, i.e. factual information, relationship building, self-revelation and appeal. For statistical inference, we apply quasi maximum likelihood estimation to model the dynamic impact of communication and networking activities on online success. Our results provide substantive insights into the relationship between communication, network structure and network success. First, we show that the communication content can directly impact and sustain online success. Therefore, we extend recent research findings by emphasizing the importance of communication content over and above the volume of communication. In particular, firms should especially align their communication to relationship building, self-revelation and appeals. Second, artists are able to achieve long-term impact on success by shaping their network structure as the network structure in turn drives demand. Specifically, self-revelation and relationship building contribute to network growth as well as to network density, whereas sending information can negatively impact network size evolution.

■ FB05

Fertitta Hall, 233, 2nd Floor

User Generated Content & Market Structure

Contributed Session

Chair: Marco Vriens, University of La Crosse, 1725 State St, La Crosse, WI, 54601, United States, mvriens@uwlax.edu

1 - Dynamic Market Structure Modeling using Online Data in High Velocity Industries

Gaurav Sabnis, Assistant Professor of Marketing, Stevens Institute of Technology, 407 Babbio Centre, Castle Point on the Hudson, Hoboken, NJ, 07030, United States, sabnis@gmail.com

Market structure models place brands in an attribute space based on consumer perceptions and preferences. Traditionally, data for these models were collected from consumers using surveys or experiments. In recent years, online data such as social media posts or search results have been used as reliable sources for consumer opinions and perceptions, including on matters related to competition and market structure. However, market structure modeling, including recent studies using online data, is still largely "static", i.e., it offers a cross-sectional snapshot of the market structure at any given time. The need for dynamic market structure modeling that enables tracking the competitive space over time has gotten especially acute, given that more and more industries now fall in the category of "high velocity", with new brands and models introduced on a weekly basis. This study aims to add to our understanding of market structure and the nature of competitive relationships from a methodological perspective by building a dynamic market structure model in the context of smartphones using online data. Using spatio-temporal modeling, we treat market structure as a fluid n-dimensional space, assess the dynamic shifts in brand positions in the attribute space, and examine the antecedents of the movements. We find evidence for the impact of novelty, similarity, differentiation, and media buzz as significant explanatory variables in the dynamic market structure.

2 - Novel Machine Learning Approach to Brand Differentiation

James Hale, University College London, Gower Street, Kings Cross, London, WC1E 6BT, United Kingdom, hale.james93@outlook.com

Dunnhumby (a customer science company) provided access to five years of fully anonymised sales data to investigate the ability of machine learning techniques to characterise brand differentiation, and to carry out research into the accuracy of the Pareto Principle. The dataset comprised all customer transactions made at Tesco, the UK's largest supermarket chain, over a five-year period. Experiments were designed to investigate two areas: 1. Does brand differentiation work? Can it be characterised? How effective is targeted marketing? 2. What proportion of a brand's highest-spending customers account for total sales? Is this proportion closer to the conventional view that the highest spending 20% of customers account for 80% of sales (the Pareto Principle) or to Byron Sharp's theory that they account only for 35-50%? The first experiment produced a significant body of evidence which suggested that differentiation remained an important factor in marketing. The results also showed that brands with smaller market shares tended to benefit from differentiation to a much greater degree than those with larger shares. The second experiment suggested that, for the categories tested, the conventional 80/20 view was more realistic than Sharp's although the larger brands in each category tended to generate a significantly lower proportion of sales from their highest-spending customers than the smaller brands. The results of this study represent a significant and potentially ground-breaking advance in the field of marketing, due to their general application to any brand in any industry and to their novel, machine learning approach to characterising brand differentiation.

3 - A Lab Taxonomy-based Classifier for Categorizing High Volume Noisy Data of User Generated URLs

Peng Wang, Guavus, Inc, 1800 Gateway Dr, Foster City, CA, 94404, United States, peng.wang@guavus.com

Karun Arora, Roger Brooks, Mudit Jain, Prateek Jain, Sahil Jain, Zainab Jamal, Kuldeep Jiwani, Shipra Kapadia, Nisha Vashist

It is common to profiling user's interests based on the web pages they browse. Rendered web page content varies over time and across users. The variation could be a result of content updates or personalization for specific users. Further, the corpus is noisy, as it reflects browsing behavior across the entire web, with URL responses containing database query results, scripts, et al. We develop a taxonomy-based classifier to address these issues. An IAB taxonomy is constructed, and updated on an ongoing basis, to reflect the browsed corpus. In the first stage, semantically valid concepts, and not just keywords, are extracted from the text in the URL's string and page content. In the second stage, the concepts are analyzed to create an optimized vocabulary model for each category. In the third stage, the taxonomy is validated for accuracy and statistical stability using samples from Wikipedia and the corpus. We use a flattened taxonomy instead of the two-tier IAB hierarchy. The corpus had a long-tailed distribution (top 70 of the 345 categories accounted for 95% of the URLs with useable content). For estimation, a sample of 110,000 URLs was used with k-fold cross-validation. Our principal findings include: Semantic concepts are effective for classification. A flattened version of the two-tier IAB taxonomy suffices for classification. Naïve Bayes and Random Forest classifiers produce the best results and with comparable accuracies. Standard Naive Bayes achieved 78.4 % accuracy, 75.9% precision and 77.9% recall in test samples.

4 - Mapping and Visualizing using Stochastic Neighbor Embedding

Marco Vriens, Assistant Professor of Marketing, University of La Crosse, 1725 State St, La Crosse, WI, 54601, United States, mvriens@uwlax.edu, Song Chen

Online consumer generated data has been proposed and used to derive market structure maps. (e.g. Netzer et al., 2012). Data extracted from online sources can include a large number of brands (Ringel and Skiera, 2016). Metrics used to determine similarity can be co-mention metrics or can be calculated from overlap between mentioned brand associations. Traditional multidimensional scaling or even spring-embedded networks don't work very well in these situations. We propose the use of t-Distributed Stochastic Neighbor Embedding (t-SNE) which has become a popular tool for dimensional reduction and data visualization in big data projects, especially in artificial intelligence. It can be seen as an extension of probabilistic multi-dimensional scaling. We use two datasets. One with 17 brands (US car brands). This data was collected prior and after the VW Diesel emission crisis. A second dataset with 57 brands in the US skincare market. The data is extracted from consumer online generated data and via text mining we created co-mention matrices that are used as proxy for between brand similarity. We show how t-SNE outperforms the traditional marketing visualization tools such as multi-dimensional scaling (MDS and related Visualization of Similarities, VOS), and spring embedded networks in accuracy, efficiency and adoptability. t-NSE creates a better market structure map visualization and provides interesting insights that MDS and spring network analysis cannot capture.

■ FB06

Fertitta Hall, 236, 2nd Floor

Crowdfunding II

Contributed Session

Chair: Peter T. Popkowski Leszczyc, University of Alberta, 4-30 F Faculty of Business Blg, Edmonton, AB, T6G 2R6, Canada, ppopkows@ualberta.ca

1 - The Power of Small: The Dynamic Effect of Small Donations on the Success of Crowdfunding Projects

Tingting Fan, Assistant Professor, The Business School of the Chinese University of Hong Kong, Room 1113, 11/F, Cheng Yu Tung Building,, No. 12 Chak Cheung Street, Shatin, N.T., Hong Kong, Hong Kong, tingtingfan@baf.cuhk.edu.hk, Yiwei Li

Crowdfunding offers a new opportunity for innovators to raise capital from large online communities. Intuitively, project creators prefer large amount of donations as they can help the project succeed in a short period. However, it is unknown (1) when people are more likely to donate small amount of money, (2) whether small donations have a positive effect on the success of a crowdfunding project, and (3) when small donations have a stronger effect, i.e., the early stage vs. the late stage of a crowdfunding project. We collect data from a crowdfunding platform where we can observe when and who donates how much money to a project. Our empirical studies have three interesting findings. First, we find a "U curve" of small donations, i.e., people tend to donate small amount at both early and late stages of a crowdfunding project. Counterintuitively, we find that the percentage of small donations has a positive effect on the following day donations. That is, the more small donations a project receives today, the more donations it receives in the following day. More interestingly, we find that the positive effect of small donations becomes stronger at the later stage than at the early stage of a crowdfunding project. In contrast, the high percentage of big donations hurts the success of a crowdfunding project, especially at the late stage of a project. Our findings demonstrate "the power of small donations" and help entrepreneurs promote small donations at different stages of their crowdfunding projects.

2 - Puppeteers Holding the Strings: The Dominant Role of Angel Investors in Equity Crowdfunding

Wanxin Wang, PhD Candidate, Imperial College London Business School, South Kensington Campus, Exhibition Road, South Kensington, London, SW7 2AZ, United Kingdom, ww613@ic.ac.uk, Ammara Mahmood, Catarina Sismeiro, Nir Vulkan

Crowdfunding has been widely appraised as a financial innovation that "democratizes access to capital." It allows entrepreneurs to pitch their ideas to ordinary individuals and inexperienced investors and, in turn, investors of all types can invest in any denomination and provide market feedback. In recent years, the growing success of online crowdfunding platforms has attracted many entrepreneurs who spend significantly in communicating and selling their ideas to investors. It has also attracted professional and sophisticated investors, like business angels, raising the question of whether the wealth, experience, and expertise of these investors are changing the dynamics of crowdfunding platforms. Through this study, we analyze the interplay between the investment behavior of ordinary and sophisticated business angels at a leading European equity crowdfunding platform and suggest communication strategies for entrepreneurs. We find that angels invest larger pledges compared to ordinary crowd funders and these high-valued pledges are critical to campaign success. More importantly, these pledges lead to larger subsequent investments from not only other angels but also the general crowd. In contrast, factors that typically motivate the crowd to pledge become less effective. Angels seem to refer exclusively to other high value investors when making pledging decisions, whereas the crowd merely follow angels. Our paper empirically demonstrates the differences in investor behavior and highlights the dominant role played by angels in equity crowdfunding, questioning the notion that online crowdfunding platforms have democratized early stage finance. Instead the platform performance seems to be driven by the wisdom of professional investors. We also enrich extant understandings of angel investing in a context where peer activities are visible. Finally, we recommend entrepreneurial marketers to prioritize their scarce marketing resource to target the professional investors, when stakeholders are very heterogenous and scattered.

3 - Supply Side Social Learning in Online Crowdfunding Platforms

Baek Jung Kim, New York University, 40 West 4th Street, Tisch Hall, New York, NY, 10012, United States, bkim2@stern.nyu.edu, Masakazu Ishihara, Vishal Singh

An increasingly popular method of school funding is online crowdfunding—raising money from a large number of people, usually in small increments, via the Internet. Given the growing popularity of online crowdfunding, however, teachers experience difficulties in using it because the choices of project category, resources, and funding targets have become so complex, and the likelihood of funding is uncertain. Teachers thus may learn about online crowdfunding usage behaviors (e.g., how to post a project, set a target funding amount, and time a posting) from their own and other teachers' experiences (social learning). This paper uses unique data from "Donorschoose.org" including information of approximately, 400,000 teachers from 70,000 public schools (in all U.S. states) for 14 years (from 2002 to 2015), and studies supply-side social learning from the observed project posters' longitudinal website usage behaviors. The supply-side (the poster of the project [teacher]) social learning is important because it might change the success rate of online crowdfunding platform and donation behaviors. However, most previous literature has examined social learning in the context of consumers' decisions (e.g., brand choice and product adoption). Specifically, we investigate the following questions about this social learning behavior: 1) Do teachers learn about online crowdfunding usage behaviors from their own and other teachers' experiences? and 2) If so, how does learning influence the website usage behaviors of teachers and the success rate of online crowdfunding and donation behavior? Our preliminary analyses show that experienced and inexperienced teachers behave differently in website usage behaviors, and inexperienced teachers who have experienced teachers in the school behave different from those who don't. Based on these results, we will further investigate how this own and social learning affects a diffusion of the website usage and how this helps to improve a geographical inequality of public school funding.

4 - The Influence of Social Media on Charitable Fundraising

Peter T Popkowski Leszczyc, University of Alberta, 4-30 F Faculty of Business Blg, Edmonton, AB, T6G 2R6, Canada, ppopkows@ualberta.ca, Ernan E Haruvy

Charity events are increasingly employing social media to disseminate word of mouth and create hype to try to increase proceeds for fundraisers. We investigate the potential of employing the combined power of auctions and social media to raise funds for charity, with a focus on measuring the impact of social media on both participation and willingness to pay. Auctions are uniquely positioned to price unique art, and social media is uniquely positioned to generate demand for that art. Employing a locally well-known website for charity auctions, we auctioned off artwork created by teams of under-privileged youth with unique stories and goals, and used social media, with a focus on Facebook and Facebook likes to disseminate word of mouth about these auctions. We characterize the impact of social media on participation and selling prices for charitable artwork in auction events. We find that the use of social media increases prices in the charity auctions, but do so through a dual effect by affecting (1) impressions (i.e., the number of times a Facebook posting displayed) which in turn affect number of bids and then price and (2) through Facebook likes which affect price directly.

■ FB07

Fertitta Hall, 239, 2nd Floor

Digital Media Strategy

General Session

Chair: Ron N. Borkovsky, Toronto, ON, M5S 3E6, Canada, ron.borkovsky@rotman.utoronto.ca

1 - An Experimental Investigation of the Effects of "Retargeted" Advertising – The Role of Frequency and Timing

Navdeep S Sahni, Stanford University, 655 Knight Way, Knight Management Center, Stanford, CA, 94305, United States, navdeep.sahni@gmail.com, Sridhar Narayanan, Kirthi Kalyanam

In collaboration with BuildDirect.com, an online seller of home-improvement products, we conduct a large-scale randomized field experiment to study the effects of retargeted advertising -- a form of internet advertising in which banner ads are displayed to users after their visit to the advertiser's web site. We find that retargeting increases consumer engagement with the website. Turning the advertising on causes 14.6% more users to return to the website in four weeks. We find that the effectiveness of advertising decreases as the time since the consumer first visits the website increases. 30% of the effect of first week's advertising occurs on the very first day. Further, we also find clear evidence of the existence of complementarities in advertising over time - the effect of advertising in week 2 (the second week after the campaign started) is higher when the user was allocated to non-zero level of advertising in week 1. Taken together, our findings stand at odds with the view that retargeted ads inform or remind consumers of the advertised product. They are consistent with a "defensive" or a "competition-blocking" role of advertising.

2 - Optimizing Content and Pricing Strategies for Digital Video Games

Scott Shriver, Columbia Business School, 455 Central Park West, Apt 6D, New York, NY, 10025, United States, ss4127@columbia.edu, Hema Yoganarasimhan

The video game industry has experienced a wave of disruption as consumers rapidly shift to acquiring and consuming content through digital channels. Incumbent game publishers have struggled to adapt their content and pricing strategies to shifting consumption patterns and increased competition from low cost independent suppliers. Recently, game publishers have pursued new business models that feature downloadable content (DLC) services offered in conjunction with or as a replacement for traditional physical media. While service-based models can potentially extract additional surplus from the market by allowing for more customized content bundles and pricing than with physically distributed media, exploiting these opportunities poses a challenge to firms who must attempt to optimize their offerings over a formidably complex decision space. In this paper, we develop a structural framework to facilitate the recovery of consumer preferences for game content and the optimization of firm content/price strategies. Our approach is to leverage rich covariation in observed content consumption and DLC service subscriptions to infer consumer content valuations and price sensitivities. We devise a joint model of video game activity and demand for downloadable content, where consumers sequentially make (discrete) DLC subscription choices followed by (continuous) choices of how much to play. Our model accounts for forward-looking consumer expectations about declining content prices and attendant concerns for dynamic selection bias in our demand estimates. We document evidence of heterogeneous preferences for content and significant effects of DLC availability on game usage. Our counterfactual experiments suggest that compressing the DLC release cycle and moving to a recurring fee structure are both viable ways to increase revenues.

3 - The Effects of Binge-Watching on Media Franchise Engagement

Mina Ameri, University of Texas at Dallas, Dallas, TX, United States, mina.ameri@utdallas.com, Elisabeth Honka, Ying Xie

We quantify the effects of binge-watching on consumers' engagement with media franchises in two broad areas: communication engagement and personal engagement. The former includes a user's content generation and promotion of a focal media product and the latter includes the adoption of franchised extensions. Our unique data come from an online anime (Japanese cartoons) platform containing individual-level data on users' adoptions of different animes and their user-generated content including posts on the discussion forum, recommendations, and ratings of the aforementioned animes. We find that binge-watching has a significant positive effect on the production of user-generated content. For the video elements of the media franchise, binge-watching overall increases the probability of the next season being watched if it is available at the time of the binge, but does not have an effect when the next season is not available yet. We also examine the effects of binge-watching on other types of media franchises. Further, we check the robustness of our results using different geographical regions across the world. Our findings have important managerial implications for TV networks and online streaming services regarding the timing of content release.

■ FB08

Fertitta Hall, 240, 2nd Floor

Game Theory in Marketing IV

Contributed Session

Chair: Tianxin Zou, 5936 Pershing Avenue, Saint Louis, MO, 63112, United States, tzou@wustl.edu

1 - The Role of Regulatory Disclosure in Cause Marketing

Yu Wang, Associate Professor of Marketing, California State University, Long Beach, 1250 Bellflower Blvd, Long Beach, CA, 90840, United States, yu.wang@csulb.edu, Aradhna Krishna, Uday Rajan

Disclosure requirements on firms that engage in cause marketing vary widely across states in the US. We consider the impact of disclosure requirements on donations to causes and on consumer welfare in a signaling game. To motivate the assumptions of the model, we run experiments to establish that, in the absence of concrete disclosure, a higher price for a cause-related product induces the belief that the firm donates more to a cause. The model features two types of firms, with the high type more willing to donate to a cause in a full-information world than the low type. Consumers do not know the type of the firm, but try to infer it either from the price of the product (when disclosure requirements are weak) or from both the price and the proportion being donated (when disclosure requirements are strong). Strong disclosure requirements allow the high type to separate out more efficiently, and lead to higher donations.

2 - Certification of Quality and Seller Profits: An Experimental Study
Sung Ham, Assistant Professor, George Washington University, 2201 G St. NW, Department of Marketing, Washington, DC, 20052, United States, sungham@email.gwu.edu, David Seung Huh, Dmitry Shapiro

Across many marketing settings, sellers and buyers rely on the certification of quality to help foster the exchange of goods and services. We further investigate the relationship between the certification of quality and seller profits with an experimental economics test. In particular, we assess whether certification enhances or detracts from seller profits and if the results depend upon the noisiness of the certification. Our experiments demonstrate that quality certification can indeed benefit sellers, but only when the certification is sufficiently accurate.

3 - On the Marketing of Experience Goods: The Case of Movies
Sridhar Moorthy, Professor, University of Toronto, 105 St George Street, Toronto, ON, M5S 3E6, Canada, moorthy@rotman.utoronto.ca, Tirtha Dhar

Taking movies as an exemplar of an experience good, we examine the marketing strategy of movies. Using data on movie attributes, ad spending, timing of ad expenditures, and distribution strategy, we show that movie marketing falls basically into two types. What determines which type is used is easily characterized. Some movies have marketable search attributes at inception; others must develop them after release (if they can). In either case, movie advertising strategy is about promoting its attractive search attributes. This story conflicts powerfully with Nelson's (1970, 1974) theory that advertising quantity, not content, signals quality for experience goods.

4 - Anticipated Regret and Product Line Design
Tianxin Zou, Washington University in St. Louis, Saint Louis, MO, 63112, United States, tzou@wustl.edu, Baojun Jiang, Bo Zhou

Consumers may be uncertain about their valuations for quality when deciding which product in a product line to buy. After purchasing and using the product, they learn their valuations for quality and may experience "under-purchase regret" ("over-purchase regret") if they bought the low-quality (high-quality) product but find themselves having high (low) valuations for quality. Anecdotal and experimental evidence shows that consumers can anticipate their post-purchase regret when making purchase decisions. This paper studies a firm's optimal product line design when consumers anticipate their post-purchase regret. We find that stronger under-purchase regret can increase the firm's profit because the firm can extract more surplus from consumers with higher expected valuations for quality. By contrast, over-purchase regret always reduces the firm's profit. If the consumer's regret is strong enough, the firm will be able to capture the entire consumer surplus. If the firm endogenously decides the product quality, the quality gap in the product line is wider if anticipated regret increases the firm's profit, and narrower if anticipated regret reduces the firm's profit.

■ FB09

Fertitta Hall, 241, 2nd Floor

Structural Learning Models

General Session

Chair: Andres I Musalem, Complex Engineering Systems Institute, Beauchef 851, Santiago, 8370456, Chile, amusalem@duke.edu

Co-Chair: Andrew Ching, University of Toronto, Toronto, ON, Canada, andrew.ching@rotman.utoronto.ca

1 - A Heuristic Approach to Explore: Value of Perfect Information
Shervin Shahrokhi Tehrani, PhD Student Bios, University of Toronto, Toronto, ON, Canada, s.shahrokhi13@rotman.utoronto.ca, Andrew T Ching

How do consumers choose in a dynamic stochastic environment when they face uncertainty about the return of their choice? The classical solution to this problem is to assume consumers use dynamic programming to obtain the optimal decision rule. However, this approach is computationally very expensive to implement because it requires solving a dynamic programming problem with a continuous state space. We propose a new heuristic decision process called Value of Information (VPI), which extends the idea first proposed by Howard (1967) in the Engineering literature. This approach provides an intuitive and computationally tractable way to capture the value of exploiting uncertain alternatives. We argue that our approach provides a "fast and frugal" way to balance the tradeoffs between exploration versus exploitation. More specifically, the VPI approach only involves ranking the alternatives and computing a one-dimensional integration to obtain the expected future value counterpart. In terms of computational costs, we show that the VPI approach is dramatically simpler than the standard dynamic programming approach, making it a very practical learning model for consumers to employ. Using individual level scanner data, we find evidence that our VPI approach is able to capture consumers' choice very well.

2 - Delegation and Productivity in a Retail Business
Kohei Kawaguchi, Hitotsubashi University, 2-1, Naka, kunitachi, 113-0033, Japan, k.kawaguchi@r.hit-u.ac.jp

This paper studies the effects of delegating decisions to workers on productivity and if the effects are larger than delegating to an algorithm. I focus on product assortment decisions in a beverage vending machine network in Tokyo. The decisions are partly decentralized in the network. The institution enables me to identify causal effects of delegation. I find delegation overall decreases the productivity. But the effects are heterogeneous across areas: it increases the sales in the areas of some subcontracting companies and large areas. The frequency of product changes increases in those areas by delegation, indicating increased experimentation. Next, I develop and estimate an empirical model of decentralized learning in the network to quantify the contribution of agents' learning from the realized sales and other local information. Counterfactual simulations show that replacing the agents' decisions with a multi-armed bandit algorithm can increase the total sales of the network, even after discarding the informative local information of the agents. However, it decreases sales in areas with capable agents identified above, underlining the importance of human knowledge in such a simple task as product assortment decisions.

3 - An Empirical Study of Customer Spillover Learning about Service Quality
Andres I. Musalem, Complex Engineering Systems Institute, Beauchef 851, Santiago, 8370456, Chile, amusalem@duke.edu, Andres I Musalem, University of Chile, Santiago, Chile, amusalem@duke.edu, Yan Shang, Jing-Sheng Song

"Spillover" learning is defined as customers' learning about the quality of a service (or product) from their previous experiences with similar yet not identical services. In this paper, we propose a novel, parsimonious and general Bayesian hierarchical learning framework for estimating customers' spillover learning. We apply our model to a one-year shipping/sales historical data provided by a world-leading third party logistics company and study how customers' experiences from shipping on a particular route affect their future decisions about shipping not only on that route, but also on other routes serviced by the same logistics company. Our empirical results are consistent with information spillovers driving customer choices. Customers also display an asymmetric response such that they are more sensitive to delays than early deliveries. In addition, we find that customers are risk averse being more sensitive to their uncertainty about the mean service quality than to the intrinsic variability of the service. Finally, we develop policy simulation studies to show the importance of accounting for customer learning when a firm considers service quality improvement decisions.

■ FB10

Fertitta Hall, 313, 3rd Floor

Sales Force: Incentives

Contributed Session

Chair: Siddharth S Singh, Rice University, 10103 Mill Garden Circle, Missouri City, TX, 77459, United States, sssingh@rice.edu

1 - Group Versus Individual Incentives and Selling Performance
Wenshu Zhang, Purdue University, 403 W State Street, West Lafayette, IN, 47907, United States, zhang991@purdue.edu, Subramanian Balachander, Jia Li

Firms often use individual and group performance incentives to motivate and compensate their salesforce. A 2016 survey found that 79% of organizations used individual performance incentives while 33% used group performance incentives. This observation raises an interesting research question that why some firms motivate their salespeople based on group performance while others use individual performance. In particular, there is not much research investigating how brand intrinsic characteristics influence a firm's decision on incentive scheme. Specifically, whether strong or weak brands benefit more from group performance incentives as opposed to individual incentives. In this research, we investigate this issue using a principal-agent model with a risk-neutral firm employing multiple risk-averse salespersons, who serve heterogeneous consumers. Consistent with previous research, we find that incentives, lined to sales, whether group or individual are optimal when salespersons' efforts are not observed by the firm. However, interestingly, we find that a group incentive is more beneficial to a weaker brand. Furthermore, we empirically test the findings of our analytical model using a unique dataset which contains compensation schemes chosen by 51 brands and sales information of those brands from a consumer electronic retailer. Our empirical results are consistent with our analytical predictions.

2 - Selling Platforms

Olivier J Rubel, UC Davis Graduate School of Management, One Shields Avenue, Davis, CA, 95616, United States, orubel@ucdavis.edu, Hemant Bhargava

Thanks to network effects, two sided markets differ fundamentally from traditional products in how they create and provision value for users. Customers value these products not only for product features, but also for the networks that they enable to participate and interact with. This paper examines how managers should design performance-based compensation plans for agents tasked with recruiting network participants.

3 - Uniform Commission Contract and Sales Agent Identification

Ying Bao, University of Toronto, 105 St George Street, Toronto, ON, M5S3E6, Canada, ying.bao14@rotman.utoronto.ca, Mengze Shi

It is commonly observed in many industries that firms often offer the same commission rate to their salespeople, even though these salespeople have different levels of productivity. This observation is puzzling because the standard principle-agency model would prescribe that a firm should customize the commission rate according to the salespeople's productivity (Basu et al, Marketing Science, 1985). This paper provides a theoretical explanation for the offering of uniform commission rate in a heterogeneous salesforce. We propose a model where a risk-neutral firm employs two salespeople who have private information about their own types. The firm has two different selling tasks (different territories or products) and needs to assign one salesperson to each selling task. The firm compensates the salespeople with a commission contract, and can choose to offer either a uniform commission rate for both salespeople or customize the commission rate for each selling task. The model consists of two stages: an identification stage and a selling stage. In the perfect information case, the firm prefers a positive match (high-type salesperson assigned to the high-potential task) and offers customized commission rates. However, in the case of asymmetric information, while the firm still prefers a positive match, it is now optimal to provide the uniform commission rate. Such a contract is not optimal in perfect-information case because it gives the high-type salesperson excessive surplus in the second stage. But it becomes optimal in the case of asymmetric information because the excessive surplus becomes information rent and generates additional incentive for the high-type salesperson to stand out in the first stage; moreover, the benefit of correct assignment dominates the cost of excessive payment. In summary, we provide a rationale for the commonly observed uniform commission rate as a selection mechanism that improves the sales assignment.

4 - Gamified Sales Training and Salesperson Performance

Siddharth S Singh, Indian School of Business, Knowledge City, Sector 81, SAS Nagar, Mohali, 140306, India, siddharth_singh@isb.edu, Ravi Sen, Sharad Borle

Salespersons are traditionally trained in classroom settings in which trainees are required to participate at fixed times and at fixed places. Such trainings are becoming less effective due to increasing number of product launches, shortened product life cycles, and lower retention of lessons. In addition they are costly to organize. In response, a gamified training approach is increasingly being adopted by companies. In this, trainings modules are distributed online to be consumed at will. To encourage salesperson engagement, a reward system is built into the training that "gamifies" the program. It is believed that such self-selected and self-paced gamified training is more effective than traditional methods due to higher engagement of employees with the training program and higher retention of lessons taken closer to the time of application. Further, such training is less expensive with respect to both cost to organize and time spent by employees.

This research uses a unique dataset on gamified training to salespersons of a global company's Indian unit, to investigate the impact of the training on salesperson performance. In addition, the research considers social influence on gamified training participation.

■ FB11

Fertitta Hall, 316, 3rd Floor

New Product Diffusion: Bass Model

Contributed Session

Chair: Kanoko Go, Keio University, 1-23-23-203 Takanawa, Minato-ku, Tokyo, 108-0074, Japan, go.kanoko@gmail.com

1 - Dynamic Pricing for New Products: Utility-based Generalization of the Bass Diffusion Model

Koray Cosguner, Assistant Professor, Georgia State University, 35 Broad St NW, Suite 1318A, Atlanta, GA, 30303, United States, kcosguner@gsu.edu, Seethu Seetharaman

The Bass Model (BM) has an excellent track record in the realm of new product sales forecasting. However, its use for optimal dynamic pricing or advertising is relatively limited. This is because the Generalized Bass Model (GBM), which extends the BM to handle marketing variables, uses only percentage changes in marketing variables and not the actual values of the marketing variables. This restricts the normative use of the GBM, for example, to deriving the optimal price path for a new product, conditional on an assumed launch price, but not the launch price itself. In this paper, we propose a utility-based generalization of the BM which can yield normative prescriptions regarding both the introductory price, as well as the price path after launch, for the new product. We propose two versions of our proposed diffusion model, namely the Bass-Gumbel Diffusion Model (BGDM) and the Bass-Logit Diffusion Model (BLDM). Using empirical data from four product categories, we show that our proposed diffusion models handily outperform the GBM and BM in forecasting new product sales both in sample and out of sample, with the BLDM outperforming the BGDM. We derive optimal pricing policies for a new product that are implied by the BLDM under various ranges of model parameters. We explain how managers can use our proposed diffusion model to derive optimal marketing policies in a computationally convenient manner without having to explicitly solve a dynamic optimization problem.

2 - Leapfrogging Adoption in Technology Triplets

Deepa Chandrasekaran, Assistant Professor of Marketing, University of Texas-San Antonio, 6003 Back Bay Lane, Austin, TX, 78739, United States, deepa.chandrasekaran@utsa.edu, Gerard J Tellis, Gareth James

Firms increasingly introduce new technologies in quick succession, leading some consumer segments to switch from the old to the new while others leapfrog to the new technology. The authors model the diffusion of successive technologies, focusing especially on technology triplets. The model decomposes adoption of successive technologies into switching, pure and mixed leapfrogging, while allowing for the rate of adoption of the new technology to be different from the rate of disengagement from the old technology. The analysis determines the differences in and drivers of leapfrogging versus switching adoption in emerging vs. developed markets. The empirics span data covering multiple sets of successive technology triplets for over 45 countries. Results indicate that the percentage leapfrogging adoption is significantly higher in emerging than developed markets. The cross-country spillover effect of the new technology dominates pre-commitment to the old technology as a driver of leapfrogging. Disengagement from a prior technology is higher across successive technologies. The authors discuss implications.

3 - An Analysis of Consumer Adoption of a New Product Incorporating Case-based Decision Theory

Kanoko Go, Niigata Sangyo University, Niigata, Japan, go.kanoko@gmail.com, Yutaka Hamaoka

The launch of a new product is one of important aspects of marketing. Therefore, researchers tried to analyze consumers' new product adoption decision and dynamics with aggregate level data (Bass 1969) and individual level data (Sinha and Chandrashekaran 1992; Erdem and Keane 1996). For consumers, the adoption of a new product is uncertain decision. Previous studies assumed consumer decision is affected by others (Bass 1969; Yang and Allenby 2003) and/or consumer reduces uncertainty through external information search and learning (Ching et al. 2013). These models focused external information source. That is to say, they neglect internal information search. On the contrary, Gilboa and Schmeidler (1995, 2001) s' Case-Based Decision Theory (CBDT) assumes decision maker utilize their past experience to evaluate new alternatives.We confirmed validity of CBDT to describe new product adoption with consumer experiment data (Go, Kikumori, and Hamaoka 2014, 2015, 2016). In this study, the CBDT model was incorporated to analyze scanner panel data of detergent. Model fit was compared with competitive models that incorporate only marketing mix and consumer characteristics, then we confirmed our model fits better. Therefore, we concluded that consumers utilized not only external information: the marketing stimulus but also utilized internal memory: past performances in similar cases to adopt a new product.

4 - On the Stochastic Foundations of Diffusion Modeling

Ulrich Mueller-Funk, University of Muenster, Leonardo Campus, Muenster, Germany, funk@wi.uni-muenster.de, Robert Wilken, Max Philipp Backhaus, Klaus Backhaus

The seminal Bass (1969) model of diffusion has received many extensions and refinements, so that numerous modeling approaches, estimation procedures, and empirical applications have emerged. In this literature, the progress of knowledge is mainly evaluated through a comparison between observed data and estimated quantities - given the model ("estimation fit"). This focus, however, ignores the possibility of a "conceptual misfit", since the model must reflect the essential features of the phenomenon under consideration. Consequently, this article goes back to the roots of the problem of modeling diffusion processes, and develops solutions that use the rich set of tools provided by stochastic process theory. As such, the main contribution of this article is to develop and present a concept of diffusion analysis that addresses various conceptual requirements: (I) understand sales in time as a stochastic counting process, that additively decomposes into dynamics and noise, with hazard rates being the key element of it; (II) distinguish theoretical and empirical quantities; (III) account for dependencies between the stochastic behavior of competing products; (IV) distinguish individual and aggregate adoption behavior; and (V) model heterogeneity of consumers. Conforming to these requirements, we finally suggest sampling and estimation procedures.

■ FB12

Fertitta Hall, 322, 3rd Floor

Product Recalls

Contributed Session

Chair: Koushyar Rajavi, UNC's Kenan Flagler School of Business, UNC's Kenan Flagler School of Business, Chapel Hill, NC, 27514, United States, Koushyar_Rajavi@kenan-flagler.unc.edu

1 - A Structural Model of Bad Debt and Product Return with Implications for Return Policies

Nian Wang, University of Connecticut, School of Business, 2100 Hillside Road, Storrs, CT, 06269-1041, United States, nian.wang@business.uconn.edu, Joseph Pancras, Hongju Liu, Malcolm Houtz

Allowing product returns benefits firms in the way that it encourages customers to order products. But firms have to balance between the increase in demand and costs caused by product returns. Previous research has focused on studying customers' return behaviors but ignore the bad debt option. As recent research (Liu, Pancras and Houtz 2015) shows the importance of incorporating information on customer bad debt behaviors in firms' targeting policies, we are interested in whether including the bad debt option will lead to a difference in firms' return policies and how customers weigh their bad debt and return option. We construct a structural model with both return and bad debt options included, and compare it with the model in Anderson, Hansen, and Simester (2009), which does not have a bad debt option. We estimate the two models with a sample dataset from a co-operative database. Our research finds that customers are less price sensitive if we ignore bad debts. The demand estimates can be biased and lead to a difference in firm's optimal return policies when we don't consider the bad debt option. We also find that customers' trade-offs between return and bad debt option are influenced by their return and bad debt costs as well as the transaction fit of the product. The paper illustrates the importance of including bad debt option when estimating demand and studying the value of return option for firms. It also makes a contribution to studying the relationship between product returns and bad debts.

2 - Recalled But Not Repaired: The Role of Customer Orientation and Dealer Quality on Product Recall Efficacy

Vivek Astvansh, Doctoral Student, University of Western Ontario, 684 Platt's Lane, London, ON, N6G 3B2, Canada, vastvans@uwo.ca, Kersi Antia, Xin (Shane) Wang

Product recall - a firm's removal of products that are noncompliant with applicable product standards and/or are defective - is a pervasive and ever-increasing phenomenon. For example, one in five U.S. vehicles has an open recall, up 27 per cent from just a year ago (Reuters, February 10, 2016). The overriding purpose of a product recall is to notify customers of the defect so that the product may be repaired. Customers' response to the recalls, however is lackadaisical - by some estimates, as low as 20 per cent (The Economist, April 9, 2014). Yet automakers are held accountable for their product recall efficacy - the proportion of recalled products repaired in unit time. Regulators and the automakers alike are thus actively seeking guidance on " identifying best practices for executing recalls and researching obstacles " to recall efficacy (Bloomberg, July 26, 2015). We build a novel, multi-sourced dataset comprising 273 recalls issued by 18 automakers in the U.S. in 2013 and 2014. Using the latent Dirichlet allocation (LDA)-based topic modeling approach, we infer the extent of automakers' customer orientation from their customer notifications. Relying on a control function approach to account for the endogeneity of the automakers' extent of customer orientation, we identify a number of relevant predictors that individually and jointly impact recall efficacy. Our study helps advance our understanding of how manufacturers, their downstream customer-facing distribution partners, and customers can work together to enhance the efficacy of product recalls.

3 - How Does the Effect of Product Recalls Extend Beyond Country Boundaries? A Study of the Automobile Market in China and the United States

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As multinational corporations expand their markets and product offering across the world, product recalls have increasingly become a global phenomenon. Due to different market environment and regulatory procedures, companies often treat a similar product safety problem differently across countries. At the same time, as a result of social media and communications on the Internet, news about product recalls are no longer confined within country boundaries, and a company's product recall in one country can affect its consumers in another country. In this study, we investigate how automobile recalls in the U.S. influence the sales of the same vehicle in China. Our data covers eleven major auto brands from the U.S., Japan and Europe over five years from 2008 to 2012. By employing identification strategies to account for potential correlations between observed vehicle characteristics, sales, recalls and unobserved vehicle characteristics, we find that vehicle recalls in the U.S. influence the sales of the same vehicle model in China in two different ways. First, the U.S. recalls have a direct (negative) impact on vehicle sales in China. Such effect further varies depending on the newness of the model and whether the vehicle belongs to a major U.S. manufacturer. Second, if recalls for the same model were issues in both countries, the U.S. recalls have an indirect impact on Chinese sales by moderating the impacts of Chinese recalls. Moreover, we find heterogeneity in this indirect cross-country effect along several observed recall and vehicle characteristics.

4 - Role of Trust and Technological Connectivity in Managing Product Recalls: A Cross-category and Cross-country Perspective

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Over the past decade, number of product recalls has increased dramatically. Sales drop, costly lawsuits, and decline in financial value of a firm are some of the negative consequences of recalls. The extant literature lacks generalizable knowledge on the contextual causes of dissimilar customer reactions to product harm crises across different countries and categories. In this paper, the authors adopt a trust-based perspective to build upon the existing product recall research. The authors introduce the concept of trust in the brands of a category (TiBC) and use that alongside societal trust and technological connectivity to investigate post-recall brand performance heterogeneity. Moreover, role of sales promotion as a means to overcome negative impact of recall is examined. The authors use large household-scanner panels to empirically study 145 CPG recalls in 13 European countries. Empirical findings suggest that the variation in post-recall brand performance can be explained by category/country level trust and technological connectivity. Furthermore, the results indicate that post-recall promotions are more effective when trust is low. The authors then discuss the implications for managers.

■ FB13

Fertitta Hall, 327, 3rd Floor

Pricing: Warranties

Contributed Session

Chair: Eddie Ning, USC Berkeley, 1 Captain Dive, # D266, Emeryville, CA, 94608, United States, eddie_n@berkeley.edu

1 - Price Optimization under Product Environment Considerations

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Behavioral marketing have shown customers biases when they are choosing products in different context. Inthis research we propose and fit different demand models consider not only product attributes, but alsocharacteristics of the product within context. First we show the improvement in a control setting and withreal purchases. We then use these models to give recommendations in terms of pricing and productcomposition, accounting for product attributes, and the generated context. Different settings where explored,list of products, shelf display in both digital and real world. Key findings include optimal location for lowutility/high margin products, like store brands; and optimal product ordering within product lists with paneldate and repeated purchases. These insights can be used in a variety of settings ranging from brick and mortarstores to online and mobile retail.

2 - How do Changes to Manufacturer-backed Warranties Impact Demand for Extended Warranties?

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Durable goods often come bundled with free limited-time manufacturer warranties (MWs). Yet, each year durable-goods buyers spend about $38 billion on optional extended warranties (EWs) to insure themselves against costly repairs after the MWs expire. Surprisingly, scant empirical research exists on how consumers trade off MWs with EWs, and therefore many managerially relevant questions remain unexplored: Do consumers treat these two warranties as substitutes or complements? How does changing the terms of the MWs impact the demand for EWs? These questions are very timely in the context of the U.S. automobile industry. In March 2015, General Motors and Chrysler drastically cut their MWs on their flagship brands, while Tesla Motors increased its MW coverage. We answer these questions using a structural econometric model. Our model builds upon the framework of expected utility theory and estimates consumers' risk preferences from data on their EW choices and their post-purchase repair claims. Our model accounts for the adverse selection by modeling unobserved heterogeneity in both risk (repairs claim rate) and risk aversion. We find that risk-averse buyers endogenously select into the vehicles with greater MWs, hence, more likely to purchase EWs. Therefore, in our empirical setting, risk-averse consumers treat MWs and EWs as complements rather than substitutes. Using the model estimates, we quantify the impact of changes to coverage terms of the MWs on the demand for EWs through counterfactual analysis. We also find that heterogeneity in risk preferences is rather large and skewed, which has the direct implications for pricing EW contracts. Specifically, we assess how repricing select EW menu items impacts the total demand for EWs, as well as the individual demand for EW menu items. Substantively, our findings offer rich new insights for automakers and EW underwriters in the automobile industry, which is a key pillar of the U.S. economy.

3 - Price and Warranty Competition with Informed and Uninformed Consumers

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We develop a theory of price and warranty competition in horizontally and vertically differentiated markets in which a share of consumers is not informed about product qualities. Our analysis reveals that the existence of uninformed consumers gives raise to distortions in the firms` optimal pricing and warranty provision in ways that may be either beneficial or detrimental to consumers. Furthermore, we find that the proportion of uninformed consumers can lead firms to adopt different price and warranty competition regimes, which may involve different degrees of upward price distortions, and both upward and downward warranty provision distortions. We also conduct policy analyses to identify the implications of consumer-protection regulations that require firms to provide at least some minimum warranty level. We find that such regulations can lead to excessive price increases and, instead of protecting consumers, they may cause reduced consumer welfare and increased firms` profits.

4 - How to Make An Offer? Optimal Selling under Stochastic Learning

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In big ticket transactions, particularly B2B, buyers and sellers often engage in prolonged conversation before reaching a deal. This process serves two purposes. First, buyer acquires product information from seller through product demonstration. Second, seller assesses what price discount to offer and when, based on buyer's reaction to information. This paper explores how consumer learning interact with price flexibility in the sales process. Optimal strategies are solved using a continuous-time model. Both parties have to participate and incur flow costs to facilitate learning, and can quit at any time. Buyer's value for the product evolve stochastically, and seller can adjust price any time subject to a self-imposed price ceiling in the form of sticker price. The model shows that price flexibility leads to a higher sticker price but a lower actual trading price (hence a discount), and trade happens earlier with higher social welfare than under price commitment. Also, buyer always quit before seller does on equilibrium path, regardless of their flow costs, discount factors, and outside options. If buyers have private outside options, the model predicts that buyers with higher valuations for the product buy earlier, but at lower prices. This is in stark contrast to standard bargaining results. The paper highlights sticker price's dual strategic roles of encouraging consumer learning and extracting surplus. Comparative statics with respect to costs, discount factors, and outside options are discussed.

■ FB14

Fertitta Hall, 328, 3rd Floor

Marketing & Finance: Advertising

Contributed Session

Chair: Kyuhong Han, Rice University, 6100 Main St., MS-531, Room 402, Houston, TX, 77005, United States, Kyuhong.Han@rice.edu

1 - When Marketing Strategy Meets Capital Markets: Marketing Spending and Market Feedback from Securities Analysts

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This study examines the role of securities analysts in the context of marketing intensity, a largely neglected issue in the extant literature. The results of a large-scale, cross-industry research suggests that capital markets' feedback - proxied by the earnings forecasts of financial analysts - leads to reduce marketing intensity (proxied by marketing spending/total sales). I propose that top managers tend to cut marketing spending when they are under pressure to meet analysts' performance targets, especially when they face an increase in employment risk after missing the earnings forecasts. I further argue that analyst coverage can serve as an external monitoring mechanism to help contain this 'agency problem'. I test these hypotheses with data from a sample of U.S. manufacturing firms during the period of 1979 to 2005. Theoretically, this study ushers marketing researchers into a greenfield of security analysts literature, helping build more powerful theories on marketing spending using agency theory. Practically, it shed light on the hazard of market feedback by securities analysts and calls for curtailing the 'short-termism' of capital markets. By so doing, prudent managers may get the case for investing in marketing capabilities persistently. Overall, this research offers fresh implications for the marketing-finance interface, emphasizing to aware the dark side of market feedback of securities analysts.

2 - Investor Uncertainty and Disclosure of Advertising Spending

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Even though advertising spending is a key element of a firm's marketing strategy, only about 30% of publicly listed firms disclose their advertising spending in their annual reports. The current disclosure regulations on advertising provide managers with the option of disclosing their advertising spending only if they consider this to be "material" information for investors. This raises the question, is advertising spending only relevant for 30% of publicly listed firms? If yes, then there should not be any difference in the level of uncertainty about a firm's future financial performance faced by investors of firms that disclose advertising spending and those that do not, ceteris paribus. The current study integrates multiple databases to empirically examine this issue. Examining over two decades of data across multiple industries, we find that investors' uncertainty is significantly lower for firms that disclose their advertising spending. This effect is robust to alternative specifications pertaining to sampling frames and econometric approaches. Importantly, the results have direct implications for Securities and Exchange Commission and Financial Accounting Standards Board.

3 - The Market Value of Voluntarily Disclosed Marketing Information

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This study empirically examines firms' voluntary disclosure of marketing information in their communications to the public, namely, in the Management Discussion and Analysis (MD&A) section of their 10-K filings. Although there are clear standards for what financial information public firms must disclose, marketing information disclosure is voluntary, in that each firm's management team decides not only whether to disclose marketing-related information but also how much and which particular information to disclose. However, little is known about the value of voluntary marketing information disclosure. Indeed, the incentive for firms to strategically disclose marketing information in an effort to attain a more positive assessment of their future prospects leads to a series of managerially relevant but unanswered questions. To address these questions, we assemble a custom data set containing structured (i.e., numerical) and unstructured (i.e., textual) data from different sources. We find that marketing information disclosure is fairly prevalent across industries. More importantly, we find a highly significant and positive relationship between marketing information and firm value. In addition, we find that firm size moderates the relationship between marketing information and firm value. Somewhat surprisingly, we find a positive relationship between "hidden" marketing information and firm value, suggesting that the marketing information not explicitly revealed in the MD&A section (e.g., proprietary information) can be even more important than what is revealed. Overall, this study provides important new insights for policy makers, firms, and individuals (e.g., analysts, investors).

4 - Value Appropriation and Firm Shareholder Value: Role of Advertising and Receivables Management

Kyuhong Han, Doctoral Student, Rice University, 6100 Main St., MS-531, Room 267, Houston, TX, 77005, United States, Kyuhong.Han@rice.edu, Carly Frennea, Vikas Mittal

Value-appropriation activities enable a firm to utilize its value proposition to extract more revenue and profits from its existing customer base. Two important value-appropriation activities include advertising and relationship management. It is believed that they can enhance firm shareholder value by increasing returns and decreasing risk. However, to what extent is this empirically true? Should firms simultaneously increase advertising and relationship management activities together, or is there a tradeoff between the two? Under what conditions is the joint effect of advertising and relationship management on firm risk and return enhanced or mitigated? Building on resource-based theory, we argue that both brand equity and relationship equity result in the same end outcome which is enhanced customer equity. Consequently, we hypothesize that a simultaneous increase in advertising and relationship management activities deters firm shareholder value. Further, we also examine the role of firm business scope. We argue that executives in a firm with narrow business scope can better utilize their advertising and relationship management activities by more efficiently transforming them into market-based assets that enhance firm shareholder value. In this regard, we hypothesize that firm business scope weakens the joint effect of advertising and relationship management on firm shareholder value. We test our hypotheses using a dataset comprising 7,798 firm-year observations from 1,229 firms over the period of 2003-2015. Empirically, we use abnormal stock returns and idiosyncratic risk to operationalize firm shareholder value, and investments in advertising and accounts receivables to measure their efforts in the two activities—advertising and relationship management. The empirical results support our hypotheses. These results—especially, the substitutive nature of advertising and receivables investments—require more careful decisions by executives and reiterate the importance of coordination between marketing and other functions.

■ FB15

Fertitta Hall, 331, 3rd Floor

CRM: Customer Loyalty II

Contributed Session

Chair: Hyung Sup Bhan, Northwestern University, 1725 Orrington Ave Apt 310, Evanston, IL, 60201, United States, h-bhan@kellogg.northwestern.edu

1 - Unmasking New Behavioral Effects Resulting from Reward Redemption for a Coalition Loyalty Program

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A loyalty program (LP) without tangible rewards is unlikely to induce consumer loyalty, and yet, there are still only a handful of studies that examine the effect of reward redemption on the behavior of LP members. Much of the previous literature has focused on the short-term behavior of LP members just prior to, and shortly after, reward redemption for promotion-style and hierarchical LPs with deadlines and/or points/purchase thresholds. In the pre-reward period, consumers have been found to increase their purchase rate just prior to a deadline or to shorten their interpurchase time as they approach the threshold number of purchases required to receive a reward. The occurrence of pre-reward purchase acceleration and higher post-reward spending behaviors is expected for LPs which impose deadlines and purchase thresholds. However, such behavioral changes are not necessarily anticipated for another LP format, called a "coalition loyalty program." While the benefits of coalition LPs is apparent from the consumer perspective, the absence of deadlines and purchase thresholds combined with points being valid for two or more years means that members of such LPs are less likely to change their purchasing behavior. In this we study we assess the short- and long-term effects of reward redemption on loyalty points accrual behavior for a coalition LP. In our case we study a coalition LP that has existed for over 20 years and has millions of members. We find that three redemption behavior segments emerge. The first two, each of size 10%, show evidence of points acceleration prior to redemption and also acceleration after redemption. However, the largest segment (80%) do not change their points accrual behavior before or after reward redemption. We then develop a hidden Markov model to reveal factors that are associated with movement among these segments from one redemption to the next.

2 - The Effects of Customer Perceived Benefits on Loyalty Program Effectiveness While Moderated by Type and Timing of Rewards in the Financial Industry

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The effectiveness of loyalty reward programs continues to be questioned, especially as their costs to firms increase. Given the limited research of loyalty reward programs in Financial Services, and the lack of previous consideration of important moderating variables, this study investigated the effects of perceived benefits on program effectiveness. The research questions were investigated through a quantitative methodology, including a SEM causal model examining customer perceived benefits, perceived relationship investment, relationship quality, attitudinal and behavioural loyalty, and type and timing of benefits. In contrast with previous findings, the results suggest social, exploration, monetary and experience benefits are significant predictors of perceived relationship investment and ultimately customer loyalty. Importantly, the benefit of recognition was found to not have a significant influence, while the type of reward only moderated the relationship between exploration and experience perceived benefits. The timing of the benefit was also found to have no moderating effect. The study's theoretical contribution includes a more comprehensive conceptual model of loyalty program effectiveness, as well as an empirical analysis of previously untested relationships between important variables. For practitioners, the findings provide guidance on design elements of an effective program, thereby contributing to possible firm cost savings and enhanced customer loyalty.

3 - Investigating Satisfied but Disloyal Business Customers – Case of Air Express Market

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Satisfaction paradox indicates customer satisfaction does not necessarily translate into customer repurchase. Competitor's attractiveness and customer demographics are two main moderators for the paradoxical phenomenon. Competitor's attractiveness exhibits customer switching effect, whereas customer demographics imply customers moored with their current service provider. Still, the cases were few investigated in B2B settings where customers are in general more complex than consumers as involving more intricate organizational network influences. In a business network, transactions may incur buyer/seller relational activities that mitigate paradoxical behavior. Nonetheless, the variable is yet identified and the interacting effects between the moderating variables are not clarified. Thus, this study aims to develop an operational model to classify satisfied customers into loyal, moored and paradoxical segments using three genres of moderators: competitor's attractiveness, organizational and transactional variables in a B2B setting. In the model, the theoretical bases of switching behaviors are applied for four statistical analysis executed in a logic sequence, including a factor analysis to consolidate quality measurements, a quadrant analysis to locate the effect of competitor's attractiveness, a clustering analysis to segment satisfied customers into three segments, and finally, nonparametric tests to validate the organizational and transactional segmentation variables. Empirically, we study Taiwanese manufacturers who engaged in global trade and have had experiences in choosing the global air express services (i.e. DHL, FedEx, TNT and UPS) that form an oligopolistic market and a strategic group so competitor's attractiveness can be better calibrated. A total of 186 valid samples are collected and analyzed. The results contribute to the literatures of B2B service marketing.

4 - Decomposing the Long Term Impacts of Backorder Delays: A Quasi Experimental Approach

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Even though firms frequently use backorders to sell the products when temporary stockouts occur, long-term ramifications of these delays to the customers have been less investigated. We develop a quasi-experimental research design that takes advantage of plausible random events to measure the impacts of experiencing backorder delays on customers' future purchases. Conditioning on the identical product being sold during the same day, we find that temporary stockouts occur close to random, and customer traits are similar in that narrow window between those who normally purchased and backordered. We find that experiencing backorder decreases future purchases by 2% in the short-term. While the magnitude slightly decreases, the effect persists throughout the long-term period of future five years. Using quoted and actual delivery date as two reference points, we unpack this mechanism. Short-term negative effects are driven by the firm's failure to meet the promised quoted delivery date. In the long-term, the effects are driven by the lateness of initial quoted date itself. In addition, we test the asymmetric effects of the arriving earlier or later than the backorder quoted delivery date. We find evidence of loss-aversion, but it is limited in the short-term.

■ FB16

Fertitta Hall, 414, 4th Floor

Advertising Models

Contributed Session

Chair: Tirtha Dhar, University of Guelph, 66 Hall Avenue, Guelph, ON, N1L 0B2, Canada, tdhar@uoguelph.ca

1 - Optimal Advertising When Credibility of Film Reviews is under Challenge

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This study investigates how film distributors optimize their advertising spending when credibility of reviews is subject to doubt. Since the quality of a film is difficult to assess in advance, consumers heavily rely on reviews from movie critics over media as well as reviews from other consumers spread via word-of-mouth. But in fact, there exists considerable anecdotal evidence that both critics' conflict of interest and fake online reviews challenge the credibility of film reviews. Although information asymmetry can exist between firms and consumers as in other newly introduced experience goods, a movie is not repeatedly purchased and its life span for revenue generation is also limited. Also, marketing tools for providing product signals are restrictive as the price of movie tickets - being identical across the movies - does not work as a product quality signal. Thus, such potential problems in social learning mechanism complicate the decision made by the film studio as to the level of advertising, most of which is typically executed prior to the first week of movie's release. Hence, we develop an equilibrium model in which consumers decide whether/when to watch a movie and a film studio makes an optimal advertising decision, in the presence of social learning. We then show how social learning can work as a double-edged sword for film distributors depending on the film quality and the degree of quality uncertainty. To discuss both managerial and policy implications, we simulate a film distributor's optimal advertising spending for several counterfactual scenarios where credibility of reviews is challenged.

2 - Content Advertising in a Two-sided Market

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A sponsored content advertisement is a new ad format in which the brand's content takes the same form and qualities of a publisher's original content. While many advertisers have largely embraced this new advertising format, consumers seem to react negatively towards it if they can correctly identify it as a promotional message. In this paper, we present an analytical model that studies the strategic role of sponsored content advertising in a two-sided media market. We first demonstrate that a monopolist media platform's profits decrease in consumers' likelihood of identifying the sponsored content ads. Then we show that the opposite pattern occurs in the competitive environment. We identify conditions under which competing platforms would choose sponsored content advertising over traditional advertising. Despite consumers' sentiment towards sponsored content ads, they can be better off together with the advertisers when platforms choose this ad format. However, both competing platforms offering sponsored content ads may result in a Prisoner's Dilemma equilibrium outcome. Finally, we show that two symmetric media platforms can choose different advertising strategies, leading to an asymmetric equilibrium outcome in which one platform adopts sponsored ads and the other one adopts traditional ads.

3 - Business Cycles and Product Types as Drivers of Deceptive Advertising

Tirtha Dhar, Associate Professor, University of Guelph, 50 Stone Road (East), Guelph, ON, N1G 2W1, Canada, tdhar@uoguelph.ca

In this paper, we investigate the key macroeconomic drivers of deceptive advertising. We use a unique data set on advertising complaints at the national level in the United States, and combine it with macroeconomic indicators to show that false or deceptiveadvertising is counter-cyclical. In other words, firms' use of false advertising increases during periods of economic hardship. When we analyze the data after taking into account the durability of the products, we find that the counter cyclical relationship is significant only in the case of nondurable goods. More importantly, we show that within nondurable goods deceptive advertising is pro-cyclical in the case of nondurable search goods, and countercyclicalin the case of non-durable experience goods. We argue that the reason for the former finding is that consumers search more during bad times. The reason for the latter finding is that sellers of experience goods can increase profits by deception when bad times are expected since the cost of deception during these times is low. These findings suggest policy recommendations related to the type of industry and prevailing economic conditions.

4 - Asymmetric Advertising Response

Maarten Gijsenberg, Associate Professor, University of Groningen, P.O. Box 800, Groningen, 9700 AV, Netherlands, m.j.gijsenberg@rug.nl, Julien Schmitt, Jaap Wieringa

Managers frequently face the decision to intensify planned advertising actions and associated budgets in order to defend themselves against unexpected competition pressure. Conversely, and perhaps even simultaneously, they may be urged to cut back on advertising in order to reach short-term bottom-line objectives. The conundrum they face in doing so, is that they often do not have a precise idea of the respective impact on sales of these decisions. Indeed, while most advertising response models consider advertising increases and decreases as having symmetrical effects, we argue that this is not necessarily the case, and that effects can be asymmetric. We study this issue by adjusting Time-Series VAR models (which are symmetrical) in such a way that it accommodates asymmetric responses to advertising. At the core of the adjustment is the introduction of two indicator functions for the advertising evolution from t-1 to t: I(Advertisingb,c,t > 0) for an advertising increase, equaling 1 when advertising budget increased from t-1 to t, 0 otherwise; and I(Advertisingb,c,t < 0) for an advertising decrease, equaling 1 when the advertising budget decreased or stayed the same from t-1 to t, 0 otherwise. We test our model using a weekly level dataset containing advertising, prices and sales series of over 300 Consumer Packaged Goods brands. This setup allows us to provide insights on three key issues: 1) the asymmetric nature of brands' sales responses to increases and decreases in advertising; 2) the shape of this asymmetry in terms of a) immediate effects, b) cumulative effects, c) speed of cumulative effects; and 3) whether these asymmetric patterns depend on specific brand's characteristics such as market share, price positioning or competition intensity, among others.

■ FB17

Fertitta Hall, 416, 4th Floor

Brands & Social Media II

Contributed Session

Chair: Purushottam Papatla, University of Wisconsin-Milwaukee, School of Business Administration, PO 7423202 N Maryland Ave, Milwaukee, WI, 53201-0742, United States, papatla@uwm.edu

1 - Firm Crisis and Media Response

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We examine how company crises are discussed in the media. Crisis situations include product recalls, quality or authenticity issues, regulatory non-compliance, and willful misrepresentation. Some recent examples include Volkswagen's emissions testing falsification, General Motor's faulty ignition switches, and Theranos' inaccurate blood testing reports. Our interest in these discussions stems from the importance of media in shaping consumer behavior (Van Heerde, Gijsbrechts, and Pauwels 2015) and research on media bias (Gentzkow and Shapiro 2006). Therefore, our study has implications for consumers, managers and regulators. We use methods in natural language processing to analyze articles from leading newspapers in the U.S. on recent instances of company crises in the automobile industry. We use a generative model for media responses in a dynamic topic model (Blei and Lafferty 2006) - with latent topics as a logistic normal that are sequentially correlated over time, and words as multinomial draws from topics. We estimate model parameters using Variational Inference. The model allows for analyzing emergence of new topics over time, as well as variation of topics across documents. Specifically, we focus on valence and distribution of topics that are directly related to the crisis, such as safety, environmental impact, and managerial misconduct. Sentiment and variance of topic distributions over time and across media is used to model media response. We will extend the work to examine impact of media reporting on firm performance.

2 - Rebuilding a Brand from Crisis Management to Recapturing the Image and Brand Consumption

Rajesh Kumar Srivastava, Professor and HOD, Sydenham Institute of Management, 3rd Floor B Road , Churchgate, Bhawani Nagar, mumbai, 400059, India, srivastava@vsnl.net, manoj bhide

This paper aims to provide insights into the how to overcome the brand crisis and offer a guideline for analytic approaches and organisational actions. The purpose is to study whether the controversy and word of mouth had any impact on the strong brand equity, brand image, brand loyalty and consumer perception. The approach takes the form of a set of examinations and interpretation of a number of recognised corporate brand crisis situations through primary research and secondary research.The controversy had little or no effect on the overall brand equity and consumer perception as Maggi is a strong brand with good equity. Our study indicates that the application of social media has helped the regained the equity among targeted consumers who are under thirty five years of age. A Strong brand with good equity and image regained faster trust compared to other brands with diffused equity.

3 - Tell Me Who Your Brands Are and I Will Tell You Who You Vote For

Oded Netzer, Columbia Business School, New York, NY, 1027, United States, onetzer@gsb.columbia.edu, Verena Schoenmueller, Florian Stahl

Past research increasingly highlights opportunities to learn about consumers' attitudes and behavior from publicaly available social media data sources (e.g., Netzer et al. 2012; Culotta and Cutler 2016). In line with this evolving research stream, we show how information regarding the followers of brands and politicians on Twitter can be used to learn about the associations between politicians and brands. More specifically, we investigate which brands the followers of major politicians (e.g., Donald Trump, Hilary Clinton, Bernie Sanders) and political parties (e.g., Democratic Party and GOP) follow in order to identify the political position of each brand. Building on this we then show how this information relates to predictions of people's voting behavior based on their brand preferences and contrast with conventional demographic predictors. Finally, we relate the brand-politician associations to brand image data using Y&R Brand Asset Valuator and show how the proximity of brands and politicians based on social networking data relates to the characteristics of the brands.

4 - An Empirical Investigation of Brand and Category Differences in the Engagement of Brand Communities on Facebook

Purushottam Papatla, University of Wisconsin-Milwaukee, School of Business Administration, PO 7423202 N Maryland Ave, Milwaukee, WI, 53201-0742, United States, papatla@uwm.edu, Prashanth Ravula

Social media brands like Facebook, Instagram and Twitter have attracted millions of people who participate on the platforms. Facebook, for instance, is used by 1.65 billion people on the average per month according to a recent report (CNN 2016). Despite the large user base, surprisingly little is known about an important aspect of the relationship between brands and their consumer communities on Facebook. Specifically, there are few insights into questions like: (1) How engaged are members of a brand's fan community with the brand and how engaging are the brand's interactions with its community? (2) Are there differences between brands in their communities' engagement with them and in their ability to engage those communities? (3) Are there differences between product categories in how engaged their brands' communities are? This is the gap that we address through an empirical investigation of the questions using data on responses of community members to posts by 72 brands in 19 categories. Engagement is operationalized as the proportion of fans' responses that express an emotion rather than just 'Liking' a post and differences in the proportions between posts are related to brand, category, and message characteristics. Our results suggest that brands and product categories have significant differences in how engaged their communities are and how engaging they are in their interactions with the members of their communities. They also provide several additional insights. For instance, we find that strong brands - as indicated by their presence on the Interbrand ranking - also attract more fan engagement.

■ FB18

Fertitta Hall, 417, 4th Floor

Consumer Behavior Culture

Contributed Session

Chair: Faryal Salman, SZABIST, 1-A/II 26th Street Ph V DHA Karachi, Karachi, 75500, Pakistan, faryal.salman@szabist.edu.pk

1 - Cultural Capital and Taste Distinctions in Urban India

Tanuka Ghoshal, Assistant Professor, Indian School of Business, Indian School of Business, Gachibowli, Hyderabad, 500032, India, tanuka_ghoshal@isb.edu, Rishtee Batra, Russell W. Belk

Recent consumer culture theory advocates a contextual approach to theory development in order to produce more complete and powerful explanations (Arnould and Thompson, 2005; Askegaard and Linnet, 2011). For example, Üstüner and Holt (2010) find that a Western model of status consumption was not adequate to explain the nuances of distinctive consumption patterns in Turkey. In analyzing status consumption strategies among upper middle-class women in Turkey, they revised three key constructs in Bourdieu's (1984) status consumption theory – cultural capital, habitus and social field – taking the first step toward building a theory of status consumption specific to less industrialized countries, on which we build. India offers a particularly interesting context given the vast diversity in population in terms of cultural, social and historical backgrounds, as well as India's rapidly transforming economy. We conducted 28 depth interviews with women from upper and lower socioeconomic classes in India to ascertain their cultural and symbolic capital resources (empowerment) and observed consumption in multiple contexts. We construct a cultural capital scale similar to other researchers (Üstüner and Holt 2010; Holt 1998) with necessary adaptations for the Indian context. Using the lens of Holt (1998), we study distinctions of taste and consumption practices across different domains such as food, clothing, home décor, vacations, hobbies, sports, socializing, religion and "superstitious" beliefs. We find that observed taste distinctions are structured by cultural, symbolic, economic and social capital and habitus, and offer an interpretation of gender disempowerment in the Indian context.

2 - Cross-cultural Influences on Customer Evaluation of Dysfunctional Customer Behavior

Chloe Y. Qiu, The Chinese University of Hong Kong, 1658, Horizon Suite Hotel. 29 On Chun Street, Ma On Shan, Sha Tin, NT, Hong Kong, Hong Kong, chloe.qiuy@gmail.com, Shannon X. Yi, Lisa C. Wan

Ranging from fighting with crew members on airplanes to using abusive language towards other customers in restaurants, there has been tons of news exposing misdeeds of customers in all sorts of service context that annoy other customers. Indeed, whereas companies constantly strive to impress their customers, misbehaving customers oftentimes ruin the efforts by detracting other customers' consumption experience. More importantly, such dysfunctional customer behavior happens far too often to ignore and are found to be responsible for multitudes of dissatisfying incidents reported by customers. Notwithstanding the pervasiveness and undesirability of the phenomena, this area of research remains largely underdeveloped. In this paper, we propose there are two types of consumer misbehavior, namely, non-social misbehavior and social misbehavior. Non-social misbehavior refers to misbehavior that creates a sense of unfairness and induces a loss of economic resources (i.e. time, money) to other customer. A typical example is cutting in line. Social misbehavior refers to a situation that a customer's misbehavior harms other customers' social standing and leads to a loss of social resources (i.e., self-esteem) to other customers, such as expressing discrimination targeting other customers. Drawing on resources preference model, we argue that collectivists, who have been found to be more sensitive to losses of social resources, would take more serious offense when disturbed by social misbehavior and thus be more dissatisfied in such circumstances. On the contrary, individualists, who are believed to be more concerned about their losses in economic resources, would be more dissatisfied when encountering non-social misbehavior. Theoretical and practical implications for managing dysfunctional customer behavior are drawn.

3 - A Discussion on the Connection between Consumer Culture Theory (CCT) and National CultureTheory (NCT)

Faryal Salman, SZABIST, 1-A/II 26th Street Ph V DHA Karachi, Karachi, 75500, Pakistan, faryalsalman@hotmail.com

The current paper is an attempt to make a comparison between National Culture Theory (NCT), that considers culture as a collective social phenomenon related to geographic areas, and Consumer Culture Theory (CCT) that transcends topographical boundaries and unites individuals based on consumption ideology. Geert Hofstede has done pioneering work in National Culture Theory in which he proposes a framework of Cultural Dimensions initially consisting of four variables; Power Distance, Individualism/Collectivism, Masculinity/Femininity and Uncertainty Avoidance. These variables have been used to find relative differences between the citizens of different nations. Consumer Culture Theory does not offers any empirical framework but is a combination of concepts and constructs. It propose subcultural grouping which is a social arrangement where symbolic and material resources are shared by the groups. The discussion anchors on the premise that homogeneous consumption groups show similarity by virtue of their consumption rituals and practices following the CCT route. However, the specific choice an individual makes to express their commitment to a particular product, brand or a lifestyle may be governed by their ethnic culture. The authors propose that subculture's ideology of consumption is influenced by the societal or the national culture to which one belongs. A case in point is of Harley Davidson riders who, as part of the H.O.G's community, express their freedom, independence and free-spirited nature. However, the degree of Power Distance, Collectivism and Masculinity prevalent in their respective societies prevent them from displaying that level of common symbolic identity that may be enjoyed by their counterparts in geographically distant societies. Some evidence of this argument is generated from recent studies that take into account the role play of ethnicity in consumer identity projects. We thus assume that the differences in consumption we observe in CCT subcultures are due to NCT. Key words: National Culture Theory, Consumer Culture Theory, Consumer Behavior

Friday, 1:30PM - 3:00PM

■ FC01

Fertitta Hall, 101, Lower Level

Channels: Governance

Contributed Session

Chair: Alberto Sa Vinhas, Washington State University, Washington State University, Seattle, WA, United States, asavinhas@wsu.edu

1 - Delegation and Consignment in Channels

Cexun (Jeff) Cai, Assistant Professor, Texas A&M University, 4112 TAMU, College Station, TX, 77843, United States, caicexun@tamu.edu, Venkatesh Shankar

Delegation and consignment are importance practices in marketing channels, used independently and also together. Yet, their independent or combined influence on the profitability of channel partners remains unclear, leading to unclear prescription for managers. We first explore this problem in a channel setting comprising of a single retailer and a single manufacturer in a Cournot setting, and then extend this to explore the case of a dominant retailer with competition at the manufacturer level. Throughout, we obtain a consistent set of findings. Relative to the base case in which retailer sets channel quantity and also shoulders overhead costs, (i) a consignment agreement can alleviate the double marginalization problem if the manufacturer has a more efficient cost of handling goods than the retailer, resulting in a win-win for both manufacturer and retailer; (ii) delegation tends to benefit the manufacturer more than the retailer, such that in and of itself, a retailer will never want to delegate the quantity decision to the manufacturer; (iii) but the combination of delegation and consignment, however, can be a win-win for the channel under certain conditions. Lastly, we find that (iv) under competition at the manufacturer level, our previous results are robust.

2 - Learn to be Good or Bad. Observer Effects of Distributor Punishment; Curvilinear Relationships and Network Contingencies

Zhenxin XIAO, PhD student, City University of Hong Kong, Tat Chee Avenue , Kowloon, Hong Kong, Hong Kong, zhenxxiao2-c@my.cityu.edu.hk, Maggie Chuoyan Dong, Xiaoxuan ZHU

A punishment event not only affects the attitudes and behaviors of the disciplined distributor but also shapes those of the observers in the same distribution network. Drawing from social learning theory, this study examines the curvilinear impact of punishment severity on observer distributors' opportunism by considering both the imitative and inhibitive mechanisms from the observation of punishments. Observers vicariously learn similar opportunistic behaviors by the attraction of potential benefits, but meanwhile refrain from them for fear of the vicarious punishments. Hence, we posit that the imitative mechanism will dominate the effect of punishment severity on the observer's opportunism in the low to medium level of punishment severity; with the increase of punishment severity, the observer effect will be dominated by the inhibitive one. In addition, such curvilinear effect is conditional upon the network features. Using a survey of 218 distributors in China's automobile industry, our findings show that punishment severity has an inverted U-shaped, instead of an exclusively deterrent, effect on observers' ex post opportunism. Moreover, observers' network centrality and dependence on the supplier can weaken the inverted U-shaped relationship between punishment severity and opportunism. Our study contributes to channel governance and social learning literature by establishing a network-level influence, in both imitative and inhibitive aspects, of punishment on observers' opportunism, and building a dynamic view of how the two effects function at different degrees of severity. This study also sheds light on network research by identifying the conditions for differential learning outcomes of observers.

3 - Sharing of Distribution Functions for Customer Value Creation in B2b Markets

Alberto Sa Vinhas, Associate Professor of Marketing, Washington State University, Vancouver, WA, United States, asavinhas@wsu.edu

The focus of this paper is on the allocation of distribution functions within distribution channels in business-to-business (B2B) markets. Our focus is on customer-centered job tasks or functions that involve close interaction with the distributor's customer. Examples of such functions are lead generation, customer negotiations, closing the sale and deployment of goods and/or services. Despite the considerable literature looking at channel design and management, the topic on how functions are shared-split between channel members is one of the most important issues unaddressed in the empirical channels research (Frazier, 1999). As manufacturers attempt to differentiate themselves by providing value-added services and customer solutions (Tuli, Kohli and Bharadwaj 2007), these decisions become even more important. In many industries, channel intermediaries and network partners represent core competencies and perform specialized marketing functions (Vargo and Lusch 2004). However, and as suggested by previous research (e.g. Ulaga and Reinartz 2011; Frazier 1999), these manufacturers frequently struggle with how to coordinate their actions with their channel partners. It is often unclear how functions should be allocated among the parties in this new model, and how this allocation influences the outcomes of the different parties involved. We take the distributor's perspective and investigate how a manufacturer's involvement in the performance of distribution functions influences distributor outcomes and its ability to deliver customer value. Based on a multi-industry field study of industrial distributors, we highlight the complex processes that characterize function allocation decisions in today's complex business-to-business environments.

■ FC02

Fertitta Hall, 102, Lower Level

Online Retailing II

Contributed Session

Chair: Raghunath S. Rao, University of Texas-Austin, B6700 1 University Station, Austin, TX, 78712, United States, raghunath.rao@mccombs.utexas.edu

1 - E-tailing, Social Contagion and Chicken-egg Paradox

Guneet Kaur, Doctoral Student, University of North Carolina Chapel Hill, Kenan Flagler Business School, Chapel Hill, NC, 27599, United States, guneet@live.unc.edu, Ruby Lee, Rajdeep Grewal, Shrihari Sridhar

The first online retail transaction in the US took place in 1994 at NetSpace, an online marketplace, followed by the launch of the popular online retailers Amazon and eBay in 1995. Within a span of five years retailers reported that their online sales accounted for nearly $27 billion in revenue (2000) that ballooned to a whopping $340 billion in 2015 (census.gov). Using a unique 12 year dataset of population of retailers in the country, from the fledgling years of e-tailing in year 1994 till year 2006 - the saturation plateau phase following dot.com bubble, we study two questions regarding the adoption of internet by retailers. First, we empirically estimate the extent to which strategic adoption of internet by retailers (e-tailing) is influenced by social contagion effect. A typical peer effect estimation problem is rife with three potential issues - correlated unobservables, self-selection, and reflection problem; we address all these issues in our study using appropriate econometric techniques. Second, we seek to explore the phenomenon that explains the saturation of e-tailing adoption between years 2000 to 2006 at mere 30% of the retailer population. The figure is particularly telling when Amazon and eBay, two of the key first movers in e-tailing business reported profits for the first time and the adoption of internet among consumers rose by around 44% (Pew Research Center 2014) during year 2000 to 2006. In our results we find that social contagion does causally influence e-tailing adoption and that the chicken-egg paradox explains the saturation of adoption.

2 - Augmented Difference-in-Differences: Practical and Consistent Estimation of Average Treatment Effects

Kathleen Li, Doctoral Student, Wharton, 3730 Walnut Street, 700 Jon M. Huntsman Hall, Philadelphia, PA, 19104, United States, katli@wharton.upenn.edu, David Bell

Difference-in-differences (DID) methods are widely deployed in management sciences to estimate the average treatment effect (ATE) in quasi-experimental data. We derive and illustrate a new practical and consistent estimator for commonly encountered settings where control units violate the parallel lines assumption essential to DID. Our method, the augmented DID (ADID), exploits the correlation between treated and non-treated units as its identifying assumption, and is a complement to standard DID when the latter breaks down. Using analytics and simulations we demonstrate key properties of ADID. We then estimate the ATE of offline showroom openings on sales for a prominent online-first retailer using DID and ADID. The DID ATEs vary widely by market and some cases are, counter-intuitively, negative. Conversely, ATEs from ADID are positive and mostly statistically significant. The ADID estimator is not only straightforward to implement, but also consistent and robust to the selection method for non-treated units.

3 - E-Commerce Mailorder Fraud: Feature Analysis of B2C Transaction Data

Tobias Knuth, DBA Candidate, Edinburgh Napier University, Edinburgh, United Kingdom, contact@tobiasknuth.de, Dennis Ahrholdt

B2C mailorder e-commerce companies show increasing concern for raising numbers of internet fraud. Projecting fraud rates of only 1 percent to e-commerce sales data (ten Ham, 2015), losses in the European market would reach USD 351 million, and in the North American market, the loss would amount to USD 5.22 billion; empirical data, however, indicate even higher fraud rates. The problem motivates companies to invest into automated machine learning systems that inspect and evaluate the high volume of transactions in which potential fraud cases can be buried. In other areas of financial fraud, machine learning has succesfully been applied (Ngai et al., 2011). Although qualitative research suggests that risk factors exist (Hinneburg, 2006), there is little quantitative evidence yet about which variables are suitable for training of such systems. In this research, a dataset containing hundreds of thousands of transactions from one of the largest e-commerce firms in Europe is analyzed using techniques including information gain, logistic regression, and boosted decision trees in order to uncover and rank fraud risk factors. For more efficient fraud detection, the identified factors such as order time, value, and validity of address data can be used by businesses to identify possible fraudulent orders manually or to train automated machine learning systems. Results suggest that a distinctive set of variables adds most value and that patterns of fraud exist which, once uncovered, facilitate fraud prevention.

4 - Online Competitor Referral and Entry-deterrence

Raghunath S Rao, University of Texas-Austin, B6700 1 University Station, The University of Texas at Austin, Austin, TX, 78712, United States, raghunath.rao@mccombs.utexas.edu, Jianqiang Zhang, Zhuping Liu

Internet retailers often compete fiercely for consumers through expensive efforts like search engine advertising, online coupons and a variety of special deals. Against this background, it is somewhat puzzling that many online retailers have recently begun referring their website visitors to their direct competitors. In this paper, using an analytical model, we examine this counterintuitive practice and posit that an entry deterrence motive can potentially explain this marketplace puzzle. Specifically, we develop a model where two incumbents compete for consumers' business while facing a potential entrant who is deciding whether to enter the market. We find that when confronted with a potential entry, an incumbent may refer consumers to its competitor, intensifying the market competition and resulting in shutting off the entrant. Only one incumbent may refer its competitor when no loyal consumers exist for either incumbent whereas both incumbents may refer each other when each incumbent has a set of loyal consumers. Interestingly, we find that a relatively weak incumbent may refer the consumers to a strong incumbent even when the strong incumbent does not reciprocate. Surprisingly, our analysis shows that the practice of online competitor referral— which improves the price transparency— could end up hurting aggregate consumer welfare.

■ FC03

Fertitta Hall, 105, Lower Level

Mobile Marketing: Discounts

Contributed Session

Chair: Gabor Darvasi, University of Munich (LMU), Ludwigstrasse 18, Munich, 80539, Germany, darvasi@bwl.lmu.de

1 - When Institutional Change Meets a Mobile App - An Empirical Study of a Coalition Loyalty Program

Rebecca Jen-Hui Wang, Lehigh University, 621 Taylor Street, Bethlehem, PA, 18015, United States, rwang@lehigh.edu, Lakshman Krishnamurthi, Edward C Malthouse

Coalition loyalty programs (CLPs) are becoming prevalent, but there is not much research on ways to manage them. In this paper, we examine the question - how does customers' mobile app adoption affect the influence of a policy change in an institution such as a CLP? - by analyzing a unique dataset from one of the largest CLPs in the world. We find that customers who adapt to the CLP's new reward policy, i.e., Cash rewards, and/or its app increase their point accruals, and the increase is the greatest for customers who adopt Cash while keeping the existing reward structure. Low-involvement adopters also have greater increase than those who are already invested in the program. Furthermore, customers who utilize both the app and Cash policy not only accrue more points than before, but they also redeem more rewards, suggesting the ability to interact with the CLP anytime, anywhere allows them to understand and take advantage of the program better. Drawing from literature on mobile marketing, loyalty, and institution, our conceptual framework theorizes the relationship amongst system value, institutional utilization, and app technology. We posit that when there is an institutional change, a mobile app enables knowledge transmission between a firm and its customers and facilitates them to adapt to the new rule, which in turn creates value for the overall marketing system. With respect to managerial relevance, we recommend that a CLP should build and promote mobile platforms that allow easy access to information, especially in the event of a policy or marketing mix change, to maintain enduring relationships with its customers.

2 - Advance Selling Cancellation under Valuation Uncertainty

Tianfu Wang, PhD Candidate, Purdue University, 3384 Peppermill Dr, Apt 2A, West Lafayette, IN, 47906, United States, TianfuWang@Purdue.edu

Advance selling platforms (e.g., Groupon and LivingSocial) allow customers to prepay service providers ahead of consumption in exchange for a discount on regular price. However, customers face valuation uncertainty (e.g., preference uncertainty and future consumption state uncertainty) about the advance selling voucher. As a result, some of the advance selling vouchers are canceled due to the realization of the valuation. Both the platforms and service providers need to understand why customers cancel the prepaid voucher because cancellation leads to customer churn and negatively affects customer satisfaction and profitability. Using an unique data from a major advance selling platform, this paper empirically investigates how valuation uncertainty affects customer redemption and cancellation decisions. In addition, by contrasting the transactions processed via PC versus mobile device, this paper also sheds lights on the consumer behavior discrepancy across different channels.

3 - QR Codes Make Location Matter Even More: The Mere Exposure Effect of QR Codes

Wenbo Wang, Assistant Professor of Marketing, Hong Kong University of Science and Technology, Dept of Marketing, HKUST, Clear Water Bay, Kowloon, Hong Kong, wenbowang@ust.hk

QR codes (abbreviated from Quick Response Codes) have been growing dramatically in mobile marketing but are understudied. This research investigates the effect of QR codes in the context of mail coupon: how does the presence of a QR code on a consumer coupon affect redemption. Using two randomized field experiments on restaurant coupons with about 60 thousand real consumers, we document a mere exposure effect of QR codes: merely showing a QR code on a coupon increases redemption when the coupon is offered by a restaurant that is close to consumers, but may backfire when the coupon is from a distant restaurant. A series of follow-up eye-tracking studies and lab experiments showed that the underlining mechanism for such an effect is that the natural correlation between QR codes and "Quick Response" activates a low construal, concrete thinking such that consumers focus on feasibility of closing a deal rather than desirability of the deal itself. This research is among the first studies on how consumers respond to QR codes, a powerful but yet understudied new marketing tool.

4 - The Effect of Physical Context on Social Contagion in the Usage of Mobile Promotions

Gabor Darvasi, University of Munich (LMU), Ludwigstrasse 18, Munich, 80539, Germany, darvasi@bwl.lmu.de, Martin Spann

Influences on consumer behaviour associated with social contagion and the consumers' momentary physical location are ubiquitous and decisively affects day-to-day consumer decisions. For instance, usage by peers may increase the willingness to adopt a service, or sunny weather may elicit more positive responses to promotions from consumers. Contingent on either the social environment or the momentary physical location, these influences have been extensively studied in mostly separate streams of the marketing literature. However, due to their natural co-occurrence, it is also necessary to understand how they interact with each other to jointly affect consumer decisions and preferences. In this study, we empirically investigate how consumers' momentary physical location and related influence factors on consumer behaviour, such as weather and crowdedness, affect the occurrence and strength of social contagion in the adoption and subsequent usage of mobile app-based promotions. We use a large proprietary data set from a nationwide operating drugstore chain's mobile app in a large western European country. Users can browse hundreds of simultaneously available pull-based mobile coupons that they may redeem in any of approximately 2,000 nationwide store locations. We construct a dynamic co-location network for all app users based on the geographic coordinates from more than 1,000,000 mobile coupon conversions to study social contagion. By exploiting the geographic heterogeneity of store locations and temporal variations in app usage volume, we test for the effect of consumers' momentary physical location.

■ FC04

Fertitta Hall, 125, Lower Level

Social Media WOM

Contributed Session

Chair: Giwoong Bae, KAIST, 291, Daehak-ro, Yuseong-gu, Daejeon, 34141, Korea, Republic of, bgw1989@kaist.ac.kr

1 - Investigating the Effectiveness of Integrating Amplified Word of Mouth into the Marketing Plan

Florian Dost, European University Viadrina, Große Scharrnstraße 59, Frankfurt (Oder), 15230, Germany, dost@europa-uni.de, Ulrike Phieler

Managers generally believe in the effectiveness of amplified word of mouth (aWOM) campaigns and the few existing studies confirm their hopes by demonstrating aWOM sales effects. However, managers still often refrain from using aWOM campaigns as sales effects seem to vary and little is known about the successful integration of aWOM campaigns into existing brand marketing plans. Scarce literature either does not address aWOM interactions or provides with conflicting results especially for the interplay of aWOM and other forms of advertising. This article estimates interaction effects of aWOM with several forms of advertising (online, offline, own brand, competing brand), price changes, point of sale promotions and distribution rates. Building on the underlying theories of the integrated media communication (IMC) framework, positive, but for a rich communication such as aWOM also negative synergy is expected. By utilizing three unique datasets of three actual aWOM campaigns set in specific brand marketing plans, the present study tests the proposed interaction effects. Based on the results, elasticities, effect sizes, as well as simulations with changing marketing plans are calculated. The results show, that indeed aWOM campaigns strongly interact with other elements of the marketing plan, that they benefit from lower prices, more point of sale activities and distribution, and competing advertising, but interactions with own product advertising are negative and reduce effectiveness of the marketing plan.

2 - Group Consumption and Word of Mouth in Experiential Goods

Irit Nitzan, Lecturer, Tel Aviv University, Tel Aviv, 6997801, Israel, iritnitz@tau.ac.il, Talia Rymon, Jehoshua Eliashberg

Experiential goods (EG) are products or services that consumers choose, buy and use to experience and enjoy (e.g., movies, sporting events, restaurants). Group consumption is becoming increasingly prevalent in a variety of industries and in EG industries in particular, and provides customers with social utility beyond the utility from the EG itself. In recent years the marketing literature has devoted considerable attention to WOM as a manifestation of social influences that take place among (potential) customers. In the context of EG, the importance of WOM is attributed to its potential to alleviate the uncertainty associated with these products prior to their consumption, and to its close association with the self. Although WOM is a widely-researched topic, the effect of group consumption on out-group WOM behavior (i.e., the spread of WOM to potential customers, not included in the consumption group) has not been addressed thus far. This research bridges this gap in the literature. Specifically, we explore how the consumption group characteristics (e.g., the size of the group, the group homogeneity and the consensus among its members regarding the experience) affect the WOM behavior of each of the group members, following the consumption event. We have established a collaboration with a major movie exhibitor, enabling us to approach EG consumers close to their consumption experience. This research has important implications for EG companies regarding how to manage the group consumption of their customers, to yield more post-consumption WOM.

3 - The Interplay of Information from Friends Versus Crowds in Consumer Digital Shopping Journey

Baojiang Yang, Carnegie Mellon University, 325 Dewey Street, Pittsburgh, PA, 15218, United States, baojiany@andrew.cmu.edu, Miguel Godinho de Matos, Pedro M Ferreira

Consumers use information from friends and from the crowd to estimate the quality of products prior to purchase. These two sources of signals may carry information of different nature and value. Typically, consumers start by searching for products to build a reasonable consideration set. Later, they choose a product to buy from this set or abandon the market without buying. We study how consumers combine information from friends and from the crowd when they are just browsing and when they are effectively considering purchasing a product. We use a dynamic structural model to study the consumers' behavior in the video-on-demand system of a major cable provider. We find that information from friends, in our case proxied by the movies that they previously bought, is more important than likes from the crowd when browsing for movies. However, the importance of likes increases relative to that of word of mouth from friends when consumers are closer to commit. Nevertheless, consumers still take the information from friends into account when they are close to purchase more expensive products. Our paper provides new evidence of how consumers think throughout the purchasing process. In our case consumers seem to start by browsing products they heard about from friends and likes seem to only play a role closer to purchase. This result shows that a good way to help consumers navigate large catalogs of products might be to first show them products that consumers similar to them bought and then later highlight the popularity information.

4 - Dynamic Relation Between E-word of Mouth, Media Coverage, and TV Viewership

Giwoong Bae, Korea Advanced Institute of Science and Technology, 291, Daehak-ro, Yuseong-gu, Daejeon, 34141, Korea, Republic of, bgw1989@kaist.ac.kr, Yuwon Kim, Hye-jin Kim

The effect of e-word of mouth and publicity (media coverage) on market outcome has been studied quite extensively in the marketing literature, especially in the context of the entertainment industry. Existing studies have mostly examined the phenomenon in dyadic relations, lacking a holistic view. In this research, we attempt to contribute to the body of existing literature by examining the interdependent relation between e-WOM, media coverage, and TV viewership. Because the availability and volume of e-WOM that can be collected is extensive, we attempt to apply machine learning to measure the valence of e-WOM and propose a novel sentiment analysis technique which is useful when existing classifiers do not yield adequate performance. We show that the application to the test set yields reliable and acceptable results. To examine the given relationship, we establish a multi-equation system which captures the interdependent relation between e-WOM, media coverage, and TV ratings. Our context is Korean TV drams which is effective in analyzing the relation between communication channels and market outcome. The results show that e-WOM volume and TV ratings both have positive effects on media coverage, which is consistent with intuition. However, there are also unexpected results. E-WOM volume and TV ratings show no relationship, and ratings negatively affect the positive valence of e-WOM. Furthermore, media coverage negatively affects e-WOM volume. We attempt to address these counter-intuitive results by conducting various additional analysis.

■ FC05

Fertitta Hall, 233, 2nd Floor

User Generated Content & Performance I

Contributed Session

Chair: David M Muir, University of Delaware, 20 Orchard Rd, Newark, DE, 19716, United States, muir@udel.edu

1 - Impact of Social Media on the Relationship Between Customer Shopping Experience and Impulse Buying

Gursimranjit Singh, Research Scholar, Amritsar College of Engineering and Technology, Department of Management Studies, Amritsar College of Engineering and Technology, 12 Km Stone, Amrit, Amritsar, 143109, India, rs.gursimranjit@ptu.ac.in, Maninder Singh, Priyanka Singh

Social media is becoming the most important medium for marketing communication. The present retail sector has undergone tremendous change with the advent of social media as it has significantly impacted the way the marketing is performed. Understanding the customer shopping experience is one of the key drivers for impulse buying and enhancement of customer profitability. The present study examines the impact of user generated content (UGC) in social media on the impulse buying. The study proposes a conceptual framework delineating the relationship between the consumer behavioral outcomes such as impulse buying. Based upon the existing lines of research, the study proposes that the UGC has a significant impact on the customer experience and this experience further leads to the impulse buying. It is also proposed that this line of action is moderated by the impulse buying tendency. The study has far ranging consequences for both academicians as well as marketers since, it would facilitate in developing a better understanding the critical role played by the social media in today's retail environment and how it influences the consumer buying behaviour. The study concludes with the managerial implications and issues for future research.

2 - Prominence in Performance Reporting: The Case of the Automobile Industry

Rajdeep Grewal, Professor, University of North Carolina, Kenan-Flagler Business School, 300 Kenan Center Drive, Chapel Hill, NC, 27599, United States, grewalr@unc.edu, Guneet Kaur

Product report cards, in the form of third party reviews, ratings, and rankings, are increasingly becoming an important source of information that consumers use in their purchase decisions. These report cards make certain brands "prominent" through the performance reporting exercise for newly launched automobiles every year and assist consumers in evaluation of alternatives. In this research we seek to evaluate the causal influence of the prominence of information disclosure by U.S. News World Report on the automobile sales. We use a natural experiment in the category to test the "prominence effect" and also address the endogeneity concerns potentially biasing the results. We believe that our findings should be of interest to the automobile sellers such as GM, Toyota, and Audi as the findings should help these firms decide whether to allocate limited marketing resources to managing the third-party automobile report card. Further, our results should be useful for managers of publications such as USNWR, as the business model of these publications is dependent on their ability to sell advertising space which likely depends on the influence of the report card they develop on demand. We also explore the mechanism that drives prominence effect in the automobile demand and find that search cost reduction mechanism explains the effect.

3 - The Effects of Shared Information Distance on New Product Sales: Insights from New Automobile Sales in the U.S.

Kyung-Ah Byun, The University of Texas at Tyler, 3900 University Blvd., Dept of Management & Marketing, Tyler, TX, 75799, United States, kbyun@uttyler.edu, Kevin Kim, Minghui Ma, Taeghyun Kang

In important purchase decisions, consumers search for various types of reviews from other consumers (i.e., user-generated reviews) or credential rating agencies such as J.D. Power (i.e., agency-generated reviews). Especially when they buy a new product in a high-involvement category such as automobiles or houses, the two types of reviews may work importantly but in a different way because of the different speed of information accumulation. That is, the agency-generated reviews are heavily referred in the beginning of new product sales as consumer reviews build up along the new product sales goes on. However, the accumulated consumer reviews can cause confusions among potential consumers when the consumer reviews are not consistent among themselves or different from agency-generated reviews. Thus, this study examines how the different types of reviews are interacting with and influencing on new product sales in the context of new automobile sales in the U.S. from 2000 to 2015. In particular, drawing upon the information theory, this study focuses on how the shared information distance between the two types of reviews influence new product sales. The results will extend the marketing literature on the role of consumer reviews and agency ratings in new product sales.

4 - Predicting Online Dynamic Consumer Search and Choice with Reinforcement Learning: Evidence from Clickstream Data

David M Muir, Assistant Professor of Marketing, University of Delaware, 20 Orchard Rd, Newark, DE, 19716, United States, muir@udel.edu

In the process of consumer decision making, which frequently involves a thorough search of price and product information, consumers typically learn and update their informational beliefs before making choices. All previous research has considered the question of consumer search with learning using restrictive, unrealistic assumptions about how consumers learn as they search; for example, previous work has assumed consumers use some form of a Bayesian updating process to learn as they search dynamically. Uniquely, I apply the machine learning technique of reinforcement learning on online clickstream data to show that the less restrictive, model-free technique yields highly accurate predictions about how consumers search and learn and ultimately make choices in a dynamic fashion. I develop a reinforcement learning algorithm using test/training data from comScore, and apply the algorithm on validation/holdout data to show the accuracy in my method for correctly predicting consumer behavior using clickstream data with minimal information. Moreover, I use the same data set as previous research to compare my results, providing corroboration for the benefits that my reinforcement learning algorithm confers to the researcher and programmer. This research has important practical implications for marketers who want to predict choices and, hence, sales for their consumers based on their dynamic search behavior using data that is collected as part of the daily routine of companies.

■ FC06

Fertitta Hall, 236, 2nd Floor

Crowdfunding & Crowdsourcing III

Contributed Session

Chair: Christian Schulze, Frankfurt School of Finance & Management, gGmbH, Sonnemannstr. 9-11, Frankfurt am Main, 60314, Germany, email@christian-schulze.de

1 - How Social Media Can Drive Business Outcome: A Signaling Theory Perspective

Alireza Golmohammadi, Sam M. Walton College if Business, University of Arkansas, Fayetteville, AR, United States, AGolmohammadi@walton.uark.edu, Taha Havakhor, Dinesh Gauri

In the new era of "digital marketing", firms, especially new ventures, are increasingly investing in new marketing channels such as Facebook and twitter in an effort to obtain desirable business outcomes. Despite the rapid increase in the budget allocated to social media marketing, research has been slow to discover effective social media strategies that can drive such business outcomes. We draw on the literature of service-dominant logic, signaling theory, as well as strategic alignment, to show how two specific aspects of new ventures' social media strategy, namely, the pattern of language use in their tweets, and sequence of the tweeting narrators, can help them raise initial funding. specifically, we theorize that similarity of a new venture's tweets to those of companies in its target (i.e. customer) industry can signal a higher alignment between the new venture and its potential customers. Moreover, we argue that a distinct social media communication style compared to rivals might signal a higher capability of new ventures to differentiate themselves from competitors. Using a unique dataset which consists of the tweets of 382 new ventures active in the area of B2B Software-as-a-Service (SaaS), as well as the amount of funds raised by them, we demonstrate that although verbal and non-verbal similarity to the tweets of other new ventures in the same industry is associated with lower amounts of funding, similarity to the tweets of companies in the new venture's target (i.e. customer) industry is associated with increased funding. The results of the current work suggest that following distinct communication styles compared to rivals, but similar ones compared to the target industry help SaaS new ventures attract more financial capital.

2 - Explaining Social Dynamics in Coopetition Networks using Trust Awareness

Amine Louati, Postdoctoral Researcher, Telecom École de Management, 9 Rue Charles Fourier, Évry, 91000, France, amine.louati@telecom-em.eu, Mehdi Alexandre Elmoukhliss, Christine Balagué

Idea crowd-sourcing are often based on the principle of simultaneous cooperation and competition namely coopetition. Some studies suggest that this model has some benefits in terms of participation and performance within platforms. They combine structural methods, using social network analysis techniques, as well as qualitative methods based on an interpretive content analysis. However, coopetition is still poorly understood mainly at the individual level. Indeed, since cooperation and competition are often view as conflictual situation, we do not know if and how coopetition enhances cooperative and competitive behaviors. Previous research lack support for the societal dimension, including the interactional history, which is an important component that affects the user's behavior. Moreover, little is known about the social dynamics of users and how relationships between them are established. To address these limits, we use an agent-based model as agents endorse interactions and offer well-developed capabilities to formally express and interpret information useful to simulate social dynamics in coopetition networks. To specify agent's behavior, we build a trust model that enables agents to reason about the confidence of others while guiding their decision-making process when they want to interact. The purpose of this study is to explore the micro social dynamics using a trust model to better understand the macro social dynamics in a coopetition network, which could ultimately lead to innovative outcomes and a better performance through a specific platform typology. To evaluate the performance of the platform as well as the evolution of the social dynamics, we run several multi-agent simulations varying the distribution of three agents roles: the cooperators, the competitors, and the coopetitors. Obtained results give us insight on how to enhance the agents motivation within the platform to make it more conducive to generate good ideas.

3 - Consumer Protection and the Lack of Regulation of Innovative Enterprises

Christian Schulze, Associate Professor, Frankfurt School of Finance & Management, gGmbH, Sonnemannstr. 9-11, Frankfurt am Main, 60314, Germany, email@christian-schulze.de, Daniel Blaseg, Bernd Skiera

The growth of innovative, digitally enabled enterprises brings about new challenges for regulators looking to protect consumers. As strict regulation of young, high-growth enterprises can stifle or even kill innovation, regulators and policymakers have made the case for a hands-off approach. While some ask for strict regulation from the beginning, others argue that regulation for innovative, digital enterprises might not be necessary, because (a) consumers in these innovative markets might not need protection, (b) enterprises will self-regulate if protecting consumers is in their own (long-term) interest and (c) customers will learn to deal with or avoid potentially harmful settings if markets are transparent. In this research, we investigate the merits to these arguments by analyzing 36,000 reward-based crowdfunding campaigns, matching the extensive information available on Kickstarter with data from outside sources (e.g., information on retail price and product quality from Amazon and Steam, official customer complaints filed with the FTC, CFPB, and BBB). We show that absence of regulation pertaining to price commitment (which is applied to platforms like Amazon, but not Kickstarter) hurts customers. Customers backing campaigns that promise a discount over the final retail price pay more, not less than retail customers on Amazon or Steam. Moreover, these customers have a lower likelihood of ever receiving the product, suffer longer delivery delays, and receive products of lower objective quality, compared to customers backing campaigns that do not promise a discount. Analyses of customers' sentiments and complaints underline the severe damage done to these customers. We do not find that self-regulation or customer learning would rectify the situation over the years. Analysis of Kickstarter's policy changes over its 7-year lifetime illustrates the platform's failure to self-regulate effectively. Trend analysis provides no evidence that consumers learn over time and adapt their behavior.

■ FC07

Fertitta Hall, 239, 2nd Floor

Digital Marketing: Field Experiments I

General Session

Co-Chair: Maik Eisenbeiss, University of Bremen, University of Bremen, Bremen, 28359, Germany, eisenbeiss@uni-bremen.de

Chair: Alexander Bleier, Boston College, 140 Commonwealth Avenue, Fulton Hall 448, Chestnut Hill, MA, 02467, United States, bleiera@bc.edu

1 - Promoting Customer Search and Cross-Category Purchasing

Nathan Fong, Temple University, Temple University, Fox School of Business, Philadelphia, PA, 19122, United States, nmfong@temple.edu, Yuchi Zhang, Xueming Luo, Xiaoyi Wang

Retailers' promotional offers for specific products and categories can have spillover effects on related products. In a series of field experiments, we investigate the effects of several types of promotions on customer search and cross-category purchasing. We find that different promotion formats affected search activity both within promoted categories and across categories, and the resulting pattern of search activity was reflected in subsequent cross-category purchasing. Thus, when designing promotions and making targeting decisions, retailers need to consider the effect on customers' active role in cross-category purchasing.

2 - The Impact of Hard- and Soft-Floors in Real-Time Advertising Auctions on Publisher's Profit

Steffen Foersch, Goethe University Frankfurt, Theodor-W.-Adorno-Platz 4, Frankfurt am Main, 60323, Germany, foersch@wiwi.uni-frankfurt.de, Marc Heise, Bernd Skiera

Using real-time bidding (RTB), publishers sell each impression for an advertisement separately and in real-time in sealed-bid second-price auctions. An innovative feature of these auctions are two kinds of floor prices: the hard-floor that acts as a minimum price below which an impression is not sold, and the soft-floor that turns the second-price auction into a first-price auction if the advertiser bids below the soft-floor. This paper is the first to analyze how intensively publishers use hard- and soft-floors as well as how they affect advertisers' bidding behavior and consequently publisher's profit. We use a theoretical analysis to show that the optimal hard-floor increases publisher's profit, but a hard-floor that is set slightly too high strongly lowers publisher's profit. In contrast, the soft-floor cannot harm publisher's profit, but it only increases publisher's profit if advertisers do not adjust their bids with regard to floor prices. In an empirical analysis of 7.8 million auctions and a large field experiment that ran for two weeks and covered more than 5.6 million auctions we show that advertisers hardly adapt their bids to floor prices, so that publishers can use floor prices to increase their profit substantially.

3 - Personalizing Mental Fit for Online Shopping Applications - How the Success of Recommendations Depends on Mental Categorization and Mental Budgeting

Oliver Thomas Emrich, Prof. Dr., Johannes Gutenberg University of Mainz, Mainz, Germany, oemrich@uni-mainz.de, Thomas Rudolph, Catherine Tucker

Online tools are often constructed in a way which abstracts from consumer behavior research. Recommendation systems that recommend multiple products do not reflect how consumers bucket products into categories. Associated spending tracking tools do not reflect how or whether customers mentally budget for their shopping. This research investigates whether this failure to reflect consumer behavior limits the effectiveness of such tools. Specifically, we investigate how the success of recommendations is influenced by their fit with the way a customer subjectively sorts different products into different categories, and how this in turn depends on mental budgets and the customer's projected budget across various categories. In a field experiment at an online grocery retailer with 1,237 customers, we measure customers' latent mental categorization in an online game. We randomly manipulate whether customers mentally budget for items and then additionally randomize recommendation displays, resulting in a fit or non-fit with individual mental categories. If the firm activates a customer's mental budgeting process, fitting product recommendations to mental categories enhances retail outcomes, such as purchase probability and subsequent purchases. Stimulating a mental budgeting process without regard to mental category fit not only decreases baseline purchase probability, but also leads to overspending, particularly on retail promotion items, which is responsible for a decline in subsequent purchases.

4 - The Role of Retargeting in Shaping Consumers' Shopping Behavior

Maik Eisenbeiss, University of Bremen, Bremen, Germany, eisenbeiss@uni-bremen.de, Alexander Bleier, Sylvia Hristakeva

The importance of online advertising has never been more pronounced than in today's "always on" society. In recent years, a novel form of display advertising, called retargeting, has gained momentum. With this method, firms can track individual consumers' online shopping behaviors in their online stores and provide them with correspondingly personalized ads after they leave and visit other websites. Previous work has mostly examined the effects of retargeting on consumers' mere revisit decisions. In the current project, we advance this research and investigate how retargeting ads influence consumers to revisit a focal online store and exhibit a certain shopping behavior. To this end, we use data from a large-scale field experiment in which consumers were exposed to ads with varying degrees of content personalization (DCP). Our results uncover the differential effects that ads with certain DCPs exert on consumers' revisit and shopping behaviors. Based on our findings, we provide managers with important insight on how to increase the effectiveness of their online advertising efforts.

■ FC08

Fertitta Hall, 240, 2nd Floor

Game Theory in Marketing V

Contributed Session

1 - Managerial Optimism in a Vertically Differentiated Market with Demand Uncertainty

Chang Liu, Washington University in St. Louis, Saint Louis, MO, United States, liu.chang@wustl.edu

Research has shown that managers and entrepreneurs tend to be optimistic and are inclined to believe that negative shocks happen to them less frequently than to others. However, abundant evidence suggests that optimism is often inaccurate in terms of predicting the future, and managers' optimism can lead to the failure of a company. We develop a game-theoretical model to investigate the impact of managerial optimism on firm performance in a competitive market with demand uncertainty. Our analysis shows that a manager's optimism about demand can increase the firm's expected profit. Moreover, only one firm having managerial optimism can be win-win for both firms in a duopoly, because it can in expectation increase the level of quality differentiation between the firms, alleviating price competition. However, if both firms have optimistic managers, the benefit of increased differentiation disappears, and firms are ex ante weakly worse off, compared with the case of both firms having realistic managers. Our research suggests that a firm should hire a realistic manager when managerial optimism is already pervasive in the competitive market.

2 - Privacy Concern and Quality Competition

Yue Wang, SIM University, 461 Clementi Road, 599491, Blk B, Level 6, Singapore, 599491, Singapore, wangyue@unisim.edu.sg, Joicey Wei

Consumers become increasingly worried about potential risk that firms would misuse their private data when they consume online. Thus stricter privacy regulation is now implemented in some countries, for instance, EU's data protection directive and its amendment. One of the acts is to make installing cookies on consumers' computers and collecting their data from default option to subjecting to consumers' consent. Beyond the discussion of existing literature which focuses on a monopoly firm, we build up a game-theatrical model trying to understand the impact of such a regulation on the firms' quality competition besides its original aim of protecting consumers' privacy. In our model setting, a large firm with wider service coverage compete with a small firm. Their revenue comes from cross-selling opportunities with consumers' information, but they also need to pay the cost of investing on higher quality service. Consumers, on the other hand, are attracted to high quality service and dislike the potential risk of information revealing. We find that the new regulation helps firms to commit to their cross-selling level, but the optimal cross-selling level is reduced with regulation, which is consistent with existing literature. More interestingly, we show that small firms have more incentive to deliver high quality service with regulation while large firms have more incentive to deliver high quality service without such regulation.

3 - Probabilistic Selling in Quality-differentiated Complementary Goods Markets

Feiqiong Wei, Renmin University of China, 59 Zhong Guan Cun St., Beijing, 100872, China, sherry19890330@hotmail.com, Zelin Zhang

Probabilistic selling as a new and creative pricing strategy has been extensively analyzed in both horizontal and vertical markets. In this research, we aim to investigate the possibility and method of adopting probabilistic selling in quality-differentiated complementary goods markets. In these markets, there are two types of consumers (High- and Low-type) based on their preferences on quality and a seller carries two complementary goods, each of which has two quality levels (High and Low quality). The quality matching preference indicates that to what extent consumers deduct the value of two complementary goods with different quality level. This is an important new dimension of inquiry because of the widespread prevalence of quality-differentiated markets as well as quality matching preference across complementary goods market. In the study, we find that, rather than the mechanism of disposing excess capacity, probabilistic selling provides a new technique on conducting captive pricing in complementary goods markets which is more profitable than traditional low price strategy. And this result holds when consumers are either "strong" or "weak" quality matching preference. Specifically, in markets where customers show "strong" quality matching preference, the seller's optimal strategy is to introduce probabilistic selling only in the good where high-type consumers' excess preference on quality relative to low-type consumers is higher. However, in markets where customers show "weak" quality matching preference, it becomes possible to adopt probabilistic selling separately in both two complementary goods.

4 - Who Benefits from Big Data Collected by In-vehicle Data Recorders

Yu-Hung Chen, Assistant Professor, National Taiwan University, No. 1, Sec. 4, Roosevelt Rd, Taipei, Taiwan, yu-hung.chen@wustl.edu, Baojun Jiang

The car insurance market is plagued with problems of adverse selection and moral hazard. In-vehicle data recorders can collect massive amount of information (or "big data") about the drivers' risk factors and driving behaviors. This monitoring technology allows the firm to set its insurance premium based on better estimates of the driver's risk factors, alleviating the adverse selection problem. In addition, the firm can charge a premium based on the customer's recorded driving behaviors; this helps to reduce the driver's moral hazard. I provide an analytical framework to examine the impact of such monitoring technology on the insurance firms and the consumers. My analysis shows that in a duopoly one firm's adoption of the monitoring technology may benefit both firms because of the less severe competition in the market. Finally, I show that if one firm has adopted the monitoring technology, its competitor may have no incentive to adopt that technology even if it is free.

■ FC09

Fertitta Hall, 241, 2nd Floor

Dynamic Structural Models

General Session

Chair: Ron N. Borkovsky, Toronto, ON, M5S 3E6, Canada, ron.borkovsky@rotman.utoronto.ca

1 - Brand Building to Deter Entry and its Impact on Brand Value

Ron N. Borkovsky, University of Toronto, 105 St George Street, Toronto, ON, M5S 3E6, Canada, ron.borkovsky@rotman.utoronto.ca, Avery Haviv

A brand generates value for a firm because it enhances demand and therefore allows the firm to set higher prices, enjoy increased sales, and accordingly earn greater profits. In this paper, we explore and quantify another important way in which a brand can generate value for a firm—specifically, through the ability to deter entry of new competitors. In this respect, we are distinguishing between the direct effect and the strategic effect of brand building. We investigate this issue within the context of the U.S. stacked chips category using the Borkovsky, Goldfarb, Haviv & Moorthy (2016) dynamic model of brand management. We find that a significant proportion of a brand's value can be attributed to its ability to deter entry. Furthermore, we find that brand value—and the proportion attributable to entry deterrence—vary widely as the cost of entry changes. Finally, we show that while decreasing the cost of entry intuitively decreases the value of an incumbent firm, it can simultaneously increase the value of the incumbent firm's brand. That is, as entry becomes more likely, the firm's expected future profits decrease, but the value the brand generates by discouraging (and therefore delaying) entry increases.

2 - Transitional Industry Dynamics in Complex Environments

Przemyslaw Jeziorski, University of California-Berkeley, 2220 Piedmont Avenue, Berkeley, CA, 94720, United States, przjez@gmail.com, Lanier Benkard, Gabriel Weintraub

We introduce a new method to approximate transitional industry dynamics in the industries for which exact Markov-perfect dynamics is difficult to compute. For this purpose, we introduce a new equilibrium concept, called non- stationary oblivious equilibrium (NOE). We prove that NOE approximates MPE behavior in the both short- and long-run, as the market size increases. We also provide easy to compute approximation bounds. We report results of computational studies that assess both efficiency of the algorithms and accuracy of NOE approximation. We provide an empirical application of NOE by extending the analysis of technology adoption dynamics by Ryan and Tucker (2011).

3 - Dynamic Product Sequencing Strategy

Vineet Kumar, AIR Worldwide, 131 Dartmouth Street, 4th Floor, Boston, MA, 02116, United States, vjain@air-worldwide.com, Tim Derdenger

We examine the sequence of product introductions for a monopolist introducing a portfolio of durable goods which are horizontally and vertically differentiated. We develop a structural model to identify and quantify the effects, demonstrating how the impact introducing a high quality product in advance of a low quality product depends on market characteristics and network effects. We show a new mechanism by which consumer heterogeneity impacts how the monopolist should optimally sequence product introductions.

■ FC10

Fertitta Hall, 313, 3rd Floor

Sales Force: Relationship

Contributed Session

Chair: James Reeder, Purdue University - Krannert School of Management, 403 West State Street, West Lafayette, IN, 47904, United States, jreederi@purdue.edu

1 - Do Angry Customers Definitely Impair First-line Employees' Cognitive Performance? Employees' Emotion Response Strategies Matter

Xinyan Liu, Zhongnan University of Economics and Law, Wuhan, China, yanzido@163.com, Xingyao Ren, Xin Zheng

Although extant studies on emotion labor and consumer behavior have demonstrated that the emotion displayed by customers can influence the first line employees' performance, they mainly focused on positive emotions and exclusively employed emotional contagion as a mediator. Instead, this paper examines the effect of customers' negative emotion (i.e. expressed anger) on first-line employees' cognitive performance, which is a problem with incongruent conclusions. Moreover, we explain mediating mechanisms by employees' dual emotion response strategies(i.e. affect reactions and strategic inferences), which further trigger different emotion regulation strategies (i.e. surface acting and deep acting). Based on Emotion As Social Information(EASI) model, we propose that when employees are exposed to customer's expressed anger, they can

activate dual emotion response strategies. Predominantly adopting affect reactions strategy triggers surface acting, which decreases employees' cognitive performance; Predominantly adopting strategic inferences strategy triggers deep acting, which increases employees' cognitive performance. We test eight hypotheses over four lab experiments and one field experiment. This research provides a dual mechanism explaining the incongruent conclusions about the effect of customers' expressed anger on employees' cognitive performance. The findings can assist retailers to design training programs to help employees adopt appropriate emotion response strategies.

2 - Success Beyond Self-performance: Collective Performance Lift from Inter-agent Effects

Nuo Xu, Assistant Professor of Marketing, Old Dominion University, 2137 Constant Hall, None, Norfolk, VA, 30033-4051, United States, nxu@odu.edu, Yuping Liu-Thompkins, Yi Zhao

Traditionally, firms use self-centric performance metrics such as the number of contracts signed or revenues generated to evaluate sales agents. However, salespeople are also valuable in their influence on their peers: they can help other salespeople realize the opportunity in selling a product or share their sales experience. In this way, a sales person can have a significant positive impact on the collective performance of his social network of agents. The challenge in quantifying the value of such peer interaction is that these interactions are typically not observed to the firm. We address this challenge in this paper and propose a method to uncover the inter-agent effects. We will approach our research problem in two steps. First, we will construct distance measures among financial advisors based on available information about the advisors, and use these measures to estimate an advisor's influence on other agents using a state-space model. We then construct the comprehensive advisor lifetime value index by considering both advisor self-performance as well as inter-agent influence on others as predicted from the first step. By taking such inter-agent effects into consideration, a firm can more effectively identify its true "best agents" to selectively invest in. In addition, our model will also identify the conditions that enhance or impede inter-agent effects. They will further reveal strategies for building creative networks of agents within the firm to better leverage inter-agent effects.

3 - Evaluating the Drivers of Salespeople's Farming Effectiveness

Ashutosh R Patil, University of Missouri, Columbia, Cornell-342, Trulaske College of Business, University of Missouri, Columbia, MO, 65211, United States, arpatil@yahoo.com, Srinath Gopalakrishna, Andrew Crecelius

Researchers and practitioners agree that customer retention and growth are key elements of sales success. Although salespeople spend a part of their time prospecting for new customers, a significant activity for them is to ensure not only that their current customer base stays loyal to them but also that the customer base continues to grow in revenue generation i.e., ensure that their customer base positively responds to cross-selling and up-selling efforts. This overall activity, known as farming in the sales literature, has seen limited academic research. Specifically, systematic research on the relevant drivers of farming effectiveness is lacking. Based on the Motivation-Opportunity-Ability framework, we develop a model of farming effectiveness, based on the customer retention and customer growth dimensions, via a multivariate regression model. We develop and test several hypotheses involving the drivers of farming effectiveness. Notably, we assess the impact of advertising and office staff contact with current customers and also assess the trade-off between the two by investigating the presence of a complementary versus substitution effect between the two. Finally, we offer several managerial implications that enhance understanding on the impact of salesperson and territory characteristics and marketing variables on farming effectiveness, and also on deploying resources in an effective manner.

4 - Quantifying the Effect of a Long-term Salesforce Relationship

James Reeder, Assistant Professor of Management, Purdue University - Krannert School of Management, 403 West State Street, West Lafayette, IN, 47904, United States, jreederi@purdue.edu, Sangwoo Shin, Wreetabrata Kar

Practitioners believe that salesforce personnel generate sales not only from their persuasive pitch delivered during a visit, but also through generation of a long-term relationship between the individual agent and a given client. While previous studies used survey data to address the benefit of a salesforce relationship, the true measure of a long-term relationship's impact on sales is not a subject present in the empirical literature. In this paper, we leverage a unique panel of nearly 4,000 doctors in the US by observing their weekly purchases to a medical device manufacturer across a span of two years. During this time window, we also observe salesforce turnover through either redistricting on the part of the firm or regular attrition. Using this proprietary information, we estimate how the length of time a sales person and client interact impacts the effectiveness of a direct sales intervention, as well as the generation of goodwill between the agent and client. In doing so, we are able to empirically determine the benefit to the firm for maintaining a salesforce relationship and the penalty incurred from salesforce turnover. Through counterfactual analysis, we also measure the dollar impact of a redistricting policy on sales.

■ FC11

Fertitta Hall, 316, 3rd Floor

New Product Diffusion: Forecasting

Contributed Session

Chair: Oliver Schaer, Lancaster University, Lancaster, United Kingdom, o.schaer@lancaster.ac.uk

1 - Pre-launch Diffusion Model Parameter Estimation using Online Search Traffic Data

Oliver Schaer, PhD student, Lancaster University, Bailrigg, Lancaster, LA1 4YX, United Kingdom, o.schaer@lancaster.ac.uk, Nikolaos Kourentzes, Robert Fildes

Pre-launch forecasting is becoming increasingly important with the general trend of more frequent product introductions due to shorter product life-cycles. In order to generate pre-launch forecasts, marketers and demand planners often use diffusion models such as the Bass model. A well-known challenge in forecasting the diffusion of products is the estimation of model parameters. It is common practice to use analogies from previous generation or comparable products. Within a Bass model context this works well for setting the coefficients of innovation and imitation. However correctly estimating the potential market size is regarded as more complex and often this is done by using expert judgement. It is well understood that experts are often biased. This motivates us to explore alternative ways to produce more accurate parameter estimates. In this work we aim to investigate the value of using Google Trends information for predicting video games sales. Typically, video game sales peak within the first weeks of their life-cycle. This makes the creation of accurate pre-launch forecasts crucial to adjust marketing strategies. Furthermore, video games often have several instalments, which allows us to investigate the evolution of the usefulness of such information across generations, but also compare it against more standard analogy based approaches. The intuition is that online search traffic reflect the interest of consumers in a specific product and is available before product launch. We aim to assess alternative pre-launch parameter estimation methods for diffusion model types that make use of online search traffic data. We benchmark these against predictions that do not use such information to assess the added value of search traffic.

2 - Adoption of New Preannounced Products and Services: The Case of Motion Pictures

Vahideh Sadat Abedi, California State University Fullerton, Fullerton, CA, United States, vabedi@fullerton.edu, Adrian Woo

Globally, new products or services are considered as the engine of economic growth and value creation. Also, more than 90% of senior executives in various industries cite innovative introduction of new products and services as absolutely critical to achieving their firms' strategic objectives. However, more than 50% of executives are dissatisfied with the returns on their new introductions as they are mainly unable to properly capitalize on them due to poor forecasts. At the same time, many companies, particularly those in technology, entertainment and fashion markets, preannounce the introduction of their products or services in order to be able to better utilize the short life cycle of the product and enhance profitability. It is estimated that more than 50% of new products or services are preannounced, including the well-known introductions of Microsoft Windows 8, Apple's iPhone, J.K. Rowling's Harry Potter book, and most movies. The majority of these preannouncements do not allow for actual advance purchase of the product, but provide the company a window of opportunity to showcase it. In this paper, we describe and analyze the impact of preannouncement on the adoption process of new products/services and illustrate how it can be used to better forecast sales over the product life-cycle. We provide empirical evidence for superiority of our methodology from the motion picture industry.

3 - Recommend Your Next Launch: A Collaborative Filtering Approach to Pre-launch Prediction of Multinational New Product Diffusion

Kejia Yang, School of Business, Renmin University of China, Beijing, China, philipy1219@ruc.edu.cn

It is a long-standing challenge to predict new product diffusion with the Bass model when little or no data are available. Especially in the case of multinational diffusion prediction, where little knowledge learned from industrialized economies could directly offer insights to emerging markets. The existing methodological approaches to predict multinational diffusion could be roughly classified into two categories: (a) attribute-based models, built with attributes of countries and products, estimating their effects on diffusion parameters to make prediction, and (b) "guessing by analogy" which segments countries and products based on similarity measures to find analogous countries and products for parameter guessing of a new product. Inspired by the recommender systems, the authors extend "guessing by analogy" with a collaborative filtering approach, uncovering latent features that explain observed diffusion patterns across countries and products in one shot to predict unknown diffusion parameters. We demonstrate the model is with good explanatory and predictive power of the market penetration data. We perform a further variance component analysis to unravel the sources of explanatory and predictive power. Results suggest the prediction generated by collaborative filtering (a) provides a good explanation to unobserved country-specific and product-specific heterogeneity, and (b) serves as an adequate substitution for country and product regressors.

■ FC12

Fertitta Hall, 322, 3rd Floor

Method: Markov Model

Contributed Session

Chair: Amirali Kani, Pennsylvania State University, 205 Ferguson Hall, University Park, PA, 16802, United States, auk268@psu.edu

1 - A Hidden Markov Model to Detect On-shelf Out-of Stocks using Point-of-sales Data

Ricardo Montoya, Assistant Professor, University of Chile, Republica 701, Santiago, 8370439, Chile, rmontoya@dii.uchile.cl, Carlos Gonzalez

We propose a Hidden Markov Model approach to identify on-shelf out-of-stock by detecting changes in sales patterns due to unobserved states of the shelf. We calibrate our model using point-of-sales data from a big-box retailer. We validate our approach using visual inspections that monitor the state of the shelf and compare them to the HMM's predictions. We specify our model using a Hierarchical Bayes approach and use a Monte Carlo Markov chain methodology to estimate the model parameters. The results show that the proposed approach performs well in predicting out-of-stocks combining high detection power and low false alerts.

2 - A New Hidden Markov Model for Modeling Competitive Group Dynamics

Amirali Kani, Pennsylvania State University, 406A Business Building, University Park, PA, 16802, United States, auk268@psu.edu, Duncan K H Fong, Wayne DeSarbo

The concept of competitive groups has emerged as an important perspective to understand various sources of intra-industry competitive heterogeneity. Building on recent research on competitive groups, we develop a hidden Markov model to assess dynamics in competitive group memberships due to the three possible sources of competitive heterogeneity. These three sources are strategy, performance and impact heterogeneity among the firms in an industry. Contrary to existing models, we consider firms that both enter and exit the market during the observation period. By including some observed "birth" and "death" states, we model entry to and exit from the market along with transitioning between the competitive groups. We illustrate the new model with a banking dataset created from the Compustat database and other publicly available financial reports. The dataset includes 288 banks from the tri-state area of NY-OH-PA that have been publicly traded during the observation period from 1995 to 2015. Through simulation studies and comparison to traditional approaches that only account for some of the possible sources of competitive heterogeneity, we show the superiority of our proposed model to uncover dynamics in competitive group memberships due to dynamics in strategy, performance, or the impact of strategy on performance over time.

■ FC13

Fertitta Hall, 327, 3rd Floor

Promotion: Brand Switching

Contributed Session

Chair: Ayman Farahat, Amazon, 2239 46th Avenue, San Francisco, CA, 94116, United States, ayman.farahat@yahoo.com

1 - Marketing Indonesia: How Effective Indonesia Promotion Agency's Strategy in Attracting Foreign Investment

Ayu Widya Murti, Indonesia Investment Coordinating Board, Jalan Gatot Subroto No. 44, Jakarta, 12190, Indonesia, ayu.widyamurti@gmail.com, Alessandro Biraglia

Promotion strategy is an attempt to attract customer to make a purchase. The paper draws the promotion strategy concept into wider scope, promoting a country. As a representative abroad of Indonesia Promotion Agency, Indonesia Investment Promotion Centre (IIPC) contributes to Indonesia's economic growth by increasing foreign investment flow. However, according to FDI Markets (2016), Indonesia has relatively lower investment rate for the past 13 years compared to other countries in Southeast Asia. Therefore, this paper aims at evaluating IIPC promotion strategy in influencing investor's decision making. The notion of IIPC effectiveness is obtained by conducting in-depth interview with IIPC representative and a number of foreign investors. Findings show presidential visit and seminar are the IIPC's best strategies to attract investors, as they enable investors to obtain initial information and find potential partners. However, these activities are considered as time consuming, may lead to timetable clash, and cause bigger expenses for preparation and traveling. Therefore, this paper proposes internet utilisation as a future solution. The most suitable recommendation for IIPC is web seminar (webinar), as it enables IIPC to interact with investors and share documents within a short time. Moreover, webinar is able to gather more investors from different countries without facing budget restriction and mismatched schedule problems. However, promotion strategy is not the sole factor in encouraging investment preferences, as the investors also consider Indonesia's attractiveness and investment barriers. Nevertheless, all the barriers can be resolved if the IIPC is able to communicate the information and give well assistance to the investors.

2 - The Effect of Price Promotions and Tariff Structure on Revenue and Churn

Fereshteh Zihagh, PhD Candidate, The University of Texas at Dallas, 800 W Campbell Rd, Richardson, TX, 75080, United States, fereshteh.zihagh@utdallas.edu, Brian T Ratchford

In studies of price promotion and tariff structure in contractual settings, most quantitative works have been dedicated to answering how customers' choice is encouraged by firms' decisions. Researchers have reported cases in which the impact of pricing decisions on profits is beyond what economic interpretations justify. However, behavioral impacts of pricing and tariff structure on post-purchase outcomes are ignored in empirical studies even though they provide useful insight regarding consumer behavior and can have important policy implications. We propose a parsimonious model that allows pricing, tariff structure, and new service introduction to impact two relevant behaviors in contractual settings: the amount of transactions made after plan choice and the decision to churn. Our model also accounts for customer heterogeneity by including "level of price-sensitivity" and comparing the behavior of high and low price-sensitive segments. Using unique big data of 120,000 customers from an Internet Service Provider (ISP), we find that promotions attract new customers but they do so at the sake of increasing customers' price sensitivity and lowering their inertia. Moreover, we find that customers who are not exposed to promotions spend more on plan and credit purchases even after we control for possible self-selection of more price-sensitive customers into the group that is exposed to promotions. We also find out that high price-sensitive customers respond differently to constant exposure to promotions compared with low price-sensitive ones. We conclude that doing less relevant and targeted promotions wins price sensitive customers, but it also encourages show-rooming and comparison behavior. This is a trade-off that firms need to consider when designing pricing policies.

3 - The Effect of Sales on Consumers Buying Behavior in the Yogurt Market

Rezgar Mohammed, Texas Tech University, 4309 Canton Ave A, Lubbock, TX, 79413, United States, rezgar.mohammed@ttu.edu

The multinomial logit model has used to analyze the effect of the frequency of sales at a store and various consumer characteristics on the share of purchases consumers make for each brand and the switching behavior in the yogurt retail market using data from the Information Resource Inc. (IRI) for 2011. Results showed that the shares of brands are sensitive to changes in sales frequency of each brand and there are few loyal consumers for a specific brand. Switching across different brands of yogurt and also between organic and non-organic yogurt is very common. Few consumer characteristics have statistically significant effects.

4 - Does a Daily Deal Promotion Signal a Distressed Business? An Empirical Investigation of Small Business Survival

Ayman Farahat, Amazon, 2239 46th Avenue, San Francisco, CA, 94116, United States, ayman.farahat@yahoo.com

In the last four years, daily deals have emerged from nowhere to become a multi-billion dollar industry world-wide. Daily deal sites such as Groupon and Livingsocial oer products and services at deep discounts to consumers via email and social networks. As the industry matures, there are many questions regarding the impact of daily deals on the market- place Important questions in this regard concern the reasons why businesses decide to oer daily deals and their longer- term impact on businesses. In the present paper, we inves- tigate whether the unobserved factors that make marketers run daily deals are correlated with the unobserved factors that inuence the business, In particular, we employ the framework of seemingly unrelated regression to model the correlation between the errors in predicting whether a busi- ness uses a daily deal and the errors in predicting the busi- ness' survival. Our analysis consists of the survival of 985 small businesses that oered daily deals between January and July 2011 in the city of Chicago. Our results indicate that there is a statistically signicant correlation between the unobserved factors that inuence the business' decision to oer a daily deal and the unobserved factors that impact its survival. Furthermore, our results indicate that the corre- lation coecient is signicant in certain business categories (e.g. restaurants).

■ FC14

Fertitta Hall, 328, 3rd Floor

Marketing & Finance: IPOs II

Contributed Session

Chair: Leon Gim Lim, Singapore Management University, Singapore, Singapore, leongim.lim.2013@pbs.smu.edu.sg

1 - Does Founders' Marketing Experience Help Venture Funding

Ye Cheng, Peking University, Haidian District, 5 Yiheyuan Road, Beijing, 100871, China, chengyepku@pku.edu.cn, Rui Wang

Practice has demonstrated that a founder is among crucial factors for a new venture funding. Background of a founder, such as start-up experience or technology experience, legitimates the new venture for the lake of accounting performance or even product. Among those backgrounds, we argue that marketing background endows the legitimacy of a new venture in the eyes of investors. Firstly, marketing background serves as marketing legitimacy to convince investors on new ventures' business development like marketing segmentation, channel management, and sales capability. Research on new ventures has indicated that poorly conducted marketing is among the main reasons for new venture failure. Secondly, a founder with marketing experience is more capable of promoting new ventures and developing the relationship with potential investors, benefitting from their experience on managing relationships with external stakeholders like channel partners and medias. Therefore, in this paper, we investigated the relationship between founders' marketing background and the venture funding with a sample of 767 listed firms. Employing historical survival analysis, we found that founders' marketing background has a positive influence on the possibility of venture capital funding and it can also moderate the influence of founders' start-up background and governmental background on venture funding. If the founder has marketing experience before, the positive effect of start-up experience is strengthened and the negative effect of governmental experience is weakened. Meanwhile, these relationships are moderated by the industry characteristic. In an industry with higher intensity or higher demand uncertainty, the positive moderating effect of founder's marketing experience is strengthened.

2 - Does Top Managers' Marketing Experience Help IPO Financing? Marketing Upper Echelon and Firms' IPO Underpricing

Rui Wang, Peking University, Beijing, China, rwang@gsm.pku.edu.cn, Ye Cheng

Does marketing benefit a firm's financing performance when "marketing first meets Wall Street"? There is abundant research on the marketing-finance interface trying to answer this question. Luo (2008) empirically demonstrated that firms' pre-IPO marketing spending reduces IPO underpricing and boosts IPO trading. Kumar and Shah (2009) found that a firm's IPO value is increased with customer equity. However, there are only a few studies emphasizing the value of marketing upper echelons on IPO performance. The practice has demonstrated that it is the top managers' marketing experience and marketing insights that influence the whole company's marketing-oriented strategy, further influencing the firm's IPO performance. Therefore, this paper sheds light on marketing in top management teams and on the contingent nature of the marketing-financing link in more general terms. The study systematically investigated the relationship between marketing upper echelon and IPO underpricing, using 796 firms listed in China, USA, Hong Kong and Singapore between 2000 and 2013 as samples. Based on marketing-finance interface theory and upper echelon theory, we found that the proportion of marketing positions in the top management team and the proportion of top managers with marketing experience have a negative influence on ventures' IPO underpricing after controlling for other factors. Meanwhile, this relationship is moderated by the stock market and the marketization index of the region. If the ventures are listed in GEM or located in the region with higher marketization index, the marketing upper echelon's influence will be reduced.

3 - The Financial Impact of Ancillary Fees

Leon Gim Lim, PhD Candidate, Singapore Management University, 50 Stamford Road, Lee Kong Chian School of Business, Level 4, Research Room 8, Singapore, 178899, Singapore, leongim.lim.2013@pbs.smu.edu.sg, Kapil R Tuli

Amidst the challenging economic environment, the airline industry is growing at a rate of almost two times that of other industries and this growth is largely attributed to the surging revenues collected from ancillary fees. Whereas financial analysts and popular media repeatedly extol the financial benefits of ancillary fees, little has been done in terms of systematically examining the financial impact of these fees. Accordingly, we respond to recent calls from regulators for a better understanding of the financial viability of ancillary fees by presenting the first large-scale empirical examination of the effect of ancillary fees on the firm value of airlines. We focus on two types of ancillary fees that are the largest sources of ancillary revenues - baggage and reservation-related fees. Using almost two decades of data, we find that the impact of ancillary fees on firm value is contingent on the type of fees implemented. While baggage fees have a positive impact on firm value, reservation-related fees have a negative impact. Interestingly, these effects are contingent on an airline's service quality. Specifically, the positive impact of baggage fees on firm value is stronger for airlines with higher service quality. In sharp contrast, the negative impact of reservation-related fees on firm value is also stronger for airlines with higher service quality. Our findings provide insights for both marketing managers and regulators.

■ FC15

Fertitta Hall, 331, 3rd Floor

CRM: Customer Retention

Contributed Session

Chair: Luxi Shen, CUHK Business School, 12 Chak Cheung Street, Hong Kong, 12, Hong Kong, luxi.shen@cuhk.edu.hk

1 - Gamification and Customer Retention

Zhe Han, Emory University, Atlanta, GA, 30322, United States, zhan6@emory.edu, Mike Lewis, Michelle Andrews

Mobile and online games frequently employ a group of strategies such as badging and leveling-up for increasing customer retention and playing frequency. These strategies provide incentives and goals that may alter consumer behavior by creating reasons for repeat play. There is currently a great deal of interest in applying these game concepts to non-gaming applications. While gamification includes aspects similar to the dynamic incentive and status structures used in loyalty programs, games and gamification are often distinguished by the inclusion of uncertainty of outcomes. In this research we study how gamification elements impact consumer behavior over an extended time period. The research is conducted using data provided by a mobile application that rewards players based on success in picking outcomes of athletic events.

2 - Service Guarantee and Relationship Investments as Moderating Variables Between Consumer Relationship-vulnerability and Likelihood of Switching

Sadrac Cénophat, Europa-Universitat Viadrina, Schwibbogengasse, 3, Heilbronn, 74072, Germany, cenophat@europa-uni.de, Martin Eisend, Tomas Bayon

While research on consumer switching behavior focuses on consumers' willingness to maintain a relationhip, the literature gives little consideration to consumers' inherent ability to maintain relationships. This paper, thus, analyzes consumer relationship-vulnerability (CRV) as consumers' ability to maintain a relationship and its contingent effect on switching behavior. We conceptualize CRV as the predisposition of a customer to reacting adversely to the occurrence of critical incidents in relationships. Drawing on crisis theory, the paper shows that the degree of this predisposition is reflected by the consumer's sentiment of powerlessness, coping mechanism, and maladaptation. As they likely feel anxious and agitated, vulnerable consumers are expected to switching services when being exposed to critical incidents. However, based upon crisis theory suggesting that couples rely on internal attributes/resources to protect partners from the impact of stressors and facilitate their adaptation during crisis, we analogically argue and demonstrate that the effect of CRV on switching can by attenuated by providing service guarantee and by marketers relationship investments. We use a large sample survey to describe this contingency across countries and industries. The empirical evidence will help managers implement tactics that reassure, protect, and retain their vulnerable customers.

3 - The Fun and Function of Uncertainty: Field Experiments on the Effectiveness of Uncertain Incentives

Luxi Shen, CUHK Business School, Hong Kong, Hong Kong, luxi.shen@cuhk.edu.hk

Repetition decisions, such as repurchases and customer retention, are crucial in marketing. Can uncertain incentives lead to more repetitions than certain incentives? Two field experiments and several lab experiments, all involving real consequences, find a reinforcing-uncertainty effect that is unpredicted by participants themselves -- that people repeat a behavior more if the incentive is ex ante uncertain than if it is certain, even when the uncertain incentive is financially worse. We propose a resolution-as-reward account, according to which, the resolution of the uncertainty in the uncertain incentive is rewarding, and hence reinforces the action. One of the field experiment tested this reinforcing-uncertainty effect on a large magnitude incentive and found compelling evidence. This research reveals the hidden power of uncertainty resolution, and sheds light on the dedicate relationship between incentive uncertainty and behavioral repetition.

■ FC16

Fertitta Hall, 414, 4th Floor

Advertising: Hierarchy of Effects

General Session

Chair: Shuba Srinivasan, Boston University, Boston University, Boston, MA, 02215, United States, ssrini@bu.edu

Co-Chair: Koen Pauwels, Ozyegin University, Ozyegin University, Istanbul, Turkey, koen.pauwels@ozyegin.edu.tr

Co-Chair: Kay Peters, University of Hamburg, University of Hamburg, Hamburg, 22297, Germany, kay.peters@uni-hamburg.de

1 - Understanding the Role of Synergy Dynamics in the Process of Hierarchy of Effect

Ceren Kolsarici, Queen's University, 143 Union Street, Kingston, ON, K7L 3N6, Canada, ceren.kolsarici@queensu.ca, Kay Peters, Prasad Naik, Johannes Wenzel

The foundation of Hierarchy of Effects (HoE) models is that advertising nudges consumers through an hierarchical sequence of events that ultimately lead to purchase and loyalty. But how can we demonstrate and quantify such effects in a rigorous way to help managers track advertising impact? This session brings together 4 papers that use different data sources and methods to uncover the nuances of hierarchy of effects in advertising. The first paper examines the role of multi-media advertising and media synergies in the HoE process with a state space model. The second paper shows how advertising affect price elasticity through HoE metrics in a dynamic linear model. The third paper builds a state space model to quantify the effects of advertising on sales; a factor model to integrate multiple branding cues commonly used within ads; and then models the effect of advertising as a function of the brand components identified by these cues. The fourth paper uses a dynamic factor model to show and explain hierarchical sequence differences across brands and categories.

2 - Advertising's Long-term Impact on Brand Price Elasticity Across Brands and Categories

Berk Ataman, Koc University, Rumelifeneri Yolu, Istanbul, 34450, Turkey, bataman@ku.edu.tr, Koen Pauwels, Shuba Srinivasan, Marc Vanhuele

Advertising often aims at creating brand differentiation and brand equity, which then becomes the basis for enhancing price premiums and margins. Demand elasticity to price changes, a critical brand health indicator, reflects a firm's ability to charge higher prices and enjoy greater margins. Therefore, an understanding of advertising's effect on price elasticity is paramount to managing brands. Yet, little is known about the routes through which advertising effects on price elasticity materialize, the role of competitive advertising in the category, and the boundary conditions for long-term advertising benefits. To gain insights on these issues, the authors develop a Hierarchical Dynamic Linear Model that links own and others' advertising in the category to brand price elasticity. The model, estimated on seven years of data for 350 brands in 39 categories, nests various path structures through which advertising may impact price elasticity: directly, indirectly through its impact on consumer mindset metrics, or both. The model further accommodates dynamic dependencies among mindset metrics, explains cross-sectional variation in response coefficients as a function of select brand and category characteristics and offers key findings on the long-term effect of advertising on price elasticity.

3 - Communicating Brands in Television Advertising

Maren Becker, University of Cologne, Albertus Magnus Platz 1, Cologne, 50923, Germany, maren.becker@wiso.uni-koeln.de, Norris Ignatiius Bruce, Werner J Reinartz

Firms spend billions on advertising to build their brands and generate sales, yet the average effect of advertising on sales remains relatively low. It is thus essential to show how firms may more effectively communicate brands within their campaigns. To do so, this study uses a customer-based brand equity framework, which proposes that firms can build strong brands by emphasizing brand salience, and communicating favorable attributes or benefits. The authors identify seventeen branding cues commonly used within ads that should reinforce branding components (salience, benefits, and attributes) and investigate their moderating influence on ad effectiveness. Formally, the study builds a state space model to quantify the effects of advertising on sales; and a factor model to integrate multiple, potentially correlated branding cues while accounting for measurement noise; and then models the effect of advertising as a function of the brand components identified by these cues. From an analysis of 177 ad campaigns aired by 62 brands across six FMCG product categories, results show that salience and attributes moderate advertising effectiveness whereas benefits only do when combined with relevant attribute cues. The findings also reveal which specific branding cues drive these effects, thereby providing managers with actionable tactics on how to improve their brand communication.

4 - The Hierarchy of Effects Model: Dead or Alive

Shuba Srinivasan, Boston University, Boston, MA, United States, albertv@bu.edu, Koen Pauwels, Gokhan Yildirim, Marc Vanhuele, Albert Valenti

Hierarchy-of-effects (HoE) has been of great interest to marketing managers and researchers alike in gauging advertising effectiveness (Vakratsas and Ambler 1999 Bruce, Peters, and Naik 2012). A key aspect of the HoE framework is that advertising moves consumers through a hierarchical sequence of intermediate stages (e.g. C-A-E or Cognition-Affect-Experience) that result in product market outcomes such as sales and profits. Based on a single brand, Bruce, Peters, and Naik (2012) find the strongest fit for an integrated HoE (i.e. advertising simultaneously influences sales and the intermediate factors) and that purchases reinforces Affect, but not Experience or Cognition. However, confusion remains on the generalizability of these findings, and the conditions under which the HoE effects occur. Therefore, this paper takes a contingency perspective to examine whether and in which direction the hierarchical sequence operates across brands and categories. We use a rich dataset of four-weekly advertising, consumer attitude metrics, and sales for twelve brands in four categories over a seven-year period. To test our framework, we employ dynamic factor models (Stock and Watson 1991; Bruce, Peters and Naik 2012). We find strong evidence for the integrated view of the HoE. Specifically, the intermediate factors are dynamic, purchase reinforcement exists, and advertising influences both sales and intermediate factors. We also find evidence that the three intermediate factors, C-A-E, are correlated and hence influence each other. Finally, we offer evidence on and potential explanations for differences in the operating hierarchy of effects across categories. Brand managers can use our model findings to develop actionable connection between their advertising campaigns, HoE metrics and financial performance.

■ FC17

Fertitta Hall, 416, 4th Floor

Branding & Social Media III

General Session

Chair: Vanitha Swaminathan, University of Pittsburgh, University of Pittsburgh, Pittsburgh, PA, 15260, United States, vanitha@katz.pitt.edu

1 - Harvesting Brand Information from Social Tags

Hyoryung Nam, University of Maryland, 13606 Colgate Way, Apartment 536, Silver Spring, MD, 20904-7220, United States, hnam@rhsmith.umd.edu, Yogesh Joshi, P.k. Kannan

Social tags are user-defined keywords associated with online content and reflect consumers' perceptions of various objects, including brands and products. This research presents a new approach to harvest rich, qualitative information on brands from user-generated social tags. First, this paper evaluates the similarities and complementarities of our approach vis-à-vis conventional techniques such as brand concept maps and text mining. We demonstrate the added value of our approach arising specifically from the unconstrained, open-ended and synoptic nature of consumer generated content contained within social tags. Second, this research shows an application of existing text mining and data reduction methods to analyze social tagging data for marketing research and demonstrates how marketers can utilize the information in social tags by extracting key representative topics, monitoring common dynamic trends, and understanding heterogeneous perceptions of a brand.

2 - Mapping Brand Personality using Social Media

Vanitha Swaminathan, University of Pittsburgh, Pittsburgh, PA, 15260, United States, vanitha@katz.pitt.edu, H. Andrew Schwartz, Shawndra Hill

We propose a novel method of understanding brands and brand personality by using social media data from Twitter. We use large dataset of more than twelve million tweets mentioning a set of common brand names. We use topic modeling to extract the latent topics (clusters of similar words) being discussed across these tweets. Further, we analyze how these topics correlate with brand characteristics (differential language analysis across topics), controlling for multiple comparisons. The brand characteristics used to correlate the topics are based on consumers' surveys regarding brand personalities of the same brands. This approach provides the basis for a novel way to understand online brand personality and to monitor it as it evolves in social media.

3 - Capturing Changes in Social Media Content: A Latent Changepoint Topic Model

David A Schweidel, Emory University, 1300 Clifton Road, Atlanta, GA, 30322, United States, dschweidel@emory.edu, Ning Zhong

While social media has emerged as a popular source of insights for both researchers and practitioners, much of the work on the dynamics in social media has focused on common metrics such as volume and valence. Research on the content of social media posts has begun to explore its potential to yield marketing insights, but has not considered how the content of social media posts may shift over time. In this research, we develop a dynamic model to capture underlying shifts in social media content. We extend latent Dirichlet allocation (LDA), a topic modeling approach, by incorporating a latent changepoint that allows for the prevalence of topics to differ before and after the changepoint. We apply our modeling framework to social media posts mentioning the Volkswagen brand before and after the 2015 emissions testing scandal. We demonstrate that the model is capable of detecting the changepoint and that the model's predictive ability is higher than text analytic approaches that omit the latent changepoint. We discuss how the model may be used by marketers with an interest in actively monitoring conversations around their brands

4 - Perverse Spillover in Branding: How Social Media Amplify Negatives that then Hurt Focal and Competing Brands

Abhishek Borah, Assistant Professor, University of Washington, 420 Paccar Hall, Box 353226, Seattle, WA, 98195, United States, abhi7@uw.edu, Gerard Tellis

When a prominent brand suffers a product recall, rivals should have an opportunity to gain market share as negative publicity affecting the tarnished brand should encourage consumers to consider nearest rivals. However, across two different study contexts, the authors find that a brand's recall may hurt rivals too, a phenomenon that the authors define as "perverse halo". In particular, a brand's recall often creates concerns about rival brands as well, manifesting in negative online chatter in social media sites for the rival brands, which eventually hurts their sales and market cap. Importantly, social media tend to amplify the effect of recalls on sales and abnormal returns. The first study uses consumer reactions to recalls on more than 1,000 automotive social media sites for 470 days for Toyota, Honda, Nissan, and Chrysler. The second study examines the effects of Volkswagen's recall on chatter, sales and stock returns of BMW, Daimler, and Fiat.

■ FC18

Fertitta Hall, 417, 4th Floor

Consumer Behavior Donating & Health

Contributed Session

Chair: Mayu Fujimura, Keio University, 1-17-19, Ebara, Shinagawa-ku, Tokyo, 1420063, Japan, mayu.fujimura@gmail.com

1 - Deferral Management to Reducing Negative Consequences on Subsequent Blood Donations

Martha Wegner, University of Hamburg, Moorweidenstrasse 18, Hamburg, 20148, Germany, martha.wegner@uni-hamburg.de, Michel Clement, Nina Mazar, Ann-Christin Langmaack

Retaining customers is considered one of the core marketing goals across industries because acquiring new customers has been shown to be multiple times more expensive than retaining existing ones. A challenge here in particular is how to fix existing relationships with customers that become dissatisfied with one's product or service. While losing existing customers can have large negative implications for company profits, the negative implications in contexts such as blood donation services that rely on customers' goodwill are on a much larger scale as they impact societal wellbeing - an important issue that has been largely neglected in marketing research. In this paper, we present a series of three studies (archival data, lab and field experiment) in cooperation with the German Red Cross Blood Donation Services (GRC) and its donors. Study1 (N=209,956) examines the general effect of temporal deferrals on subsequent blood donation behaviors and reveals that compared to eligible donors, deferred individuals and in particular those that get deferred without a clear time restriction for very short non-eligibility periods (e.g., one week) are significantly less likely to return for subsequent blood donations. In the two subsequent experiments we test practical interventions to reduce the negative effects of deferrals and find that the GRC's current strategy to recognize deferred individuals' goodwill by handing out a thank-you gift leads to inferior return rates compared to simply handing out new appointment cards (implementation intentions) or offering to engage in an alternative good deed.

2 - The Effect of Pre-giving Incentives on Relationship Norms and Donation Behavior

Bingqing Yin, Ph.D Candidate, University of Kansas, 1654 Naismith Drive, Lawrence, KS, 66047, United States, mirandayin2011@gmail.com, Yexin Li, Surendra N. Singh

Charities often include low value monetary (e.g., coins) and non-monetary (e.g., greeting cards) pre-giving incentives with their donation requests to attract attention and encourage reciprocity. Yet little is known about how people respond to such gifts. In a series of studies, including a large-scale field study, we demonstrate that low value non-monetary pre-giving incentives fail to stimulate donor reciprocity, resulting in similar levels of donations as when no gift is included. More surprisingly, low value monetary pre-giving incentives actually lead to lower donations than either comparable value non-monetary pre-giving incentives or no incentives at all. We show that this is because people perceive charities as communally oriented (e.g., concerned about other people's welfare) and use communal norms when interacting with them, which do not necessitate the immediate repayment of benefits. However, monetary pre-giving incentives evoke exchange norms that lead the charity to be perceived as less communally oriented, resulting in lower donations. Alternative explanations for the results (e.g., reminders of money make people behave less prosocially) are tested and ruled out. The implications of these findings for donors and charitable organizations are discussed.

3 - Demand for Medical Testing: The Role of Anticipatory Emotions and Probability Distortion

Jeeva Somasundaram, Post-doctoral research fellow, National University of Singapore, Singapore, Singapore, jeevas17@gmail.com, Luc R Wathieu

Direct-to-consumer tests allow consumers to obtain genetic or medical information directly, without a doctor's prescription. To understand demand on this market, we analyze the role played by psychological factors in a consumer's decision to order a genetic or a medical test, by comparing the behavior of "rational" expected utility decision makers vs. "psychological" prospect theory decision makers who are affected by anticipatory emotions (hope and misery) and probability distortions. This analysis allows us to identify "reassurance" as a specific psychological motive for testing, which causes consumers to seek more testing for less likely diseases that are less treatable and more severe. We also discuss the impact of optimistic or pessimistic mindsets — reflected in the shape of probability distortion — on testing demand across different disease categories. Our analysis suggests controversial product and persuasion tactics for firms operating in the direct to consumer testing market. For example, we show that these firms could profit from introducing less reliable tests — with high false negative — for severe and less treatable disease. We also offer a more general characterization of contexts where reassurance drives demand.

4 - The Relationship Between Health Awareness and Consumer Behavior

Mayu Fujimura, Keio University, 1-17-19, Ebara, Shinagawa-ku, Tokyo, 1420063, Japan, mayu.fujimura@gmail.com

The object of this analysis is to find out the relationship between health awareness and people's values to consumption and their actual purchases. Recently, we can see a lot of products for the people who is careful of their health in Japan, such as plastic bottles of tea which have an effect of inhibiting absorption of fat. Today, there are various products for health-conscious consumers, especially foods that can be taken into our lives easily. It reflects the increase of the interest in health. In this analysis, first, I attended to clarify difference of the values to consumption according to groups of the consumers who have the common symptoms. I conducted principle component analysis and cluster analysis to divide samples into some clusters that have common factor of symptom. Then, I found out the cluster of the samples who have concerns about their stomach seemed to have a tendency to prefer products that are closer to their tastes though it is somewhat expensive. Furthermore, I analyzed how much such a tendency is reflected on their actual purchases. I think this analysis can enable more accurate targeting and more effective advertisement appeal.

■ FC19

Popovich Hall, 300, 3rd Floor

Meet the Editors I

Invited: NONE

Invited Session

Chair: Sivaramakrishnan Siddarth, University of Southern California, 701 Exposition Blvd HOH 331, Marshall School of Business, Los Angeles, CA, 90089-1424, United States, siddarth@marshall.usc.edu

1 - Meet the Editors I
Sivaramakrishnan Siddarth, University of Southern California, 701 Exposition Blvd HOH 331, Marshall School of Business, Los Angeles, CA, 90089-1424, United States, siddarth@marshall.usc.edu

Editors (or their representatives) from a number of major research journals in marketing will be available to answer questions about submitting papers and the review process.

1 - Management Science
Eric Anderson, Northwestern University, Evanston, IL, United States, eric-anderson@kellogg.northwestern.edu

2 - Quantitative Marketing and Economics
Pradeep Chintagunta, University of Chicago, Chicago, IL, United States, pradeep.chintagunta@ChicagoBooth.edu

3 - Journal of Marketing Research
Rajdeep Grewal, University of North Carolina, Chapel Hill, NC, Contact: guneet_kaur@kenan-flagler.unc.edu

4 - Marketing Science
K. Sudhir, Yale University, New Haven, CT, United States, k.sudhir@yale.edu

5 - Journal of Marketing
V. Kumar

6 - International Journal of Research in Marketing
Roland Rust, University of Maryland, College Park, MD, United States, rrust@rhsmith.umd.edu

Friday, 3:30PM - 5:00PM

■ FD01

Fertitta Hall, 101, Lower Level

Channels: Strategy

Contributed Session

Chair: Liping Qian, Chongqing University, No.174, Shazheng Street, Shapingba District, Chongqing, CA, 400030, China, qlp@cqu.edu.cn

1 - Manufacturer Sharing of Customer Information with Retailers
Xingyao Ren, associate professor, Nankai University, Nankai District, 94 Weijin Road, Tianjin, 300071, China, xingyao@nankai.edu.cn, Gary Frazier, Xin Zheng, Xinyan Liu

There has been little academic research on how channel members convert shared information into value within marketing channels. We focus on a particular type of information sharing in channel relationships, "customer information", which is defined as demographic, psychographic, or behavioral attributes of potential customers. Customer information may simplify the process of matching the right product or advertisement to the right customer, and offer significant opportunities for marketing channels. However, customer information acquisition is costly. A manufacturer has to decide how many potential customers' basic information to acquire and share (breadth) with retailers and how much diversified potential customer information to acquire and share for each potential customer (depth). We differentiate two types of customer information sharing (i.e., breadth of customer information sharing, and depth of customer information sharing) which can create differential levels of benefits and challenges. Drawing insights from the resource-based view and information processing theory, we investigate why some marketing channel members can convert customer information into value more effectively than others, and in particular what specific capability is required based on one field survey study in the marketing channel of the auto industry and multiple qualitative interviews with channel managers and distributors. Specifically, we propose manufacturer sharing of customer information with retailers is curvilinearly related to sales performance; customer interaction orientation of retailers is complementary to breadth of customer information sharing in shaping sales performance; manufacturer-retailer joint data analytical capability is complementary to depth of customer information sharing in shaping both sales performance and sustainable competitive advantage.

2 - Clustering, Governance, and Individual Outlet Sales: A Multi-year Analysis of an Evolving Franchise System
Moeen Naseer Butt, Doctoral Candidate in Marketing, Ivey Business School at Western University, 1255 Western Road, London, ON, N6G0N1, Canada, moeennaseer@hotmail.com, Kersi Antia, Brian Murtha, Vishal Kashyap

As franchise systems expand, the clustering and resulting proximity of same-brand outlets often become a contentious issue. The increased interactions among outlets may facilitate knowledge transfer, even while inducing intra-brand competition. Prior research has considered each possibility – knowledge transfer or intra-brand competition – in isolation, resulting in conflicting recommendations to the central question: should multiple same-brand outlets be clustered with or distant from one another? The present study takes the perspective of the focal outlet, and emphasizes that the opportunity to share knowledge afforded by clustering-based proximity may or may not be realized, depending on (a) the motivation of the proximal outlets to share their knowledge, (b) the ability of the proximal outlets to transfer relevant knowledge and the focal outlet to absorb such knowledge, and (c) the governance context. Our analysis of more than 8,000 observations on the 988 outlets of a US-based automotive service franchise system from 1977 to 2012, and corresponding outlet-level sales information from 2004 to 2012 provides support for our conceptual framework.

3 - Reverse-fixed Payments in Distribution Channels with a Dominant Retailer
Sreya Kolay, Assistant Professor, University of California, Irvine, Irvine, CA, 92697, United States, skolay@uci.edu, Greg Shaffer

Lump-sum payments from manufacturers to retailers are commonly observed in many distribution channels. The payments include things like slotting allowances, pay-to-stay fees, street money, market-development funds, placement allowances, and cooperative advertising money. Collectively, they are sometimes referred to as "reverse-fixed payments" because they do not vary with quantity and go in the reverse direction of what one might expect (from upstream firms to downstream firms). They are ubiquitous in grocery retailing, where they account for billions of dollars annually. Not surprisingly, they are controversial, and their mere existence has spawned numerous surveys, government-funded studies, and academic articles that aim to explain and document their incidence, magnitude, and competitive effects. This paper studies reverse-fixed payments in distribution channels with a dominant retailer. It is found that whereas reverse-fixed payments may be offered by manufacturers to incentivize retailers to provide demand-enhancing services like feature advertisements and end-of-aisle displays when these services can be monitored and enforced, they will generally fail to induce service provision when the monitoring is imperfect and/or cannot be enforced. Nevertheless, even in this case, it is shown that reverse-fixed payments can still play a key role in coordinating the channel. They arise as part of the manufacturer's profit-maximizing menu of quantity-discount schedules. Surprisingly, it is optimal for the manufacturer to offer reverse-fixed payments to the fringe retailers even though they are not providing any services, and it is optimal to offer reverse-fixed payments to the dominant retailer even though the retailer may not accept them.

4 - Do Business and Political Ties Differ in Cultivating Structure Capital for Firm Performance in China?
Liping Qian, Chongqing University, Chongqing, China, qlp@cqu.edu.cn, Pianpian Yang, Jiaqi Xue

Social capital in its cognitive, relational, and structural forms has been identified as a powerful strategic tool. Despite its growing popularity, prior empirical studies on the social capital-performance link provide indefinite conclusions. Drawing on the social capital theory and social network theory, this study makes cognitive social capital been controlled, decomposes relational social capital into business ties (i.e., ties with business partners) and political ties (i.e., ties with government authorities), and mostly focuses on the moderating effects of relational social capital on structural social capital-financial performance relationship. Analysis of data from 393 firms in China indicates that the value of structural social capital is conditional on both curvilinear and linear moderating effect of relational social capital: the moderating effect of business ties on structural social capital-financial performance relationship is inverted U-shaped, while the moderating effect of political ties on structural social capital-financial performance relationship is positive. The results show the presence of both the bright side of social capital, confirming the existing literature, and the dark side, extending the relative literature.

■ FD02

Fertitta Hall, 102, Lower Level

Online Auctions III

Contributed Session

Chair: Ernan E. Haruvy, University of Texas- Dallas, School of Management, SM 34 Box 830688, Richardson, TX, 75083-0688, United States, eharuvy@utdallas.edu

1 - Irrational Commitment and Aggressiveness of Bidders a Case of Online Penny Auctions

Wenche Wang, Postdoctoral Associate, University of Florida, P.O. Box 117140, Gainesville, FL, 32611, United States, wangwc121@ufl.edu, Richard Boampong

In this paper, we collect detailed real time auction data from QuiBids.com to analyze dynamic bidder behavior. In particular, we attempt to determine whether bidders exhibit aggressive bidding patterns as the auction progresses. We also study whether bidder aggression increases the probability of winning the auction. We find that bidders become more aggressive as the auction continues, i.e., they place bids soon after the previous bid and long before the auction time runs out. Additionally, individual bidders increase their number of bids in a specified amount of time as the auction progresses. However, as the bidders become more aggressive, the probability of winning the auction does not increase. These results lend more support to the sunk cost fallacy assumption inherent in the literature on auctioneers' excessive profits. We also study the effects of competition (measured by the total number of bidders) on the total outlay of the auction winner. We find that neither the total cost paid by the winner nor the final auction price increases with the number of bidders.

2 - Integrating Buy-it-Now into Sequential Auctions: Evidence From Lab and Field Experiments

Yixin Lu, Assistant Professor, The George Washington University, 2201 G Street NW, Funger Hall 506, Washington, DC, 20052, United States, yixinlu@gwu.edu, Alok Gupta, Wolfgang Ketter, Eric van Heck

This paper studies a hybrid sales mechanism which incorporates a buy-it-now (BIN) option into traditional sequential Dutch auctions by allowing non-winning bidders to purchase goods at the same price as the winner pays in the current round. Given the well-documented difficulties in characterizing equilibrium strategies in sequential auctions, we conduct a controlled lab experiment and a large-scale field experiment to examine the performance of such hybrid mechanism in terms of allocative efficiency, operational efficiency, price stability and seller revenue. Our empirical analysis shows the hybrid mechanism can substantially speed up the auction process at negligible cost of allocative efficiency. Further, by allowing multiple bidders to purchase at the same price, it increases the stability of winning prices considerably in sequential rounds. Our paper makes important contributions to both theory and practice of auction design. From the theoretical perspective, it sheds new light on the design of hybrid sales mechanisms. From the managerial perspective, our findings provide valuable insights to practitioners, especially market makers in dynamic, complex environments. Specifically, our empirical results suggest that including BIN option in sequential Dutch auctions is a simple yet effective way to speed up market processes without compromising the expected revenue. Finally, it is worthwhile to point out that although our empirical study mainly focuses on fast-paced sequential Dutch auctions, the variation of such mechanism has been used by many online fashion retailers during sales season. As such, our findings also provide useful implications for marketers in developing optimal pricing strategies in clearance sales.

3 - Futility of Soft Floors in Ad Exchange Auctions

Robert Zeithammer, UCLA Anderson, Los Angeles, CA, zeithammer@gmail.com

The auction-driven exchanges that facilitate programmatic buying of internet display advertising have recently introduced "soft floors" in addition to standard reserve prices (called "hard floors" in the industry). A soft floor is a bid-level below which a winning bidder in the auction pays his own bid instead of paying the second highest bid as in a standard second-price auction the ad exchanges used to employ. This paper shows that soft floors cannot increase the auctioneer's revenue, and they can decrease it. When bidders are symmetric, soft floors have no effect on revenue because there always exists a symmetric equilibrium in strictly monotonic bidding strategies, and standard revenue equivalence arguments thus apply. The revenue equivalence continues to hold even when the exact level of the soft floor is hidden from bidders as is the case on some exchanges. When one asymmetrically high bidder is occasionally present in addition to several symmetric bidders, soft floors decrease revenue because they reduce the pricing pressure on the high bidder as long as the high bidder bids above the soft floor. I find only one possible scenario in which soft floors may enhance revenue in the asymmetric situation that mimics the industry arguments for introducing soft floors: when the level of the soft floor is so high that nobody bids above it and the level of the reserve price is simultaneously sub-optimally low.

4 - On the Reference Price Effect of Reserve and Buy-it-now Prices

Ernan E Haruvy, Professor, University of Texas- Dallas, School of Management, SM 34 Box 830688, Richardson, TX, 75083-0688, United States, eharuvy@utdallas.edu, Peter T Popkowski Leszczyc, Zelin Zhang

In auctions, reserve prices are price floors whereas buy-it-now (BIN) prices are price ceilings. While their strategic functions are widely debated in the academic literature, their psychological effects are not well understood. In this work, we investigate how these two pricing tools serve as reference prices for bidders, and how these references in turn influence bidder entry and willingness to pay. We first quantify the dual impact and implied trade-off of price floors and BINs on the number of bidders and auction revenue. Second, we distinguish the reference price effect of reserve prices from the better known truncation and entry effects of reserve prices. We do so by comparing open reserve—where the reserve is known and therefore can serve as a reference price-- to secret reserve—where the reserve is unknown and cannot serve as reference price, but nevertheless has the same truncation effect. Third, we examine robustness of the reserve price effect to the introduction of BINs and seek to characterize the relative reference pull of a reserve price relative to a BIN on the final price. We find that reserve prices have a smaller impact than BIN on final price and that the impact of reserve price is robust to the introduction of BINs.

■ FD03

Fertitta Hall, 105, Lower Level

Mobile Marketing: Technology

Contributed Session

Chair: Yiting Deng, University of Notre Dame, 379 Mendoza College of Business, University of Notre Dame, Notre Dame, IN, 46556, United States, ydeng@nd.edu

1 - Big Data Location Analytics - Predicting Purchase Location with Mobile Location Data

Karthik Babu Nattamai Kannan, Scheller College of Business, Georgia Tech, 800 West Peachtree NW, Atlanta, GA, 30308, United States, karthikbabu.nk@scheller.gatech.edu, Sridhar Narasimhan

We work with a leading national mobile carrier in the USA to explore how its customers choose the location of brick-and-mortar store to purchase or upgrade wireless service. Although one would expect a customer to visit the retail store nearest to her home location, empirically we find many choosing other locations that are far from home. We theorize that such discrepancies can be attributed to the travel patterns of customers and preferences in time of purchase. To explore this question, we use anonymized location data gathered from our partner company's mobile customers, demographic and socio-economic data gathered from customer profile to develop a model for predicting choice of retail location. We use Big Data tools to process a sample from around 1 petabyte of location data and develop (work in progress) machine learning based approach for predicting consumer choices. We also explore how understanding people's travel patterns is helpful in designing the market structure. We explore literature on firm expansion and franchising to develop a machine learning based heuristic solution procedure (work in progress). Our proposed model would allow the possibility of opening both company-owned and other channels such as national retail or authorized retailer. The objective is to maximize coverage of consumer base without opening too many stores. Our work contributes to the growing literature on mobile Big Data location analytics.

2 - Driving Towards Purchase: Investigating Consumers' Search Patterns on an Automobile Mobile App

Jingcun Cao, Indiana University Bloomington, 1309 E. 10th Street, Bloomington, IN, 47405, United States, jingcao@indiana.edu, Pradeep Chintagunta, Shibo Li

More and more companies develop mobile apps to attract and retain customers as a strategic marketing channel. While past studies in the search literature usually focus on consumer search behavior within a visit or session, little is known on their search patterns across sessions over time. In this study, we address this research gap using data from a mobile app selling used cars. We characterize consumers' search processes through app modules with different functionalities such as car-browsing, instant messaging with the customer service, financing service, insurance service, and placing orders. We observe the "tap-stream" of users including the module browsed, the duration of viewing, cars examined, the attributes of the car, the mobile device used (iPhone or Andriod), and the type of Internet service (Wi-Fi or cellular data) used. We find that in the initial sessions, consumers frequently bounce between modules to learn about the app. As time goes by, consumers will focus on a fewer number of modules. Further, they spend more time on these modules leading to a higher purchase likelihood. Our research has important managerial implications for marketers regarding mobile apps design and customer acquisition and retention. Moreover, it also sheds light on the unique search process of consumers on mobile devices for high ticket items.

3 - Uncovering Offline Conversion Funnel with Big Data: The Case of Mobile Wifi Tracking in Retail Industry

Xing Lan, PhD student, University of Texas at Austin, Austin, TX, 78705, United States, mikelan@utexas.edu, Tianshu Sun, Jun Duan

Transaction data from scanner and other sources have been widely used by retailers to understand the effect of marketing interventions on various aspects of consumers' offline purchase behavior, yet existing research founded on the use of transaction data remains agnostic about consumer decision making prior to the point of purchase. By leveraging a novel and rich panel data set collected from state-of-the-art mobile WiFi tracking devices in the retail industry, we depict the offline conversion process for all potential customers at multiple stores of a retail chain: including pass-by, store visit, in-store purchase behavior for every potential customer for weeks. The comprehensive data across all stages of offline shopping funnel also allow us to investigate the role of promotion strategy in influencing pass-by, store visit, and search behavior prior to purchase, all of which would jointly affect the propensity and composition of transactions. The unique identifier associated with each potential customer, combined with the richness of the data, also allows us to control for both observed and unobserved heterogeneity in a multi-stage model. Our contribution in this paper is two-fold: first, by creatively combining mobile WiFi data with scanner transaction data through a matching algorithm, our study offers new insights into customer behavior in offline shopping, for both potential and existing customers, not only within the store but also before the consumer enters; second, we take a holistic approach in modeling customers' decision process and offer insights into the effect of promotions across different stages of the conversion funnel.

4 - Spillover Effects and Freemium Strategy in Mobile App Market

Yiting Deng, University College London, Level 38, RM NW4, One Canada Square, London, E14 5AA, United Kingdom, yiting.deng@ucl.ac.uk, Yongdong Liu

Freemium is a business model whereby basic services are provided free of charge while more advanced features have to be paid for. This paper uses data on game apps from Apple's App Store to explore the effectiveness of the freemium strategy. After identifying apps that adopt the freemium strategy, we estimate the spillover effects between the free version and the paid version of the same app. We find for apps that adopted the freemium strategy, those started with a paid version experience positive spillover effect at the later launch of the free version. Hence, the cannibalization effect of the free version on the paid version seems to be dominated by the market expansion effect, providing supports for the widely observed freemium practice on this market. In contrast, for apps that started with a free version, the effect of paid version launch on the existing free version is insignificant. The difference likely reflects the different strategic rationales behind the two versioning orders. While the "paid first" strategy utilizes the free version launch to provide consumers sampling opportunities to increase paid version's demand, the paid version launch under the "free first" strategy may be considered as an opportunity for the app developer to "harvest" goodwill established by the free version.

■ FD04

Fertitta Hall, 125, Lower Level

Advertising & Social Media

Contributed Session

Chair: Yakov Bart, Northeastern University, 202G Hayden Hall, 360 Huntington Ave, Boston, MA, 02115, United States, y.bart@northeastern.edu

1 - Retailer Social Media and Consumer Purchase Decision Journey

Ashwin Malshe, Assistant Professor, UTSA, 1 UTSA Circle, San Antonio, TX, 78249, United States, ashwin.malshe@utsa.edu, Anatoli Colicev

Although retailers are increasingly using social media as part of their marketing actions, many retailers are unaware whether social media can meaningfully affect consumer purchase decision journey. The authors propose a conceptual model to study the impact of earned and owned social media on awareness, attitude formation, purchase intent, and customer satisfaction, which they identify as stages in consumer purchase decision journey. Using a dataset of 17,329 retailer-day observations the authors empirically test their conceptual framework employing panel vector Autoregression (PVAR). They find that social media interaction rate and positive brand sentiment, which both pertain to positive earned media, lead to higher brand awareness, more positive brand attitude, higher purchase intention, and higher customer satisfaction. In addition, negative earned media lead to reduction in all the four stages. Finally, owned social media has a mixed effect - it increases brand awareness but reduces brand attitude and customer satisfaction.

2 - How Celebrity Endorsement Effects Differ by Channel

Meltem Kiygi Calli, Assistant Professor, Okan University, Tuzla Campus, Faculty of Business and Administrative Sciences Akfirat Tuzla, Istanbul, Turkey, meltem.kiygicalli@okan.edu.tr, Koen Pauwels

Advertisers pay millions of dollars to celebrities to promote their products but are unsure of the relative effectiveness of different message and channels and the best ways to measure this effectiveness. In our empirical setting, an international brand launches a high-involvement product with celebrity endorsement in an emerging market. The rich data are daily on sales and marketing actions, including 10,312 TV ads on 49 TV channels, 76 newspaper ads, 42 magazine ads, 3055 theaters and 558 outdoor ads in 3 big cities. Effectiveness metrics are both traditional (ad recall, dealer visits and call center calls) and digital (organic search and social media sentiment). Based on time series methods, we analyze the dynamic effects of offline (TV, print, cinema and outdoor) and online (search and display) advertisements by ad copy. We thus contribute to the literature in two ways. First, the study examines the effects of different ad copy and channel combinations on the business performance. Second, the study focuses on the relative influence of traditional and online consumer reaction metrics in the path to purchase.

3 - Online Media Advertising Effectiveness: Evidence from a Large-scale Multi-country Field Study

Yakov Bart, Northeastern University, 202G Hayden Hall, 360 Huntington Ave, Boston, MA, 02115, United States, y.bart@northeastern.edu, Gui Liberali, Glen L Urban, Benedict G. C. Dellaert, Catherine Tucker, Stefan Stremersch

Measuring consumer response to advertising across multiple media types and markets has been a long-standing challenge for marketers. While prior literature has primarily focused on examining the effectiveness of one type of online advertising at a time (such as advertising on social media, using online videos, with display banners, or search engines), this research is the first to focus on the interactions among these media types in the multi-country setting. We estimate online media advertising effectiveness using a large-scale field study in the U.S., China, and the Netherlands. The study was designed to examine funnel-specific effects of consumer response to advertising across various media channels for equivalent ad content using a technological solution that allowed us to observe participants' browsing and clicking activity in depth. We find that consumers respond differently to the same ad depending on how distant they are from purchase, and uncover which channels are most appropriate to which user at different stages of the funnel. We demonstrate that social media advertising is most effective at earlier stages of the funnel, while online video is more effective closer to the purchase date. We also show how engagement and attention strengthen consumer response to online video and social media advertising. Finally, this research introduces a new method to measure and estimate consumer response with across- and within-sample adaptation on a large scale, specifically designed to help firms to optimize learning from experiments with new channels, new media, or new markets.

4 - Informative Advertising aAnd Brand Differentiation in the High-end Fashion Industry

Yu-San Lin, Penn State University, 206C Patterson Hall, White Course Apartments, University Park, PA, 16802, United States, yusan@psu.edu, Cuicui Chen, Jorge Alé Chilet

We study the marketing strategy of high-end fashion brands on social media. In particular, we analyze the brands' incentive to provide informational content on Instagram as they become more similar to other brands. We use text mining techniques to classify Instagram posts according to their informational content, as well as to measure brand differentiation and leadership. Regression analyses show that as brand similarity increases, brands respond by providing more informational content in their posts. Furthermore, we find that this effect is stronger for brands less active on social media, and for those that do not tend to initiate fashion trends. We interpret our findings relying on the brands' trade-off between new and existing customers, and on the marketing life cycle of industries.

■ FD05

Fertitta Hall, 233, 2nd Floor

User Generated Content & Performance II

Contributed Session

Chair: Yeji Lim, University of Missouri, Cornell Hall 435, University of Missouri, Columbia, MO, 65211, United States, yl6bc@mail.missouri.edu

1 - Does Online Rating Affect Companies' Financial Performance? Evidence from Hotels in Singapore

Ding Ding, SIM University, 461 Clementi Road, Singapore, 599491, Singapore, dingding@unisim.edu.sg, Chong Guan, Zheng Fang, Pui Mun Lee

Consumer rating websites provide a source of open and big data to generate insights on customer perceptions of companies' service quality, especially in the hotel industry, where online reviews have been found to critically affect consumers' service perception and purchase intention. Such information is not only useful for identifying consumer service preferences, it may also be useful to predict companies' financial performance. In this study, online consumer ratings on 10 listed companies in the hotel sector in Singapore are gathered from major online review websites such as TripAdvisor.com over 8-year period (2008-2015). By leveraging on consumer review ratings across user-generated review platforms, we aim to establish a measure based on consumers' online feedback on hotel services in Singapore and use it as a surrogate benchmark of the service performance in the hotel sector. In addition, we explore the relationship between a firm's online rating and its financial performance. By conducting Granger causality tests for various financial ratios in relation to the online rating, it is found that there are two particular pairs of variables that have significant causality relations: online rating Granger causes return on assets and net income growth Granger causes online rating. The Granger causality results indicate that online rating is very closely related to the financial performance of the hotels, especially in terms of profitability, and the causality is in both directions. Furthermore, we also investigate the effect of online rating on the companies' stock prices over time. This will help companies make informed and timely decisions and bring about a virtuous feedback loop between companies/businesses and their consumers so as to improve the consumers' service perception and purchase intention, and eventually the companies' financial performance.

2 - Competition and the Impact of Online Reviews on Product Performance: Evidence from the Hotel Industry

Hulya Karaman, Emory University, 1020 Piedmont Ave NE, Unit 1911, Atlanta, GA, 30309, United States, hulya.karaman@emory.edu

The increased availability of online reviews provides customers a great opportunity to easily compare and contrast reviews of multiple competing products at a time. Yet, the majority of the work in the literature to date focuses on the impact of a product's absolute online review characteristics on its demand. While these studies are very useful in understanding whether and how online review characteristics of a product impact its demand, they do not consider the possibility that individuals' judgments are relative. The current study explores this void in the literature and addresses the following research questions: (1) What is the impact of relative review metrics on a product's financial performance? (2) Is the impact of relative review metrics asymmetric? and (3) Do these effects depend on competitor characteristics? To address these questions, we constructed a unique data set containing financial performance data and online consumer review data over a 69-month period. A multi-chain hotel group provided actual monthly financial information and competitor sets for hotels within its portfolio and we scraped the online review information for both the focal hotels and their competitors from TripAdvisor.com. We contribute to the literature in several ways. To our knowledge, this study is the first to demonstrate the significance of relative online review characteristics. Moreover, we demonstrate that the impact of relative review metrics is asymmetric. For instance, we show that increasing a product's average online rating while catching up to its competitor's average online rating is more beneficial than after having already surpassed its competitor's average online rating. In addition, we provide evidence that the strength of these effects depends on competitor characteristics.

3 - Interacting User Generated Content Technologies and Their Effects in the Context of Online Shopping

Shrabastee Banerjee, PhD Student, Boston University, Boston, MA, United States, sban@bu.edu, Chrysanthos Dellarocas, Georgios Zervas

Ratings and reviews (R&R) have been ubiquitously acknowledged as an important and potent form of user-generated content (UGC) technology that can have significant influence on consumers' purchase decisions. However, another increasingly common form of UGC, the Question and Answer (Q&A) feature, has not yet been formally studied. In this project, we aim to shed some light on this newer variety of UGC, and examine its interaction with and influence on the more established R&Rs. We posit that: (1) Q&As solve an important information problem, namely that they mitigate product fit uncertainty before purchases happen, (2) in doing so, they lead to better purchases and happier customers and (3) this effect is likely to be the strongest for products that have a higher residual fit uncertainty (low-rated products), either because of limited product description, or because of some usage complexity. Indeed, using data from an online shopping website and utilising econometric and text analysis tools, we find that Q&As can influence both the volume and valence of subsequent R&Rs for low-rated products - these products experience a rating jump of 0.6 stars, and a spike in their review volume after they receive their first question. Further, the textual content of reviews and Q&As appear to be non-overlapping, indicating that Q&As embody 'new information' above and beyond that present in R&Rs. Taken together, we thus illustrate the importance of the Q&A feature particularly for low-rated products, which can use Q&As as a reputation management tool and improve upon their ratings and sales.

4 - A Picture Worth a Thousand Words: Do Thematic Representations of Online Reviews Improve Performance?

Andrea Ordanini, Bocconi University, Milan, Italy, andrea.ordanini@unibocconi.it, Raji Srinivasan, Anastasia Nanni

With the explosive growth of online media, very large volumes of consumers' online feedback are now easily available to managers. Much of the consumer online feedback data are textual in nature. Thus, managers face serious challenges in synthesizing the large volume of data in a manner that is useful to them in their decision-making. In this research, we examine the effects of using a thematic representation (vs. not using it) of online review text on performance. We develop hypotheses of the effects of managers' use of thematic representations of consumers' online reviews on performance. Further, we propose that the effects of the use of thematic representations of online reviews will be moderated by the managers' perceived accountability, the firm's prior performance, and the number of online consumer reviews. We test the role of thematic representation of online review text using a randomized control field experiment of managers in a sample of the Italian hotel industry context over a period of 12 months. A difference-in-differences analysis indicates that thematic representation of online consumer reviews significantly affected managers' decision making and performance and that these effects are moderated by firm and managers' characteristics. The research's findings have important theoretical and managerial implications which we discuss.

5 - Spatial Variations in the Sales Effects of User Generated Ratings

Yeji Lim, Ph.D. student, University of Missouri, Cornell Hall 417, University of Missouri, Columbia, MO, 65211, United States, yl6bc@mail.missouri.edu, Murali K Mantrala, Purushottam Papatla

Numerous studies have examined whether user-generated ratings (eWOM) affect sales for products like books, music, movies, and video games. Recent meta-analyses of these studies suggest that on average, ratings are positively correlated with sales but their effectiveness differs across platform, product, and metric factors (e.g., Rosario et al. 2016). The implication is that product managers should increase resources dedicated to providing user-generated ratings to prospective customers. These recommendations, however, are at the aggregate level and, as yet, there are few insights into when and how customers are heterogeneous in their response to eWOM. This is a significant gap since, if customers do vary in their response, managerial reliance on eWOM to promote products has to be adapted accordingly. This research takes a step towards addressing this gap by investigating spatial variations in consumer response to user-generated ratings across the US market with the goal of uncovering any spatial clusters of response. Our investigation is based on a ten-year panel dataset of ratings of businesses in several categories including hotels, restaurants, spas and various types of local and chain stores. We use the total number of ratings of a business per quarter of the year as a proxy for sales during that quarter and employ a differences-in-differences approach to identify spatial variations in the effects of ratings on sales. Since the dataset includes detailed information on the weather and demographic characteristics of the neighborhood of each establishment, we can control for their effects to obtain additional insights in our analysis.

■ FD06

Fertitta Hall, 236, 2nd Floor

Crowdsourcing and Crowdfunding IV

General Session

Chair: Jian Ni, Johns Hopkins University, Johns Hopkins University, Baltimore, MD, 21202, United States, jni@jhu.edu

Co-Chair: Weining Bao, University of Technology Sydney, Sydney, Sydney, 518028, Australia, wbao3@hotmail.com

1 - Modeling Consumer Crowdfunding Behaviors under Effort-Based Incentive

Xiaoqian Yu, University of Southern California, 3660 Trousdale Parkway, ACC 306E, Los Angeles, CA, 90089-0443, United States, xiaoqian.yu.2016@marshall.usc.edu, Sha Yang, Yi Zhao

Effort-based incentives, wherein consumers can complete tasks to earn rewards, have now emerged as a popular promotional tool in marketing. Effort-based incentives possess two unique features. First, since getting a reward is not effortless, consumers face a decision of how many incentive tasks to participate to earn reward. Second, effort-based incentives allow individuals to turn effort into a monetary reward, and such reward can then immediately relax an individual's budget and consequently influence consumer behavior (e.g., contribution in our context). We propose a model to investigate how such incentives affect individual contribution behavior in the context of crowdfunding. In particular, we develop a unified utility maximization framework to simultaneously model two interdependent consumer decisions in the crowdfunding context with effort-based incentives: contribution amount decision (i.e. how much to contribute) and incentive participation decision (i.e. how many incentives tasks to participate in). Since incentive participation directly affects budget, the optimal contribution and incentive participation amount involve a complex simultaneity. We adopt a two-step estimation approach to cope with the simultaneity issue, and changes-in-variable method to obtain the likelihood and to address the implicitness issue. We use the Bayesian method to make model inference so that we can conveniently account for the multiple-constraint requirement and unobserved heterogeneity. Using data from a pioneering crowdfunding platform for journalism, we find that effort-based incentives have heterogeneous effect, and our counterfactual analysis leads to important managerial implications on effective use of effort-based incentives.

2 - Does it Pay to Pay? The Impact of Incentive Modes on Crowdsourcing Effectiveness

Debjit Gupta, Virginia Tech, Blacksburg, VA, United States, debjit14@vt.edu, Juncai Jiang, Ying Xie

Online crowdsourcing contests leverage the power of the crowd by linking creators of online content with their users. The themes of such contests range from providing solutions to complex business problems to sharing opinions and experiences in daily life. A variety of monetary and non-monetary (e.g., reputation) incentives are utilized to encourage participation and improve quality and quantity of information sharing in online crowdsourcing contests, yet there is lack of understanding how the mode of incentives may impact the effectiveness of such online contests. In this study, using a detailed dataset on a large number of knowledge questions collected from a popular crowdsourcing Q&A (question and answer) platform, we empirically assess the impact of incentive modes on crowdsourcing contest effectiveness. Initially hosting questions which had no monetary prize, this website now hosts questions with sizable monetary incentives ranging from $250 to $1,000, along with the former. By analyzing their responses to questions with different type of incentives using text mining techniques, we provide insights on users' underlying motivating mechanisms to participate in such contests and discuss implications for contest design based on our results.

3 - Does Restricting information Make the Crowd More Accurate?

Vineet Kumar, Yale School of Management, 165 Whitney Avenue, New Haven, CT, 06511, United States, vineet.kumar@yale.edu

Crowdsourcing has been widely used for fairly accurate information gathering, and digital technologies enlarge the scope. We examine how herding in crowdsourcing can arise based on how much information is made available to participants in such a crowd setting. Using a randomized experiment in partnership with a financial information provider, we evaluate how users who receive different informational treatment respond and how overall quality and quantity of information can be enhanced.

4 - Cheap Talk in the Crowdfunding Market

Weining Bao, University of Technology Sydney, Sydney, Australia, wbao3@hotmail.com, Jian Ni

Online crowdfunding platforms often allow creators to provide various (often unverified) information about the focal projects. Examples are creators are smart and hardworking, creators already raised significant amount of money, and projects are promising and profitable. On one hand, these unverified descriptions of creators' characteristics and project prospects may help investors evaluate the underlying projects, while on the other hand could result in cheap talk by the creators that reduces the credibility of the information about the underlying projects. We study the cheap talk in online crowdfunding platforms that could potentially undermine the crowdfunding efforts. Utilizing detailed transaction data of multiple online crowdfunding platforms, we find that cheap talk devours creators' crowdfunding efforts and makes the crowdfunding less likely to succeed. We then discuss the related managerial implications for the platforms and the creators.

■ FD07

Fertitta Hall, 239, 2nd Floor

Digital Marketing Field Experiments II

General Session

Chair: Tianshu Sun, University of Southern California, University of Southern California, Los Angeles, CA, 90089, United States, tianshus@marshall.usc.edu

1 - Assessing the Impact of Ad Frequency in Programmatic Online Display Retargeting: A Large-Scale Randomized Field Experiment

Ranjit Magendra Christopher, University of Missouri-Kansas City, Kansas City, KS, United States, christopherra@umkc.edu, Bradley Fay, Sungho Park, Sang-Pil Han

Firms are allocating increasing portions of their total marketing budget to digital advertising to make sure they can reach consumers with their advertising. Digital banner ads purchased through real-time auctions accounted for more than 67% of all display advertising in 2016. The mechanics of programmatic advertising allow marketers to make advertising purchase decisions at the impression level. These algorithms submit hundreds of thousands of bids per minute for the chance to show advertisements to individual users creating an environment where marketers are at heavy risk for wasteful spending by bidding too much for a single ad or showing too many ads to an individual. Working with a large online durables retailer, we use a large-scale randomized field experiment to assess the marginal impact of personalized retargeting ads on consumer behaviors such as repeat visits and purchases. We estimate an ad response model and demonstrate a diminishing marginal return to each advertisement shown to a customer. We pair this model with a cost function using impression-level data in an optimization framework to derive an optimal bidding strategy for the firm

2 - To Integrate or Not? Social Media Integration and E-Commerce Platform Performance: A Large Field Experiment

Ni Huang, Temple University, Philadelphia, PA, United States, nina.huang@temple.edu, Tianshu Sun, Pei-yu Chen, Joseph Golden

Social media sites such as Facebook and Twitter have developed comment plugin feature that can be integrated into an E-commerce platform to let users comment on the product page using their social media accounts. While such integration may help accumulate comments and increase sales by credibly conveying product information and signaling its popularity, it may also hurt sales when there is a dearth of comments and when the comments are negative. Given E-commerce platforms' lack of control, it is not clear whether they should embrace such integration on the platform. In this study, we conducted a randomized field experiment in collaboration with a large e-commerce platform to examine the impact of a major form of social media integration -- Facebook comments plugin -- on platform performance in terms of users' shopping behavior. We randomly assign users of incoming web traffic to webpages with versus without Facebook Comments plugin, and examine the treatment effect of social media integration on users' shopping behavior. Our results show that, users in the treatment condition (with Facebook Comments plugin) on average have a significantly higher rate of adding a product to cart and a significantly higher rate of purchasing a product. Further, we find interesting heterogeneous treatment effects that is aligned with the observational learning mechanism: The positive effects of Facebook Comment plugin on user add-to-cart and user conversion are stronger for new users who have not purchased on the platform before, or when there are more Facebook comments as well as total number of words accrued on the webpage. This study offers important implications for academic research and industry practice on understanding the impact of social media integration on online platforms.

3 - Are Online Referrals Local? Offline Factors in Online Sharing

Yanhao "Max" Wei, University of Southern California, Los Angeles, CA, United States, yanhaowe@marshall.usc.edu, Tianshu Sun, Joseph Golden

We investigate how offline factors affect the referral propensity, recipient choice and referral outcomes in online sharing. While the Internet has overcome geographic isolation of customers and greatly reduced the cost of information sharing across different areas, a large part of customers' social network and interactions is still bounded locally. Thus, it is important for online retailers to understand the 'localness' of online sharing, and take advantage of the heterogeneity in local market characteristics when designing social marketing strategy. Using a very large panel dataset on the purchase and referral behavior of customers on a national E-commerce platform, we find that offline factors such as demographics and community characteristics significantly affect the referral propensity of customers. Those offline factors differentially affect customers' purchase decision and referral decision, which jointly determine the product diffusion in the local area. In addition, a substantial portion of customers' referrals are still shared with friends within the local area. Finally, online referrals that are more local result in higher conversion rate. Overall, our study shows that offline factors plays a very important role and the online sharing process is still highly local. Online retailers could take advantage of such findings and design customized marketing strategy for different local areas.

4 - When do Recommender Systems Work the Best? The Moderating Effects of Product Attributes and Consumer Reviews on Recommender Performance

Dokyun Lee, Carnegie Mellon University, 5000 Forbes Avenue, Posner Hall, Room 348E, Pittsburgh, PA, 15213, United States, dokyun@cmu.edu, Kartik Hosanagar

We investigate the moderating effect of product attributes and consumer reviews on the efficacy of a purchase-based collaborative filtering recommender system on an e-commerce site. Our data are derived from a randomized field experiment run on a top North American retailer's website with 184,375 users split into a recommender-treated group and a control group. By augmenting the dataset with Amazon Mechanical Turk tagged product attributes and other sources of consumer search information on site (e.g., review data, product descriptions), we approach the problem holistically. We confirm that the use of recommenders increases the baseline conversion rate—purchase probability conditional on product view—on the website. The positive impact on conversions is greater for hedonic products compared to utilitarian products. We do not observe any differences between search and experience products. We find that the impact of recommenders is greater for products with lower average review ratings. We also find that that the impact of recommenders on conversion rate is greater for products with more detailed product descriptions and lower prices. For managers, we first identify the products and product attributes for which the recommenders work well, and then show how other product information sources on e-commerce sites interact with recommenders.

■ FD08

Fertitta Hall, 240, 2nd Floor

Customer Analytics

General Session

Chair: Eva Ascarza, Columbia Business School, 3022 Broadway, Uris Hall, room 524, New York, NY, 10027-6902, United States, Ascarza@gsb.columbia.edu

1 - The Impact of Referral Coupons on Customer Behavior and Firm Revenues

Raghuram Iyengar, University of Pennsylvania, 3730 Walnut Street, 700 JMHH, Philadelphia, PA, 19104, United States, riyengar@wharton.upenn.edu, Young-Hoon Park

To enhance customer engagement, retailers have begun offering coupons that can be redeemed like regular coupons and shared with others. The authors investigate whether such shareable coupons are more effective in generating sales than regular, non-sharable, coupons using data from two large-scale field experiments. Surprisingly, the results show that referral coupons are, on average, less effective than regular coupons in generating revenues from customers who received them from the firm. The finding is robust to the type of promotions offered. The authors assess the customer heterogeneity in the response to the campaign and propose an explanation based on social priming and homophily. Data from an experiment using subjects on Amazon Mechanical Turk is in line with the proposed explanation. The authors also document the impact of targeted referral campaigns on firm revenues.

2 - Retention Futility: Targeting High Risk Customers Might be Ineffective

Eva Ascarza, Columbia Business School, 3022 Broadway, Uris Hall, Room 524, New York, NY, 10027-6902, United States, Ascarza@gsb.columbia.edu

We challenge the common practice for proactive churn management and claim that firms should not necessarily target customers at high risk of churning. We propose a new approach that, through experimentation, identifies the observed heterogeneity in the response to the intervention, and effectively targets customers based on their sensitivity to the intervention. Combining data from two field experiments with machine learning techniques, we empirically demonstrate that the proposed approach is significantly more effective than the standard practice of targeting customers at high risk of churning. We show that the same retention campaign would result in a further reduction of up to 7.0 percentage points in churn rate if the focal firm followed our proposed approach (instead of the industry standard). Contrary to common wisdom, we consistently find that customers identified as being at the highest risk of churning are not the best targets for proactive churn programs. These findings suggest that retention programs can be futile not because they offer the wrong incentives, but because firms do not apply the right targeting rule.

3 - Salesperson vs. Model of the Salesperson: A B2B Pricing Application

Yael Karlinsky, Columbia Business School, New York, NY, United States, yk2543@columbia.edu, Oded Netzer

While many manufacturing oriented occupations are being automated nowadays, we explore whether the job of the salesperson, a high-expertise and human-interaction based profession, could be enhanced by automation. We build on the behavioral literature and create a judgmental bootstrapping model of the salesperson that uses the Business to Business (B2B) salesperson's past pricing decisions to identify the underlying policy that governed her pricing process, and repeatedly apply that policy to new pricing decisions. We create a simple linear model as well as machine learning based model. Our proposed model learns the salesperson behavior as opposed to optimizing prices based on profits. We find that despite the loss of case-by-case information and expertise owned by the salesperson, the bootstrapped model of the salesperson produces higher expected profits than the profits generated by the salesperson herself. We further show the importance of the salesperson in selecting variables for the model as well as for model calibration. Additionally, we investigate the potential power of the crowds by building on the expertise of the firm's salesforce, rather than the individual salesperson. The contribution of our work is three-fold. First, it bridges behavioral literature on human biases and judgmental bootstrapping with marketing science and B2B pricing. We show that models of the expert can trumpet experts using large-scale secondary data from a B2B retailer. Thus far, demonstrations of judgmental bootstrapping have been largely anecdotal and primarily applied in lab settings. Second, our prediction problem is layered: while price is the decision variable set by the salesperson, the outcome variable is profit, a non-linear function of the decision variable. Finally, we contribute to the B2B and salesforce literature by demonstrating that salesforce pricing decisions could be enhanced by choosing a hybrid automation approach that leverages salespeople expertise for training the model, but leaves the re-application of their pricing policy to the model.

4 - Gremlins in the Data: Identifying the Information Content of Research Subjects

John Howell, Assistant Professor, Penn State University, University Park, PA, 16802, United States, jrhowell@psu.edu, John Liechty, Peter Ebbes

Empirical demand functions are critical in many areas of marketing. Many times, these demand functions are estimated using survey-based methods like conjoint analysis. With any survey-based method, the quality of the estimated model is dependent on the quality of the information obtained from the respondents. We develop a model that classifies and reweights respondents based on the statistical information contained in the respondents' survey questionnaires. We illustrate our model using simulated data and several data from empirical conjoint studies. Our approach provides an automated way of determining which respondents are relevant for model estimation. Importantly, we show that reweighting the respondents based on the quality of their information can lead to substantial different managerial insights than by treating each respondent equally in model estimation.

■ FD09

Fertitta Hall, 241, 2nd Floor

Method: Bayesian Models I

Contributed Session

Chair: Sunghoon Kim, Arizona State University, P.O. Box 874106, Tempe, AZ, 85287-4106, United States, skim348@asu.edu

1 - Linking Credit and Cash Transactions using Bayesian Imputation

Yi Zhao, Marketing Department, Georgia State University, Suite 1300, 35 Broad Street, Atlanta, GA, 30303, United States, yizhao@gsu.edu, Sarang Sunder

Recent technological advances in the past decade have given consumers a variety of options to pay for purchases (such as PayPal, credit card, cash etc.). Due to this, firms operating in today's marketplace need to keep a close eye on not only what the customer is purchasing, but also how he/she is paying for it. Recent studies in economics and business have stressed the importance of accounting for different payment instruments when studying customer behavior as it has direct implications for firms. A major modeling challenge in such contexts is that one does not fully observe the customer's entire transaction history (since the researcher does not know which transaction belongs to which customer). This is especially important when dealing with low ticket purchases where a significant proportion of transactions are cash. In this research, we develop a novel approach to infer the consumer's cash transactions using a probabilistic Bayesian imputation algorithm that analyzes and matches a customer's cash and credit transactions. We demonstrate the accuracy and performance of the proposed model using three simulation studies as well as transaction data from a quick-service restaurant chain. Specifically, we show that the proposed framework consistently outperforms conventional approaches in matching cash transactions to specific customers, explaining consumer behavior and predicting purchase frequency. Finally, we also uncover a rich set of customer-, store- and firm-level drivers of consumer's payment choice (cash vs. credit) decisions and their eventual impact on customer behavior (spending and purchase frequency).

2 - Uncovering Latent Consumption Occasions from Observational Data on Brand and Quantity Choices

Masakazu Ishihara, New York University, Tisch Hall 818, 40 West 4th Street, New York, NY, 10012, United States, mishihar@stern.nyu.edu, Makoto Mizuno

For product categories such as beer, consumers' purchase decisions may be largely influenced by specific consumption occasions (e.g., parties). Due to limited data availability on consumption occasions, most of the existing studies that use observational data (e.g., scanner panel data) ignore the role of consumption occasions. In this paper, we propose an empirical framework for uncovering and characterizing (latent) consumption occasions that consumers may face when making a purchase decision. Specifically, our framework is built on a multiple discrete-continuous model, and allows consumers' preferences to depend on latent consumption occasions governed by a Markov process. The estimation is carried out by a Bayesian Markov chain Monte Carlo algorithm, and we let data determine the number of latent consumption occasions. Using Monte Carlo experiments, we first document that (1) model parameters can be recovered, and (2) ignoring the role of consumption occasions might bias the estimates for heterogeneity and state dependence. We then take our framework to actual purchase data from multiple consumer packaged goods categories, and show that the importance of consumption occasions varies across product categories. The framework provides marketers with a tool for not only segmenting customers according to consumption occasions (which occasions are likely to occur for which customers), but also segmenting products (which products are likely to compete given a consumption occasion) and understanding seasonal trends in consumption occasions.

3 - A New Hierarchical Bayes Geographically Weighted Regression Spatial Model for Customer Service and Satisfaction Measurement in Marketing Research

Sunghoon Kim, Arizona State University, P.O. Box 874106, Tempe, AZ, 85287-4106, United States, skim348@asu.edu, Wayne DeSarbo

We propose a new Hierarchical Bayes Geographically Weighted Regression model which helps marketing researchers to calibrate the potential impact of spatial dependency and heterogeneity on the underlying drivers of customer service and/or satisfaction measurement. This proposed procedure accommodates a hierarchical structure and non-stationary geographical boundary effects. Using several synthetic datasets, we first illustrate the proposed model outperforming three benchmark competing models including ordinary linear regression, classic Geographically Weighted Regression, and Bayesian Geographically Weighted Regression, especially when there exist significant state-level fixed effects or irregular patterns of observation locations. In the automobile customer satisfaction application study provided, the proposed procedure also demonstrates favorable performance in predictive validation measures compared to these same benchmark models. Here, we also derive a clear heterogeneous pattern of two covariates in the Mountain U.S. geographic division examined: dealership service is highest in the northeastern Mountain regions (e.g., Montana), and vehicle quality is highest in the southern Mountain regions (e.g., Arizona, New Mexico).

■ FD10

Fertitta Hall, 313, 3rd Floor

Sales Force: Scheduling

Contributed Session

Chair: Vamsi Krishna Kanuri, University of Miami, 501 Kosar Epstein Bldg, School of Business Administration, Coral Gables, FL, 33146, United States, vkanuri@bus.miami.edu

1 - Sales Force Scheduling in Service-intensive Retail Stores: A Frontier Approach

Chien-Ming Chen, Associate professor, Nanyang Technological University-Singapore, 50 Nanyang Avenue, Singapore, 639798, Singapore, cmchen@ntu.edu.sg

For retail stores whose customers are service-sensitive, staff scheduling decision can greatly affect both store revenue and operating expenses. The sales response function (SRF) in existing staffing models views observed deviations from the function as random noise. In practice, however, performance of different stores often differs because of idiosyncratic operations efficiency. Ignoring this factor can result in sub-optimal schedule and lost revenue. This paper presents a sales force scheduling model equipped with a new SRF to tackle this issue. We illustrate its use with multi-year panel data from a retail chain in North America.

2 - The Effects of Quota Frequency on Sales Force Performance: Evidence from a Field Experiment

Doug J. Chung, Harvard Business School, Morgan Hall 161 Soldiers Field, Boston, MA, 02163, United States, dchung@hbs.edu, Das Narayandas

We collaborate with a Swedish retail chain to conduct a field experiment in which we change the sales force compensation scheme from a monthly to a daily quota plan. This intervention, along with a control group that did not encounter a change in compensation structure, allows us to analyze the effect of quota frequency on sales force performance. Over a given time frame (i.e., a month), we find that shifting to a temporally more frequent quota plan—the daily quota plan as compared to the monthly quota plan—leads to an increase in sales performance, mainly for low-performing salespeople, by preventing them from giving up in the latter days of a month. However, we find high-performing salespeople to give up more frequently in earlier days of a month under the daily quota plan. With more frequent quotas, salespeople sell more quantities of low-ticket items, which benefit the firm through a decrease in returned merchandise. However, with quotas set over shorter time horizons, even the highest-performing salespeople focus mainly on incremental sales, resulting in a decrease in sales of higher-value-added and higher-margin products, thereby hurting firm profits.

3 - Optimal Scheduling of Field Service Personnel with Stochastic Service Times

Vamsi Kanuri, University of Miami, 501 Kosar Epstein Bldg, School of Business Administration, Coral Gables, FL, 33146, United States, vkanuri@bus.miami.edu, Christos Zacharias

Service providers such as internet companies (e.g., Comcast) and cable operators (e.g., DIRECTV) regularly deploy field agents to fulfill a variety of service tasks (e.g., activation, installation, troubleshooting etc.). One of the challenges confronting these firms is the stochastic nature of the service times associated with the pre-assigned tasks. For instance, service tasks are typically pre-assigned to field agents in blocks of 30 minutes. However, for a variety of reasons, field agents could take longer than the scheduled time to complete the task, thereby inducing a delay in their subsequent jobs. Such delays can significantly affect customers and hurt brand image as they can cause customer dissatisfaction, instigate negative word of mouth and, in some cases (e.g., new customers), result in defection or churn. Similarly, customers could also cancel or postpone the job at the very last minute or refuse service when the agent arrives at the job site. While such last minute cancellations, which we refer to as "no-shows," add to the uncertainty in service times, they also increase the idle time of the service agents, thereby costing money for the firm. Moreover, no-shows bear an opportunity cost as the slot could have been better used to satisfy the needs of another customer. In this paper, the authors build a decision support model that can help service firms address the problem of optimally scheduling field service personnel in the presence of stochastic service times. A multi-server queueing model is proposed to capture the random evolution of the workload of a team of service personnel throughout a shift, based on which recursive expressions of the performance measures of interest are derived. Subsequently, the optimal schedule is formulated as the solution to an integer stochastic program. The authors finally present a sample application that leverages data from an internet service provider and discuss optimal scheduling strategies.

■ FD11

Fertitta Hall, 316, 3rd Floor

New Product Diffusion: Social Influence I

Contributed Session

Chair: Masataka Yamada, Nagoya University of Commerce and Business, 149-773 Takenoyama, Iwasaki-cho, Nisshin-shi Aichi-ken, 470-0131, Japan, myamada@phd.stern.nyu.edu

1 - Peer Effects and the Spatio-temporal Diffusion of Hybrid Electric Vehicles

David Keith, Assistant Professor of Management, MIT Sloan School Of Management, 100 Main St, Room E62-438, Cambridge, MA, 02142, United States, dkeith@mit.edu, Jeroen Struben, John D. Sterman

New products and ideas often exhibit heterogeneity in spatio-temporal diffusion, including spatial clustering at multiple scales. In the automotive market, adoption of the Toyota Prius hybrid electric vehicle is far higher on the US West and East coasts than in the Midwest; adoption clusters are also observed at the city scale. Does heterogeneity in adoption arise from differences in local conditions and adopter preferences, such as gasoline prices, affluence and political affiliations? Or are endogenous social influence processes also important? The answer conditions the design of marketing strategies and policies to promote the adoption of pro-social innovations. We use an instrumental variables strategy to estimate the influence of peer effects in the diffusion of the Toyota Prius, leveraging state-level variation in government purchase incentives for hybrid vehicle adoption. Our results provide evidence of causal peer effects in the spatio-temporal diffusion of the Prius. Our findings suggest that policies and strategies intended to accelerate the diffusion of products such as hybrid electric vehicles should place greater emphasis on spatial and social dynamics.

2 - New Product Adoption with Observed Heterogeneity: Evidence from the Beer Industry

Shuo Zhang, Washington University-St Louis, 7561 Oxford Drive, St.Louis, MO, 63105, United States, shuozhang@wustl.edu, Tat Y. Chan, Seethu Seetharaman

Innovation is of vital importance for every company, as it generates growth and improves firm's competitive position. In this paper, we study the influence of a wide range of demographics and marketing factors driving people to try and frequently purchase the new products in the beer market. Compared to previous new product adoption studies that mainly focus on the first purchase of the new product, we consider both the trying stage and the adoption stage (frequently purchase after trying) for consumers and its implication for firm profit. While diffusion literature has the similar classification, most of them are silent about what factors drive consumer decisions, thus how can firms improve their revenue based on these factors. Utilizing a rich market scanner dataset with individual level data, we apply a two-stage probit model to study how the observable heterogeneity in the beer market including previous consumption patterns, novel new product attributes, marketing promotions can affect people's decision toward new product adoption. Our result shows that consumption pattern (beer consumption rate, previous favorite products) and marketing factors (price discount) substantially affect consumer's first purchase decision toward the new product, while the demographic variables have the higher weight during the adoption stage. We conduct several counterfactual analysis to study how the trying and adoption probability distribution will respond to price discount and advertisement. We find that, compared to offering the discount of the new product ubiquitously, it's optimal for the firm to dynamically price the product considering the difference between the trying probability and the adoption likelihood of the consumers.

3 - Developing an Organic Influencer Scale in ICT Environment and an Extracting Method of the Influencers

Masataka Yamada, Professor of Marketing, Nagoya University of Commerce and Business, 149-773 Takenoyama, Iwasaki-cho, Nisshin-shi Aichi-ken, 470-0131, Japan, myamada@phd.stern.nyu.edu, Toshihiko Nagaoka

We proposed newly born consumer influencers in the changing markets and consumers by the ever lasting progress of ICT. Not only it depends on the effort of the company which wants to make it widely available in an innovation diffusion process, but also it is the time when the consumers take the duty. We define these naturally born influencers as "Consumer Organic Influencers. This study proposes a method to make a scale to find the organic influencers and then a method to extract the high organic influencers. We analyzed the consumer review ranking system of Rakuten's shopping mall called the Reviewer Banzuke (= the ranking system of Sumo wrestlers in Japan) as an example. The reviewers are ranked into the Banzuke with undisclosed rules. Using correlational analysis between their Banzuke ranks and the 43 scale items of the representative scales of domain-specific innovativeness, Market Mavens, etc., we chose the top nine items for the scale from their correlation coefficients. In this study we first got Likert scale of nine items (5 points). This scale has the items of defending their favorite products and their shopping mall, in addition to the items of the extant influencer scales. Second, using cumulative logistic regression, we proposed the strategy that deletes the lowest rank which has a large number of people having good correct prediction rate in order to be able to estimate the model to extract the few persons of the highest rank. Third, while we could obtain a good prediction result of 34.4% as for the model with only the organic influencer scale, the extended model with the managerial and consumer attribute variables in addition could obtain a correct answer rate of 71.4%. Fourth, we have been able to suggest a simple way to extract the candidates of the influencers choosing persons with more than 36 scale point. Finally, as an unexpected conclusion, we learned that the binomial logistic regression is rather suitable than the multinomial ordered logistic regression for estimating the top category of ordered data of the pyramid structure having a few persons on the top.

■ FD12

Fertitta Hall, 322, 3rd Floor

Feedback Loops, Marketing Communications & Inequality

General Session

Chair: Catherine Tucker, MIT, 1 Amherst Street, E40-167, Cambridge, MA, 02142, United States, cetucker@mit.edu

1 - Algorithmic Bias? An Empirical Study into Apparent Gender-Based Discrimination in the Display of STEM Career Ads

Anja Lambrecht, London Business School, Regents Park, London, NW1 4SA, United Kingdom, alambrecht@london.edu, Catherine Tucker

The delivery of online ads has changed, so that rather than choosing to deliver advertising via a certain medium, instead within the same medium advertisers can choose which users their ads are shown to or allow an algorithm to pick the 'right' users for their campaign. In this paper we show initial data that suggests this shift in optimizing delivery based on cost-effectiveness can lead to outcomes consistent with apparent data-based discrimination. We show data from a field test of a social media ad for STEM jobs that was explicitly intended to be gender-neutral in its delivery. We show that women were far less likely to be shown the ad. This is not because they were less likely to click on it - if women ever saw the ad, they were more likely than men to click. We present evidence of the mechanism by which this apparent data-based discrimination occurs. The likelihood of showing ads to men rather than women does not reflect underlying factors which might bias the algorithm away from gender equity such as labor participation rates or female education within the country. Instead, it reflects the fact that younger women are a prized demographic and as a consequence are more expensive to show ads to. This means that an ad algorithm which simply optimizes ad delivery to be cost-effective, will deliver ads that were intended to be gender-neutral in what appears to be a discriminatory way, due to crowding out.

2 - The Effect of Review Position on Purchase Likelihood when Consumers have Limited Attention

Prasad Vana, London Business School, Sussex Pl Regents Park, London, NW1 4SA, United Kingdom, lvana@london.edu, Anja Lambrecht

Online product reviews are a powerful source of information for consumers. However, given the high number of online reviews available to consumers today, it is difficult for consumers to consider all review information similarly before making a purchase decision. We propose that this is the case even when search costs are low since consumers have extremely limited attention when looking at online product information. We use data from an online retailer that displays reviews by recency creating exogenous variation in review positions as newer reviews are added on top of older ones. We investigate the effect of a review's position on a consumer's likelihood to purchase in a context when search costs of accessing reviews are low. Our results suggest that reviews further down the product page garner less attention from consumers and hence affect purchase decisions significantly less than reviews listed on top of the page. We also find evidence in line with consumers' limited attention: the positional effects are stronger for reviews that likely add new information relative to the average evaluation of the product but are weaker when the purchase context demands high attention (shopping for high price products).

3 - Does IT Lead to More Equal or More Unequal Treatment? An Empirical Study of the Effect of Smartphone Use on Social Inequality

Catherine Tucker, MIT, 1 Amherst Street, E40-167, Cambridge, MA, 02142, United States, cetucker@mit.edu, Shuyi Yu

Information technology has been widely believed to be a contributor to the growing social inequality. However, it is possible that the digitization and automation of communication can mitigate a lack of education and thus mitigate

the social inequality. To investigate this we use rich data on the customer service complaints in the public sector. We analyze 521,161 opened during 2011-2015. We find empirically that cases opened in rich and well-educated areas are more likely to be solved quickly. This is linked with increased use of mobile and digital means of submitting complaints. Since the use of digital devices is endogenous to wealth and education, we instrument their usage using granular geographic data on the distance to the closest cell tower. After controlling for endogeneity in this manner, we find that the use of mobile applications can partially eliminate the disparity between rich and poor. We present suggestive evidence that this is because mobile devices and the standardization of communication they require, eliminates potential differences in treatment of cases that arise due to differences in communication skills. This result suggests that the use of information technology enhances social equality by helping less educated consumers.

4 - The Circularity of Marketing Communications in the Marketing Funnel: Evidence from a Field Experiment

Catherine Tucker, MIT, Cambridge, MA, 2London Business School, London, United Kingdom. cetucker@mit.edu, Anja Lambrecht

Classically the marketing funnel depicts a linear process whereby marketing communications help propel a customer towards the next stage of the funnel. We use evidence from a field experiment conducted by a large travel firm that a communications medium such as television affects behavior not just at the classic `awareness' stage but also affects post-purchase behavior and increases the possibility that consumers post reviews.

■ FD13

Fertitta Hall, 327, 3rd Floor

Promotion: EDLP

Contributed Session

Chair: Omid Kamran-Disfani, University if Missouri-Columbia, 402 Cornell Hall, Columbia, MO, 65211, United States, omid.kamran-disfani@mail.missouri.edu

1 - Groupon Fatigue: Search & Learning in a Daily Deals Site

Chu (Ivy) Dang, The Chinese University of Hong Kong, Hong Kong, dangchu@baf.cuhk.edu.hk, Mantian (Mandy) Hu, Pradeep Chintagunta

Daily deal fatigue refers to a phenomenon in which consumers get tired of deals from daily deal sites. Such "fatigue" if it exists, is a challenge faced by the daily deal industry which includes online sites such as Groupon and LivingSocial. In this project, we study consumer behavior in daily deal websites. For this, we utilize a proprietary dataset consisting of the complete clickstream within the browsing sessions of people who newly subscribed to the Groupon website between January and March 2011. The data reveal two patterns. First, we find the probability that a consumer clicks on a merchant in the emailed newsletter declines over time. This is consistent with the notion of fatigue. The second data pattern however reveals that the probability that the consumer makes a purchase conditional on clicking is actually increasing over time. Our objective is to propose a model that rationalizes these patterns and that will then help provide insights for companies to deal with the "fatigue". When consumers first subscribe they are unlikely to be fully informed about the quality of the deals mentioned in the daily newsletters. To learn more about the quality however, they need to click on the newsletter, go to the deal's website and invest time and effort to learn about the quality. Such a search for information therefore is costly for consumers. Given the uncertainty about quality and the cost of searching, consumers are more likely to search early on. As they learn about deal quality, there is less of a need to search which results in the decline in clicks over time. Further, the benefit from waiting to learn more about the deals also diminishes over time which results in an increase in the conditional probability of purchasing. We formulate a dynamic model of search and learning based on the above characterization of consumers' behavior. We show that the model is able to replicate the patterns in the data. Next, we estimate parameters and conduct Monte Carlo simulations to show the effectiveness of the model. Finally, we give managerial insights to daily deal websites based on our findings and policy simulations.

2 - Retailer Savings Weeks: The New Promotional Mantra?

Els Gijsbrechts, Tilburg University, Warandelaan, Tilburg, 5000LE, Netherlands, e.gijsbrechts@uvt.nl, Jonne Y Guyt

This study investigates the impact of large-scale promotional events - so-called "Savings Weeks" - in which grocery chains feature promotions across multiple categories simultaneously, under a common 'Savings' theme, and across several weeks (e.g. Kroger's "Cart Buster Savings Events"). Retailers have increasingly used such events in an attempt to boost their customer base and lift shoppers' spending at the store. Still, rigorous verification of the outcomes of these events was lacking. In an empirical analysis of 25 large-scale events by the four largest Hi-Lo Dutch retailers across a three-year period, we find that the fraction of consumers visiting the retailer during such a promotional event increases substantially (by up to 13%) and that, for the majority of events, average weekly spending at the focal retailer also goes up (by up to 10%) at the cost of visits and expenditure elsewhere. We find the store visit effects to be strongest for non-primary customers, while the absolute spending increase is largest for regular store visitors. Due to their recurrent character, the events give rise to modest lead effects (i.e. to a small degree consumers postpone their visits or spending prior to the event). In addition, consumers have a lower propensity to re-visit the store after the promotional event, and spend slightly more than average in post-event weeks. Retailer implications are discussed.

3 - Spatial and Strategic Asymmetries: The Role of the Idiosyncratic Local Market Structure on Pricing Strategies

Rahul Govind, University of New South Wales, 3012 Quadrangle Building (Marketing), UNSW - Sydney, 2052, Australia, r.govind@unsw.edu.au, David S. Lie, Ashish Sinha

Location is one of the most essential (if not the only) factors that affects the survival of the business. Our research incorporates the location coupled with the pricing strategy (Everyday Low Price (EDLP) vs. Promotion (PROMO) channel) to explain the grocery demand. A multi-variate spatio-temporal mixed model is utilised, incorporating the spatial lattice that allows to effectively capture the effect of location. The dataset originated from the United States grocery and supermarket data for 2012-2013 (which includes Target and Walmart). Preliminary results show the variation exists among different location even after accounting for socio-demographic background, price and product variants. From the competition perspective, we find that a PROMO store tends to compete with other PROMO stores. However, an EDLP store tends to compete with both EDLP and PROMO stores. PROMO and EDLP store are preferred in the densely and sparsely populated areas respectively.

4 - Not Always on the Menu: The Impact of Product-based Limited Time Offers on Sales

Omid Kamran-Disfani, University of Missouri-Columbia, 402 Cornell Hall, Columbia, MO, 65211, United States, omid.kamran-disfani@mail.missouri.edu, Murali K Mantrala, Vamsi K Kanuri

Not always on the menu: The impact of product-based Limited Time Offers on sales Product-based Limited Time Offers (LTOs) are specific menu items that are offered by restaurants for a limited time period. Unlike regular/core menu items that are always available to customers, managers decide how often to add LTOs to their menus, how long to keep them available for purchase by customers, and whether or not to offer them in the future. Although price-based promotions (percentage off, coupons, BOGOs etc.) have been studied extensively in marketing literature, no study to date has investigated the impact of LTOs on restaurants' sales. Using a unique data set consisting of close to 10 million transactions from 126 restaurants of a large quick service restaurant chain over a two-year period, the authors examine (1) How LTOs affect sales in both short term and long term? (2) how price-based promotions affect sales in short-term and long-term? (3) whether LTOs help or hurt price-based promotions? And (4) How the effect varies across customer segments (loyal/frequent vs. non-loyal/infrequent customers)? The results suggest specific strategies as to how LTOs and price-based promotions can be utilized to attract different customer segments and increase sales from each segment. Moreover, the short-term and long-term effect of LTOs and price-based promotions are discussed.

■ FD14

Fertitta Hall, 328, 3rd Floor

Marketing & Finance 8: Loans, Lending, & Savings

Contributed Session

Chair: Wanqi Huang, Carnegie Mellon University, Tepper School of Business, Ponser 240A, Pittsburgh, PA, 15213, United States, wanqih@andrew.cmu.edu

1 - Bonus Induced Durable Goods Consumption and its Unintended Consequence

Zhenling Jiang, Washington University-St Louis, 605 Leland Avenue, Apt 506, St Louis, MO, 63130, United States, zjiang26@wustl.edu, Tat Y Chan, Dennis Zhang

With a large scale panel data from around 23 million consumers, we study people's durable goods consumption response to bonus payment. We identify a significant and economically meaning increase in auto loan origination around the time when consumers get a bonus. The increase is larger for consumers who do not have a bonus in the previous year, in which case the bonus may be unanticipated. The origination effect is robust across different income and credit groups. However the origination effect has some unintended consequences. The default rate for the auto loans that are originated right around bonus is higher, after controlling for consumer credit score, location and month of origination.

2 - A Dynamic Structural Model of Mental Accounting

Nicholas Pretnar, PhD Student, Carnegie Mellon University, 5000 Forbes Ave., Pittsburgh, PA, 15213, United States, npretnar@cmu.edu, Alan Montgomery, Christopher Olivola

Consumer purchases, deposits, and transfers, as recorded by their bank, provide a rich source of information about how consumers categorize savings and expenditures. This information has the potential to provide better insights into consumers' financial behaviors, allowing banks and financial services companies to develop new products to help customers meet their financial goals. We develop a dynamic, structural economic model of mental accounting that can be estimated with latent-variable inference methods on agent-level transaction data. In each period consumers choose their consumption expenditures over a finite number of categories -- i.e., mental accounts -- and plan for future consumption by infrequently re-evaluating these mental accounts for consumption-category expenditures and balance holdings. Dynamic consumption decisions are affected by consumers' most recent spending habits relative to their pre-determined, implicit mental account budgets. Simulations show that structural preference parameters dictate the degree to which consumers exhibit loss aversion with respect to spending over or under their pre-planned mental account budgets. The model shows that with strong mental accounting, expenditure balances across different mental accounts are not equally fungible, consistent with previous findings. Our model adds to the literature two-fold: first, we show that depending on consumer preferences, mental accounting can induce either lower or higher levels of savings than the standard economic dynamic consumption-savings model would predict; and second, we show that consumers are more price-sensitive as expenditure approaches the pre-set mental account limit. The model is the first of its kind, that we are aware of, that can empirically test if consumers engage in mental accounting with respect to categorized consumption expenditure. Using our framework researchers can also infer the frequency with which consumers evaluate and update their implicit mental account budgets. We illustrate this with an empirical application to financial transactions.

3 - Credit Card Text Alerts and Spending Behavior

Jikyung Kim, Assistant Professor, IE University, Campus de Santa Cruz la Real, Cardenal Zúñiga, 12, Segovia, 40003, Spain, jeanne.kim@ie.edu, Yeohong Yoon, Jeonghye Choi, Dilip Soman

Previous studies show that the method of payment can influence spending behavior. When using credit cards, consumers tend to buy more items, spend higher amount, and tip larger, as compared to using cash. However, receiving feedback or reminders could mitigate this effect. Our study investigates whether text messages sent by the credit card company after each time the card is used, a service intended to prevent credit card fraud, incidentally affect the spending amount of the credit card user. To test our hypothesis, we use the data collected during an implementation of a natural field experiment, in which a major credit card company started sending fraud alert text messages to a group of their customers. Comparing the monthly spending amount before and after the implementation, we find that, in contrast to prior work, the group which started to receive the reminder text increased their spending. Moreover, this effect persisted long after the implementation (over a year). The effect differs across customer groups segmented by initial spending: low initial spenders showed the greatest effect of monthly bill increase after the implementation. Our study implies that the financial service firms can benefit from providing consumer-oriented services without compromising profitability.

4 - Can Bad Firms Benefit Good Firms? Evidence from P2p Lending Platforms in China

Wanqi Huang, Carnegie Mellon University, Tepper School of Business, Ponser 240A, Pittsburgh, PA, 15213, United States, wanqih@andrew.cmu.edu, Xiao Liu, Kannan Srinivasan

Peer-to-peer lending platforms are promoted as financial technology innovations that can offer lower rates to borrowers and reduced risk to investors. However, from 2009 to 2015, more than one thousand out of the three thousand peer-to-peer lending firms in China have gone bankrupt. We find that after the investment turmoils, investors prefer loans with lower interest rate than before. As a result, the "good" firms that survived benefited from the "bad" firms that collapsed because the good firms could offer lower interest loans afterward. The paper provides empirical evidence for this phenomenon. We also set up a game theory model to show that the firms interest rate choices can be sustained in a perfect Bayesian Nash equilibrium.

■ FD15

Fertitta Hall, 331, 3rd Floor

CRM: Customer Satisfaction

Contributed Session

Chair: Albert Valenti, Boston University, 595 Commonwealth Ave., Boston, MA, 02215, United States, albertv@bu.edu

1 - Customer Management: A Framework for Integrating Customer Portfolio and Individual Customer Perspectives

Cleo Schmitt Silveira, Federal University at Rio Grande do Sul (UFRGS), Rua Barao Uba 469 Apt 201, Porto Alegre, 90540-090, Brazil, cleo.ssilveira@gmail.com, Rodrigo Heldt, Fernando Bins Luce

We developed a customer management framework that includes risk assessment enabling managers to have a holistic evaluation of customer portfolio and to drill down into a customer individual evaluation. By providing the integration of portfolio and individual perspectives, the framework enables managers to better allocate marketing resources by: (a) increasing efficiency of the customer portfolio, through its optimization, and (b) identifying customers that are more likely to bring profit in the future, through the customer lifetime value (CLV) model developed. In the optimization proposed, we adapted financial portfolio theory to customer management by including specific marketing constraints to ensure the feasibility of the recommended portfolios of customer segments and to guarantee the desired overall profitability. Furthermore, we estimated return based on Seemingly Unrelated Regressions and we used two proxies for risk: variance and Conditional Value at Risk. In relation to the CLV estimation, we developed a individual migration model based on customer specific transition probabilities and returns. The heterogeneity of the Markov matrix was reached with a convex combination of the general transition matrix and the customer personalized matrix. The suggested framework was empirically tested in a large company (140,000+ customers) of the financial services industry. The portfolios suggested by the optimization performed consistently better in terms of profitability and efficiency. Concerning the CLV model, compared to a recognized migration model used as starting point for our proposal, it not only allowed the estimation at the individual level, but also increased the precision of forecasts and of customer ranking. Thus, moving from a customer to portfolio evaluation that integrates the individual perspective, enables a globally optimal solution for the company that considers the return and risk expected from customers and drives an efficient customer prioritization.

2 - Effect of Service Quality Management on Service Delivery in the Aviation Industry

Reuben Njuguna, Lecturer, Kenyatta University, 43844, Nairobi, 00100, Kenya, njuguna.reuben@ku.ac.ke

As business conditions continually change, mid-market enterprises are forced to constantly realign their business strategy to maintain profitability and growth, and often faced with the increased infiltration of companies that offer equal satisfaction levels to customers in the market. Competition in the aviation industry demands organization to continuously seek means to gain customer loyalty. Companies measure customer satisfaction, and hope that if the satisfaction scores are good, the customers will stay with the firm. This research adopted a crossectional descriptive research design. The target population of this study was 130 staff working at Etihad Airways. A sample of 65 staff members were drawn from a total population of 130 working in Etihad Airways. Descriptive statistics were used to summarize the properties of the mass data. Inferential statistics were derived using multiple regression analysis. The findings revealed that customer segmentation affects service delivery at Etihad Airways Kenya to a great extent and that the most basic and often used method of segmenting a market is demographic approach. The study thus concludes that customer segmentation results in improved service delivery if the people inside the certain group are similar but at the same time differing from the target group of the competitors. Conclusions are drawn that in order to improve service delivery, an organization must be in a position to improve its productivity. To achieve this organization must ensure quality-improvement programs are put in place so as to deliver and continuously enhance the benefits desired by customers.

3 - The Impact of Customer and Employee Satisfaction on Sales and Upselling: Role of Synergy and Heterogeneity

Albert Valenti, PhD Candidate, Boston University, 595 Commonwealth Ave., Boston, MA, 02215, United States, albertv@bu.edu, Shuba Srinivasan, Gokhan Yildirim

Examining the impact of customer and employee satisfaction on firm performance has been a main area of interest for marketing practitioners and academics alike. The availability of new cross-sectional and longitudinal data enables firms to make improved predictions of firm performance. While many academic papers have focused on customer satisfaction, little work so far has taken an integrative perspective on both customer and employee satisfaction with a panel approach. Our paper differs from previous literature in both research objective and application. We jointly model customer and employee satisfaction which allow us to be the first ones, to the best of our knowledge, to examine synergies between them. We estimate our models on a dataset from rental company. The dataset contains all the rental transactions for a period of over two years for more than 400,000 customers, both leisure and business. The objectives of this paper are to (1) quantify the effects of both customer and employee satisfaction on sales and upselling, (2) examine the synergies between customer and employee satisfaction, (3) evaluate which factors moderate these effects, and (4) assess the proportion of sales and upselling variation that is explained by differences in location, customer, and time. To answer these research questions, we employ hierarchical linear models and cross-effects models.

■ FD16

Fertitta Hall, 414, 4th Floor

Advertising & Consumer Behavior I

Contributed Session

Chair: Boonghee Yoo, Hofstra University, Hofstra University, 131 Weller Hall, Hempstead, NY, 11549, United States, mktbzy@hofstra.edu

1 - Do Low Involved Brands Have Better Consumer Perception Due to Product Placement in Emerging Markets

Rajesh Kumar Srivastava, Professor and HOD, Sydenham Institute of Management, 2/9/12 Bluemoon, Bhawani Nagar, Mumbai, 400059, India, srivastava@vsnl.net

Do low involved brands have better consumer perception due to product placement in emerging marketsThe purpose of this paper is to examine the role of the product placement in the film on purchase intention, attitude and change in perception. For this study, we selected recently released film and interviewed the film goers after he came out of the theater through intercept technique. The products have improved brand recall, perception, and brand recommendation, "feeling" towards brands, association and purchase intentions which are our dependent variables in our study. Brand image, country image, value for money and culture affects these dependent variables as per our present study. Low involved products get more mileage from product placement.

2 - Measuring Addressable Advertising'S Impact: Receptivity Among Consumer Audiences

Boonghee Yoo, Professor of Marketing, Hofstra University, 131 Weller Hall, Marketing and IB Dept. Hofstra Univ, Hempstead, NY, 11549, United States, boonghee.yoo@hofstra.edu, Veronica McMahon

Today, television advertising is becoming more sophisticated with the use of addressable, or targeted, advertising. With addressable advertising, television ads can be targeted specifically to consumers based on their geographic, demographic or behavioral attributes. The purpose of this research is to ascertain whether consumers are more likely to view commercials that are targeted to their interests, whether they are more likely to be receptive to the ads message and to identify key categories with the greatest likelihood of tune in success. Knowing more about consumers' receptivity to addressable advertising will help generate sales leads and will help media buyers understand the impact of their media buys to fine tune their plans. To help understand the impact of addressable advertising and determine the efficiencies created, the authors studied the attitudes and behavior of viewers to exposed addressable ads. This study utilized a cross sectional data collection methodology, utilizing an online survey to collect data on participant's exposure and reaction to a range of 3-9 commercials. 280 responses were collected. The analysis found that addressable advertisements generated higher ad attitudes, ad utilitarianism and brand attitude scores and increased viewers' likelihood to take action. These findings suggest that television advertisers can reap significant added value to their campaigns by adjusting their media buys to include more addressable ads.

3 - The Impact of Symbolic Advertising and Symbol Affinity on Consumers' Ad Processing and Evaluations

Eliza K. Pott, Goethe University Frankfurt, Theodor-W.-Adorno-Platz 4, Frankfurt, 60323, Germany, epott@wiwi.uni-frankfurt.de, Jan R. Landwehr

Symbols and metaphors are important concepts in many research fields but particularly in the field of advertising (e.g., McQuarrie & Mick, 1996). Enriching advertising with symbolic ad elements is one effective way to provide products or brands with meaning. Such symbolic advertising does not make direct claims, but rather emphasizes on abstract brand or product features (e.g., Aguirre-Rodriguez, 2014). The current research examines some of the key features of symbolic advertising that contribute to its success. We propose that symbols ease the processing of ad messages, and consequently enhance ad liking and cognitions, and downstream marketing outcome (MO) variables. We conducted three studies to test these assumptions, manipulating the ads' valence, abstractness, and a hint to the ads' symbolic meaning. Study 1 indicates that consumers prefer high- compared to low-symbolic ads, and that positive symbols outperform negative ones. Study 2 reveals that high- compared to low-symbolic ads increase liking and MO, and that symbolism marginally interacts with abstractness. Study 3 shows that hints positively influence consumer responses toward high-symbolic ads. Our studies contribute to marketing research and practice by offering an investigation of a variety of symbols in different advertising settings. Furthermore, we compare real-life with standardized ads and consider different product categories. Finally, we develop the Symbol Affinity Scale to capture the proneness to symbols in advertising by measuring liking and experiencing of symbolic ads.

■ FD17

Fertitta Hall, 416, 4th Floor

Brands, Retailing, and WOM

General Session

Chair: Pianpian Kong, University of Rochester, 60 Crittenden Blvd, Apt 1318, Rochester, NY, 14620, United States, pianpian.kong@simon.rochester.edu

1 - Putting the Horses before the Cart: Harnessing the Power of Partner Brands

Pianpian Kong, University of Rochester, 660 Crittenden Blvd, Apt 1318, Rochester, NY, 14620, United States, pianpian.kong@simon.rochester.edu, Paul Ellickson, Mitchell Lovett

In many platform industries, the brands of tied goods are an important factor in consumers' platform adoption decisions. Well-known brands are associated with greater familiarity and higher perceived quality, and hence when available as a tied good, are likely to increase the expected value of using the associated platform. In this paper, we study the impact of tied good brands on new platform adoption using data from the US single-serve brewer-coffee industry. A key aspect of this industry is that the platform provider, Keurig, aggressively pursued partnerships with existing well-known brands in the adjacent ground coffee category to introduce branded K-Cup coffee. We aim to identify the most influential brand attributes that drive platform adoption and shed light on the benefit to the platform provider of partnering with big brands. To do this, we propose and estimate a structural model that jointly considers demand for brewers and coffee. We exploit a unique feature of our setting -- the existence of established brands in the adjacent coffee category -- as a source of exogenous variation to identify the impact of tied goods on platform demand, providing an innovative solution to the simultaneity issue in platform-tied-good demand estimation. We find that K-Cup brands have a strong influence on Keurig platform adoption, brands are highly heterogeneous in their impacts, and retail distribution and brand equity shape how much a brand contributes. Our results deliver managerial implications on how to develop tied goods and identify beneficial partnership opportunities.

2 - Competition Among Retail Formats

Chaoqun Chen, Northwestern University, Kellogg School of Management, 2001 Sheridan Road, Evanston, IL, 60208, United States, c-chen@kellogg.northwestern.edu

In this paper, I study how households allocate their budget for food and related items across different types of retailers. I construct a structural demand model that coherently characterizes both consumer expenditure and expenditure allocation among six retail formats. The model considers how price and assortments influence expenditure allocations. To illustrate how my demand model can be applied in practice, I consider a situation faced by discount stores like Target, during the Great Recession. In 2008, discount stores experienced a loss in share to other retail formats like warehouse clubs. I use my model to examine two different policies that discount stores could use to compete with other retail formats. First, I consider whether discount stores should compete by lowering prices. Second, I evaluate the effectiveness of introducing a new retail format that has smaller assortments. I find that introducing a small-size format is relatively more effective than competing with lower prices.

3 - There's No Free Lunch Conversation: The Effect of Brand Advertising on Word of Mouth

Linli Xu, Assistant Professor, University of Minnesota, Minneapolis, MN, 55455, United States, linlixu@umn.edu, Mitchell Lovett, Renana Peres

Practitioners have a widely-held belief that brand advertising strongly influences the volume of word of mouth (WOM) the brand receives, yet academic research on the topic is scarce and shows mixed results. We examine the relationship between monthly Internet and TV advertising expenditures and the total (offline and online) WOM for 538 U.S national brands across 16 categories over 6.5 years. We find that the average implied advertising elasticity on WOM is 0.016 for TV, and 0.010 for Internet, both of which are small relative to the existing estimates. Even the categories that have the strongest implied elasticities are only as large as 0.05. Although ads are mentioned in brand conversations (e.g., an average of 10% of brand conversations mention TV ads), these ads appear to trigger very few additional conversations. Furthermore, individuals with many (10+) social ties generate approximately 50% more WOM than individuals with few ties, but individuals with few ties exhibit a stronger relationship between advertising and WOM. We discuss the implications of these findings for managing advertising and WOM.

■ FD18

Fertitta Hall, 417, 4th Floor

Consumer Behavior Emotion

Contributed Session

Chair: Songting Dong, University of New South Wales, School of Marketing, UNSW Business School, Sydney, NSW, 2052, Australia, dongst@gmail.com

1 - Peas in a Pod? Distinct Effects of Pride and Gratitude on Self – Versus Other-focused Appeals

Nitika Garg, Associate Professor, University of New South Wales, 3022, Lvl 3, Quadrangle Bldg., UNSW Sydney, 2052, Australia, n.garg@unsw.edu.au, Felix Septianto

Although dominant research on affect and decision making has traditionally viewed different positive emotions to be relatively similar to one another, an emerging research argues otherwise. In a series of six studies, the present research takes a step forward in reconciling the apparent conflict between the dominant, valence-based (positive vs. negative) and the emerging discrete, specific emotion based perspectives, by exploring the conditions under which pride and gratitude can lead to similar or divergent effects. Specifically, we find that pride and gratitude will be similarly effective in promoting self-focused appeals; however, gratitude will diverge from pride and differentially increase the effectiveness of other-focused appeals. Moreover, the differential effects of pride and gratitude are attenuated when the promoted products are hedonic rather than utilitarian, in nature. Further, differences in the appraisal of self-responsibility across pride and gratitude are found to mediate these emotion effects. Findings from this research are important both, theoretically and managerially. Theoretically, we not only establish the conditions in which pride and gratitude act as one, in line with their positive valence as well as those under which they act in a distinct manner; but also the underlying mechanism behind this phenomenon. Importantly, we provide evidence that gratitude has both others- and self-relevant implications, thus progressing from a one-sided view of gratitude as an others-focused emotion. Managerially, the findings are particularly important as they can help firms develop their marketing programs (e.g., sales promotion, advertising, cause-related marketing) by differentially highlighting the importance of specific positive emotion appeals.

2 - The Impact of Power on Reliance on Feelings in Decision Making

Hannah H. Chang, Associate Professor of Marketing, Singapore Management University, 50 Stamford Road #05-01, Singapore, 178899, Singapore, hannahchang@smu.edu.sg, Yunhui Huang, Jiewen Hong

Power refers to the asymmetric control over other individuals or valued resources in social relations. Results across six experiments support the hypothesis that states of high (vs. low) power increase consumers' relative reliance on feelings in making decisions. Specifically, we find that consumers in states of high (vs. low) power are more likely to prefer affectively (vs. cognitively) superior option (experiments 1 and 2) and rely more on incidental moods in product evaluations (experiment 3). We further demonstrate that enhanced confidence evoked by high (vs. low) power underlies the observed effect (experiment 4). Further, valuation of the decision outcome increases when high-power (low-power) consumers adopt a feeling-based (reason-based) decision strategy (experiment 5). Finally, compared to consumers in the state of low power, consumers experiencing high power are more likely to exhibit a characteristic typically attributed to affect, known as scope insensitivity (experiment 6). Our research contributes to the extant literature on power. While an extensive body of research on power investigates the behavioral and attitudinal consequences of power in a social context, this research examines how power may affect consumers' underlying decision-making process. Our research also adds to extant research on decision making by identifying a novel antecedent of feeling-based decision making. Finally, our research offers practical suggestions for designing advertising campaigns. For example, campaigns with largely emotional appeals might be more effective for a high-power target audience (e.g., high-level managers); in contrast, campaigns promoting mainly functional attributes of the product should better target an audience in states of low power (e.g., lower-level employees).

3 - The Impact of Emotionality of EWOM on Consumer's Purchasing Intension

Zhenhuan Shao, Tongji University, 9 West, 46 Guokang Road, Shanghai, 200092, China, vallenshao@163.com, Xin Zheng, Deyong Kong

The online shopping has undergone a significant shift over the past decade as a new purchasing channel. When making purchasing decisions, instead of collecting the word of mouth (WOM) from the offline, consumers are more and more accustomed to learning electronic word of mouth (EWOM) from the online communities such as e-commerce sites. With the rapid adoption of EWOM among consumers, although scholars have done great work mainly on how it affects consumer behavior physically, the mental effect of the emotionality of EWOM on consumer purchasing and its subsequent implications for online business managers and advertisers have yet to be understood. In this paper, the authors examine how EWOM with different emotionality influences consumer purchasing decisions based on simulated experiment, which suggests that (1) for experiential products, EWOM with greater emotionality generates stronger propensity for consumers to purchase despite of whether it's positive or negative, (2) for non-experiential ones, negative EWOM shows a stronger impact than positive one with same level of emotionality, and normally EWOM with greater emotionality better encourage or restrain consumer's purchasing intension according to the positivity or negativity of EWOM. At last, the authors also discuss the implications of the findings for business managers and advertisers.

4 - The Role of Emotions Across Different Industries

Songting Dong, Senior Lecturer, University of New South Wales, School of Marketing, UNSW Business School, Sydney, NSW, 2052, Australia, songting.dong@unsw.edu.au, John H Roberts, Elaine Saunders

Recent academic research and marketing practice in industry increasingly acknowledge the important role that emotions play in modeling consumers' purchase behavior. In this project, we are interested in finding out how this role varies across different industries; and what industry features are responsible for the differences. Using data calibrating emotions, collected by a leading market research firm, we investigate their role across a wide range of industries (22 in all). These industries vary on features such as purchase involvement, informative versus transformative needs (avoiding unpleasant outcomes relative to seeking for desirable outcomes), and hedonic versus utilitarian nature. Preliminary results demonstrate a large difference in the role of emotions across these industries. The importance of emotions relative to cognitions varies from a ratio 0.6 to 1.6 in our dataset.

■ FD19

Popovich Hall, 300, 3rd Floor

Meet the Editors II

Invited: NONE

Invited Session

Chair: Shantanu Dutta, University of Southern California, Department of Marketing, Los Angeles, CA, 90089, United States, sdutta@marshall.usc.edu

1 - Meet the Editors II
Shantanu Dutta, University of Southern California, Department of Marketing, Los Angeles, CA, 90089, United States, sdutta@marshall.usc.edu

Editors (or their representatives) from a number of major research journals in marketing will be available to answer questions about submitting papers and the review process.

1 - Journal of Consumer Research
Darren Dahl, University of British Columbia, Vancouver, BC, Canada, darren.dahl@sauder.ubc.ca

2 - Journal of Retailing
Murali K Mantrala, University of Missouri, 402B Cornell Hall, Columbia, MO, 65211, United States, mantralam@missouri.edu

3 - Journal of Interactive Marketing
Brian T Ratchford, University of Texas, Dallas, TX, United States, btr051000@utdallas.edu

4 - Customer Needs and Solutions
Min Ding, Pennsylvania State University, 408 Business Building, University Park, PA, 16802, United States, minding@psu.edu

5 - Journal of Consumer Psychology
Amna Kirmani, New York University, New York, NY, United States, akirmani@rhsmith.umd.edu

6 - JPIM
Shikhar Sarin, Boise State University, Boise, ID, United States, ssarin@boisestate.edu

7 - Marketing Letters
Peter Golder, Dartmouth University, Dartmouth, NH, United States, Peter.N.Golder@tuck.dartmouth.edu

Saturday, 8:30AM - 10:00AM

■ SA01

Fertitta Hall, 101, Lower Level

Retailing: Technology

Contributed Session

Chair: Andre Bonfrer, University of Queensland Business School, 506 Joyce Ackroyd Building 37, St Lucia QLD, QLD 4072, Australia, a.bonfrer@business.uq.edu.au

1 - The Effects of Self-service Technology Discontinuance on Customer Response Behavior
Ashish Kumar, Aalto University, School of Business, P.O. Box 21230, Helsinki, 00076, Finland, ashish.kumar@aalto.fi

Retailers are constantly balancing on the fine line of cutting operation costs and providing more multifaceted service environments. Self-service technologies (SSTs) such as self-checkouts (SCOs) have been saluted as the potential solution that enables achieving both, if managed effectively. While the general trend in retailing has been to increase the availability of SCOs, some retailers have recently discontinued their previously implemented SCO services for various reasons. SCOs being an integral part of the servicescape of many retailers, actions taken to either continue or discontinue their implementation are likely to trigger a certain response from the customers. However, little is known about the effects of such service discontinuance on customer response. In this study, the authors investigate the effects of SCO service discontinuance on three dimensions of customer response; purchase behavior, service evaluation, and service usability. In a natural experimental setting using longitudinal survey data from two distinct national grocery retail chains, the authors capture customers' response behaviors pre- and post-period of SCO service discontinuation by one of the retail chains. The empirical analysis causally demonstrates that discontinuing SCO service comes with undesired consequences, namely, decreases in basket size, customer satisfaction, prospective future use, and perceived simplicity of the service. On the other hand, the authors show that having such a service continuously available allows customers to gradually utilize the technology to a greater extent, which further contributes to perceived service usability and shopping enjoyment, and results in increased purchases. This study contributes to theory by unearthing the effects of retail SST discontinuance on customer behavior, and provides broad level implications to service discontinuance in general. The authors also provide managerial implications that retailers can use to support their decision making on SST implementation.

2 - Digitally Integrated Experiential Retail How Interactive Displays Increase Product Happiness
Dominique Braxton, PhD Student, University of California, Irvine, The Paul Merage School of Business, Irvine, CA, 92697, United States, dominique.braxton@uci.edu

With advancements in technology rapidly improving and influencing the way consumers shop, retailers are turning to tech-based atmospherics to positively engage the consumer in the physical retail environment. In the current research, I propose that technology integrated retail stores are experiential in nature, and thus benefit from the experiential advantage - experiential purchases result in greater happiness than material purchases - by increasing cognitive engagement in the decision making process, and ultimately product derived happiness. In particular, interactive retail displays encourage consumer engagement in the decision making process, which increases the value consumer's attribute to the chosen product, and the consumer experiences greater happiness from the product. The results of two online experiments confirmed my hypotheses. In both experiments, participants were randomly assigned to one of two conditions, an experiential condition, where participants saw an interactive retail display, and a non-experiential condition, where participants saw a static retail display. All participants were asked to imagine they purchased the product, and subsequently answered a series of questions. In experiment one, a mediational analysis showed that those in the experiential retail condition reported greater product happiness, and this effect was fully mediated by cognitive engagement in the decision making process. Results from experiment two further informed this relationship by showing that increased product value mediates the relationship between cognitive engagement and happiness. Together, these results contribute to the literature in marketing and customer experience by using the well-established experience advantage as a framework to understand the nuances of technology integrated retail stores.

3 - How Package Renewal Changes Consumer Product Purchase
Haruka Kozuka, Keio University Graduate School of Business and Commerce, 5-11-4-902, Shiba, Minato-ku, Tokyo, 1080014, Japan, haruka.11.kozuka@gmail.com

In the past decades, product package has paid much attention as one of the marketing communication tools. The background for this involves consumer's in-store behavior. Previous research show that a large part of consumers make purchase decisions in the store and suggests that it is very important for increasing product purchase to put an effort into instore promotion. Product package can gather consumer's attention and stimulate their sensibility and purchase intention. Therefore, manufacturers put a lot of thought into packages and replace with new ones. Sometimes package renewal brings a good result, but sometimes a bad result. The sale of Coca Cola after changing package shape became larger, but the sale of Tropicana changed package label became smaller. We have not known why the package is increased and decreased the sale, and what kind of package change affects to sale positively and negatively. Therefore, this study focuses on package renewal, especially "label change", "label and shape change", "shape change for increasing product amount", and indicates what kind of renewal influences on consumer purchase positively. In this study, we use purchase history data of some beverage brands and estimate generalized linear mixed model for considering consumer heterogeneity. From the result, "label change" and "shape change for increasing product amount" affect to consumer purchase negatively, but "label and shape change" affect positively. Also, these influences are different among consumer characteristics. In conclusion, it is efficient for increasing product purchase to replace with new package label and shape, but this efficiency is different among the consumer characteristics.

4 - The Effect of Plain Packaging of Tobacco Products on Sales
Andre Bonfrer, Professor, University of Queensland, St Lucia QLD, 4072, Australia, a.bonfrer@business.uq.edu.au, Pradeep Chintagunta, David Corkingdale, John H Roberts

The introduction of legislation to mandate the plain packaging of cigarette products in Australia presents an opportunity to assess the effects of one important aspect of the marketing mix, packaging, on both primary and secondary demand. In this paper we examine four aspects of the initiative; effects on the level of (1) category and (2) market segment sales and prices and also on the response of (3) category and (4) market segment sales to changes in price. These latter results form one important aspect to potential effectiveness of plain packaging from a public policy perspective, since the government indirectly asserts some control over price through excise taxes. We proceed by examining what we know about marketing mix effects (and in particular packaging), before looking specifically at econometric studies of the cigarette market and experimental studies manipulating package design. This gives us a number of hypotheses which we test by examining sales prior to and immediately after the introduction of the plain packaging measure. Addressing the problem of calibrating the effect of plain packaging presents a number of interesting econometric challenges, including controlling for history effects.

■ SA02

Fertitta Hall, 102, Lower Level

Online Search I

Contributed Session

Chair: Xiaomeng Chen, Georgia Institute of Technology, 300 Cityline Ave. NE, Apt. 538, Atlanta, GA, 30308, United States, xchen476@gatech.edu

1 - How Platform Firms can Accelerate Purchases: Insights from Consumer Search

Jessica Babin, University of Georgia, Terry College of Business, Athens, GA, 30602, United States, jlb91179@uga.edu, John Hulland, Anindita Chakravarty, Sara Loughran Dommer

Multisided electronic markets characterized by an intermediate platform firm linking buyers and sellers (e.g., eBay, Amazon), are an important part of online commerce. However, little research has explored whether the platform itself can play an active role in accelerating purchases beyond enabling interactions and/or transactions between active buyers and sellers. Platform firms that earn revenue through commissions do so when successful matches are made between buyers and sellers, so increased efficiency in this process benefits the platform, the buyer, and the seller. The current research addresses which consumer actions, as facilitated by the platform, shorten time until purchase, as well as whether the platform itself can take actions to accelerate purchase. To address these questions, a unique dataset provided by an apartment brokerage firm (i.e., a platform firm) that traces website search actions is used. This rich consumer search data of 16,015 customers who were successfully placed in an apartment allows insights into how actions taken by consumers and the platform can decrease time until purchase. This research contributes to the knowledge of platform firms as potentially active facilitators of buyer/seller connections, as well as managerial insights for platform firms.

2 - Filtering for Less or Browsing for More: Why Consumers Adopt Different Search Strategies

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We study online search and purchase data to investigate customers' three major searching strategies in the context of online shopping: searching within current choice sets (filtering), extending current choice sets, and a mixed strategy of the two. We find that customers' time constraints and the initial average prices observed by customers during their first search are the two contextual variables that influence the choice among the three search strategies. When customers have more time they tend to prefer the mixed strategy to the other two strategies. Customers who filter and customers who extend choice sets have no significant difference in decision time limit. Initial prices observed in each customer's first search are also associated with difference in search strategies. When customers observe lower average prices at the first search, they are more likely to filter. Customers who extend choice sets and customers who use the mixed strategy show no significant differences in observed initial prices. We find that initial prices also influence the decision of filtering or searching broadly in the same way within the mixed-strategy customers' decision journeys. We performed multiple tests and estimate a multinomial logit to study the relations between these contextual variables and the different search strategies. We also find that consumers adopting a mixed strategy have a higher average purchase rate than the other two groups of customers, and customers broadening the choice set end up with higher average purchase prices. We contribute to the literature by identifying contextual variables that influence customers' search strategies and uncovering the relation between search strategies and purchase decisions. Customers' personal characteristics can also play a role in affecting each customer's decisions of search strategies, however our data do not allow us to accurately measure these effects. We propose a future research direction of studying the effects of these personal characteristics on search strategies.Key Words: search, decision-making, consumer behaviour

3 - Search Cost for Price Information and Hotel Booking: A Large-scale Randomized Field Experiment in a Mobile App

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In this study, we explore how an increase in search cost for price information would affect consumers' behaviors of searching and booking hotels through a mobile app. We collaborate with one of the largest online travel search mobile apps in China and conduct a randomized field experiment involving over 1 million consumers. In the experiment, we hide the price information from the hotel search results for the treated group of consumers so that they can only see the price information after they click and browse a specific hotel. Based on the large-scale randomized field experiment, we find that when price information is hidden in the hotel search results, consumers browse more hotels and are eventually more likely to place a booking order. We also find that the average price of the browsed hotels is significantly higher, but the average price of the booked hotels remains unchanged. These findings suggest that a larger consideration set induced by higher search cost for price information increases consumers' propensity to place a booking order but does not affect the transaction price, even though the average price of the products in the consideration set is higher. One possible explanation is that consumers' propensity to place a booking order can be affected by the comparison of the focal product with alternatives in the consideration set in terms of their price and non-price attributes, but consumers' transaction price is more resistant to changes by such a comparison.

4 - Consumer Search and Choice under Limited Information

Qiang Zhang, Hong Kong University of Science and Technology, Marketing Department, Hong Kong, China, qzhangag@connect.ust.hk, Jun Beom Kim

Empirical models of consumer search typically assume that consumers are fully informed about key product attribute values prior to search. Conditional on such full information set, consumers search for remaining idiosyncratic match values. We challenge such an assumption on consumers' information set and develop an empirical model of search and choice that incorporates differential information sets during search and choice that are close to reality. A model of flexible information structure leads to rich behavioral features. First, the model can accommodate differential price sensitivities of search and choice: consumers make inference on unknown quality based on observed prices, and therefore are less price-sensitive under limited information during searches than during choices. Our model-free analysis shows that online consumers exhibit different price sensitivities during search and choice. Second, the model allows for heteroscedasticity in utilities across consumers and products. This translates into a rich consumer behavior in which consumers search for products with elevated levels of uncertainty. In our empirical application, we show that our differential information model outperforms the benchmark full information model in terms of model fit and prediction. Further, assuming full information when consumers are not can lead to biases in the estimation of model primitives. We apply the proposed model to microwave product category at Amazon.com. Our simulation study suggests that current practice of limited information provision at the online retailer has a significant effect on the market outcome compared to a hypothetical full information case.

■ SA03

Fertitta Hall, 105, Lower Level

Mobile Marketing: Adoption

Contributed Session

Chair: Meghan Pierce, La Salle University, 1900 W Olney Ave, Philadelphia, PA, 19141, United States, Piercem@lasalle.edu

1 - Going Mobile; The Effect of Mobile App Adoption on Customers' Multichannel Shopping Behavior

Rishika Rishika, University of South Carolina, Columbia, SC, United States, rishika@moore.sc.edu, Eunho Park, Joon Ho Lim, Ramkumar Janakiraman

As more and more retailers introduce mobile apps, firms are grappling with understanding the returns on their investments from this new channel. In this study, we assess the effects of the mobile app introduction by a multichannel retailer on customer behavior and investigate whether these effects differ across different customer specific factors. We exploit a unique setting in which we observe the introduction of a mobile app by a multichannel retailer and use individual customer transaction data to conduct a detailed empirical examination of the effects of the mobile app introduction on multichannel customer engagement behavior. To circumvent issues of endogeneity, we leverage our natural field experimental set up and cast our empirical analyses in the difference-in-differences modeling framework. The results of our study provide novel managerial insights that can help devise firm strategy in the digital landscape.

2 - Exploring The Usage of Touch Features and Their Impact on Engagement

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Touch has become an inseparable element of mobile platforms. This study explores the usage evolution of different touch features and examines the impact of various touch actions on customers' engagement with a mobile shopping app. We focus on three touch features that are common among shopping apps: touch to zoom in on a page, touch to view product details, and touch to be directed to outside links (resulting in a non-native experience). Consumers' browsing behavior and touch features in a free tablet-shopping app are collected after its initial launch. The results show that some touch features are entry-level and require less effort to learn and use than the others; and that consumers who are more adventurous regarding the usage of touch features during their initial app visit will learn faster and use touch features more often later on than those who are more conservative. In addition, touch is effortful and might predict engagement. We find that, despite the many benefits provided by touch, excessive use of touch features may be counterproductive, especially those features associated with the non-native browsing experience. Our research enriches the understanding regarding touch-feature usage on mobile platforms and generates insights as to the design of various touch features in mobile apps.

3 - A Multi-method Investigation of Millennial Mobile Marketing Acceptance

Meghan Pierce, Assistant Professor, La Salle University, 1900 W Olney Ave, Philadelphia, PA, 19141, United States, piercem@lasalle.edu, Pingjun Jiang

There is an emerging body of work examining mobile marketing acceptance among consumers (Shankar et al. 2010). These studies typically employ survey methodology and structural equation modeling with a focus on the Technology Acceptance Model (Davis 1989) and diffusion of innovation (Agarwal and Prasad 1998). More recently, Gao and colleagues (2013) moved beyond earlier technology-based conceptualizations to include consumer characteristics such as mobile phone attachment, risk avoidance and innovativeness in order to map antecedents of attitudes toward mobile marketing. Yet little research has explored more in-depth perspectives of mobile marketing acceptance. Of note, this work largely ignores individual-level nuances of culture, and instead examines culture at the country-level (e.g., Gao et al. 2013; Zhang, Zhu, and Liu 2010). This paper employs a mixed-method design to better understand factors influencing mobile marketing acceptance among American millennials. In Study 1, twenty millennial participants tracked their social media and mobile phone usage for twenty-four hours. After the tracking period, each participant wrote a self-reflection on their usage and on mobile marketing encounters. Reflections were coded for emergent themes with the assistance of the software Dedoose. We developed a semi-structured interview protocol based on a preliminary analysis of the emergent themes and relevant participant language used in Study 1. In Study 2, we conducted in-depth interviews with twelve participants. To complement the qualitative data from studies one and two, we developed a survey instrument including individual difference measures such as culture at the individual level, social influences, and mobile marketing awareness.

■ SA04

Fertitta Hall, 125, Lower Level

Social Media Sharing I

Contributed Session

Chair: Vishnu Menon, Reykjavik University, Menntavegur 1, Nautholsvik, Reykjavik, 101, Iceland, rgvishnu@ru.is

1 - For Whom to Tweet? Evidence from a Large-scale Social Media Platform

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We study the effects of peer-group sizes on content generating and sharing in a large-scale and influential social media platform. User-generated content, particularly tweets in social media, disseminates information and exerts social influence. However, 50% of the users in this platform post less than six tweets per month and contribute to less than 15% of the total tweets in stock, while the top 10% post on average 40 tweets a month and contribute to more than half of the tweets in stock. We attribute the highly unbalanced contribution to a user's conflicting incentives of free-riding and maximizing social influence. We exploit the asymmetry of a user's peer groups (followers and followees, groups of people following and being followed by the user respectively) to disentangle these incentives, and devise empirical strategies to deal with the endogenous formation of one's networks. We find asymmetric effects, both in signs and sizes, of followers and followees on content generating and sharing. A larger group of followers leads a user to tweet more, while a larger group of followees leads a user to tweet less. As the follower effects dominate the followee effects in size, our simulations indicate that the platform could increase the number of total tweets by 25% if it randomly adds 1% new links to existing links. Targeting occasional tweeters is even more effective in promoting the activeness of this social media platform.

2 - How Can Companies Get Their Social Media Campaigns Rebroadcast. The Role of Fit Between Online Contents and Corporate Fan Pages

Elisa Montaguti, Associate Professor of Marketing, University of Bologna, Department of Management, Via Capo di Lucca 34, Bologna, 40100, Italy, elisa.montaguti@unibo.it, Sara Valentini, Federica Vecchioni

Every day, brands post around 1.5 posts on Facebook posts to their fans, in the hope that people will share these contents with others. Nonetheless, 87% of posts to brand Facebook pages go unanswered (2015). To reduce this negative outcome and attract fans' attention companies post contents on their corporate pages that are not necessarily "congruent" with their brand. The question is if this strategy is effective and how brands can design social media campaigns to boost rebroadcasting activity. In this paper, we examine whether, how and why the degree of congruency (fit) between the online contents and the brand fan page affects sharing and how the impact of fit interacts with the presence of promotional activities. We empirically explore these questions using a multi-method approach. First, we document the existence and nature of a relationship between fit, promotions and rebroadcasting by analyzing posting activity of four international brands in electronics and beverages industries. Second, we design and implement a field experiment done in collaboration with Samsung, where we test four campaigns that vary in the degree of fit and provision of promotional incentives. Third, we conduct a post-test survey to investigate why we observe differences among the four campaigns. We find that the degree of fit between the online contents and the brand fan page positively affects the amount of rebroadcasting activity. Posts including promotional incentives generate less share, but this negative effect reverses when the post fits the brand page. The post-test analysis suggests that a social media campaign consistent with the brand with a promotional incentive succeeds in triggering shares because it decreases social media users' reactance and enhances altruistic motives.

3 - Consumer Social Sharing and Brand Competition

Jane Gu, University of Connecticut, 2100 Hillside Road, Unit 1041, Storrs, CT, 06269, United States, jane.gu@business.uconn.edu, Xinxin Li

This study investigates how modern consumers' social sharing activities on digital platforms such as Facebook and Instagram affect consumers' product choice decisions and market competition. We consider two consumer social sharing behaviors with identity revealing consequences. First, modern consumers commonly publicize on social media their associations with products of distinct brand images, which has the effect of suggesting their identities to the public. Such identity suggestion allows consumers to derive a social utility in addition to the consumption utility from buying a branded product, although identity suggestion based on product association may also cause misidentification and consequently a social loss. Second, modern consumers can also publicize their opinions on social media, which has the effect of directly announcing their identities to the public. Such identity announcement allows consumers to derive a social utility even if they do not buy any product. Our analysis shows that consumers' identity-revealing social sharing behaviors affect firms at different competition status differently. Compared to the case of no social sharing, when consumers publicize product associations on social media, the social utility they derive from identity suggestion allows the firm with a large loyal segment to obtain a greater profit. The firm with a small loyal segment, however, can be worse off when its loyal segment is not too large or too small and the premium in a product's loyal customers' willingness to pay over that of switchers is not too high or too low. When consumers publicize opinions in addition to product associations on social media, the social utility consumers derive from direct identity announcement attenuates the positive impact of identity suggestion on firm profit, and may also reduce the negative impact of identity suggestion. The incremental effect of direct identify announcement depends on the effectiveness of such announcement in revealing consumers' true identities.

4 - From Likes to Shares: Factors Influencing Consumer Engagement Behaviors on Facebook and Twitter

Vishnu Menon, Post-doctoral researcher, Reykjavik University, Menntavegur 1, Nautholsvik, Reykjavik, 101, Iceland, rgvishnu@ru.is, Valdimar Sigurdsson, Herborg Sørensen, Helena Gunnars Marteinsdóttir, Asle Fagerstrøm, Gordon R. Foxall

Firms are increasingly using social media for marketing communications, either directly or through shared consumer-to-consumer interactions related to the brand. Furthermore, reactions and popularity on social media aid customer intelligence and strengthen the content strategy and implementation. In this article, we investigate the determinants of consumer brand engagement on Facebook and Twitter for an international airline. Facebook fan page posts published between 2011 and 2015 (242 posts), and Twitter posts from 2012 to 2016 (143 tweets) were collected, categorized and analyzed based on their design and content. The design aspects included the vividness and interactivity of the posts, and post contents used were categorized into "informative", "entertaining", "promotional", and "social" posts. The impact of different post types on consumer engagement such as "likes", "comments/replies" and "shares/retweets" were examined. The results show that an "entertaining" content is a key determinant of online consumer brand engagement in both social media platforms. The study points out the distinct differences between consumer brand engagement in the two of the biggest social media platforms and thus provides a guide for academics and marketers detailing the design and content that could be used in building a content strategy on Facebook and Twitter.

■ SA05

Fertitta Hall, 233, 2nd Floor

User Generated Content & Social Influuence

Contributed Session

Chair: Joon Ro, Tulane University, 7 McAlister Dr. Room 548, Tulane University, New Orleans, LA, 70118, United States, jro@tulane.edu

1 - The Power of Words: A Speech Act Analysis of the Effect of Word of Mouth on Online Ratings

Clarissa Spiess-Bru, Paderborn University, Paderborn, Germany, clarissa.spiess.bru@uni-paderborn.de, Daniel Kaimann, Bernd Frick

A large number of studies have examined the impact of word of mouth on portals such as Amazon or eBay and have shown a correlation of online reviews and product sales. In addition, sentiment analyses have studied expressions in reviews by analyzing both, the content and the style of these reviews. However, most of these studies oversimplify the reviews' linguistic content causing misleading implications. Thus, we extend existing review and sentiment studies by focusing on a pragmatic analysis of speech acts. Following Austin and Searle's (1976) speech act theory, we identify four illocution classes that describe the underlying (communicative) intention of the speaker or consumer, i.e., a guess, a promise, the expression of a mental state or a recommendation. Using data from Amazon Instant Video, we analyze 583,933 online reviews posted between August 1999 and October 2013 focusing on the analysis of direct, explicit performative speech acts reflecting speech act verbs as signs of illocution. We find clear evidence to suggest that expressive and directive illocution verbs have a significantly positive influence on online ratings, which outweighs that of commissive and assertive illocutions. In contrast, commissive and assertive illocutions are perceived more helpful by consumers in the buying decision process. We additionally find that the chronological order of the illocutions classes has a significant influence on ratings. Specifically, we find that the illocution orders 'directive, expressive, directive' and 'directive, expressive, assertive' have a significantly negative influence on online ratings, which outweighs that from all other existent illocution orders.

2 - Influencing the Influencers: Bandwagon Effect of Online Product Review Behaviour

Shah Snehal, Professor and Head of Research, SPJIMR, Mumbai, India, snehal.shah@spjimr.org, Ashish Kumar Jha

Extant research has widely studied the impact of online product reviews on sales with most studies finding it as a significant e-WOM tool influencing outcomes. Given this importance, we study a hitherto unstudied area of antecedents of sentiments in user reviews. Majority of research in this domain assumes reviews are dependent only on users' personal experience. Our study challenges this assumption. This paper brings different strands of literature from Marketing, Information Systems and Organization Behavior together. We assess the impact of bandwagon effect on reviewers' choice to write a review based on positive and negative sentiments triggered by the cognitive appraisal process of prior online reviews. We use experimental method and qualitative analysis to understand users' review writing behavior. The experiment exposes subjects to product experiences and differing sets of prior reviews written online in an attempt to identify users' review writing behaviour. The study also includes sentiment analysis of thousands of data points scraped from 'amazon.in' and 'amazon.com' for multiple products. This allows us to build on the behavioral insights from experiments about the pattern of change of sentiments over a large dataset collected from real world e-commerce portals. One of the preliminary findings suggests writers tend to veer towards extreme reviews in absence of any prior reviews. Additional findings are interesting and some are counter intuitive. Our study has enormous implications for online firms, to the extent, their marketing departments can potentially influence the generative process of online reviews thereby producing the desired bandwagon effect in their favor.

3 - Estimating the Impact of User Personality Traits on Word-of-mouth: Text-mining Microblogging Platforms

Panagiotis Adamopoulos, Assistant Professor, Emory University, Atlanta, GA, United States, padamopo@umn.edu, Anindya Ghose, Vilma Todri

Word-of-mouth (WOM) plays an increasingly important role in shaping consumers' online behavior and preferences as users' opinions and choices are frequently shared in social media. In this paper, we examine whether latent personality similarity between social media users can accentuate or attenuate the effectiveness of WOM leveraging data mining and machine-learning methods and the abundance of unstructured data in social media in combination with a novel quasi-experiment and advanced econometric techniques. Specifically, we study whether latent personality characteristics of users are associated with the effectiveness of WOM from purchases in social media platforms and can predict their online economic behavior. Our analysis yields two main results. First, there is a positive and statistically significant effect of the level of personality similarity between two social media users on the likelihood of a subsequent purchase after exposure to WOM. In particular, exposure to WOM messages from similar users in terms of personality, rather than dissimilar users, increases the likelihood of a post-purchase by 47.58%. Second, there are statistically significant effects of specific pairwise personality characteristics on WOM effectiveness. For instance, users with low levels of extraversion are responsive to WOM, in contrast to extrovert users. In addition, WOM originating from users with low levels of emotions range affects similar users whereas for high levels of emotional range increased similarity has usually the opposite effect. By examining these effects and illustrating how companies can leverage the abundance of unstructured data and tap into users' latent personality characteristics, our paper provides insights regarding the future potential of social media advertising and advanced micro-targeting based on state-of-the-art machine-learning and natural language processing approaches.

4 - Measuring the Impact of Biases in Online Reviews on Consumers' Usage of Online Information

Joon Ro, Assistant Professor, Tulane University, 7 McAlister Dr. Room 548, Tulane University, New Orleans, LA, 70118, United States, jro@tulane.edu, Burcu Tan

When consumers form expectations about a product's quality based on online reviews, they may experience a discrepancy between their expected and actual enjoyments in consumption (e.g., feeling disappointed or pleasantly surprised). We study how such experiences affect consumers' reliance on online reviews in their subsequent choices. The discrepancies consumers experience can stem from (a) heterogeneity in preferences and (b) biases in online reviews, and the present research focuses on the latter and examines how it affects consumers' future decision-making process. Using a unique and comprehensive individual-level dataset of theater movie-viewing history, we estimate a model of movie choice that includes preferences for movie characteristics, the impact of online ratings, and the discrepancy between the long-term average of online ratings (which proxies a movie's true quality) and point-of-consumption online ratings. We find evidence of consumer learning, as the level of impact online ratings information has on consumers' decisions evolves dynamically depending on their cumulative experiences with online ratings. Specifically, consumers who experience negative discrepancies between expected and true enjoyment levels (i.e., higher mean ratings at the point of consumption compared to the long-run average ratings of a movie) tend to rely less on online ratings information in their subsequent choices. Furthermore, we investigate whether and how consumers forget about learned experiences regarding the reliability of online ratings by measuring how the stock of experiences evolves over consumption episodes and time.

■ SA06

Fertitta Hall, 236, 2nd Floor

Crowdsourcing V

Contributed Session

Chair: Masoud Moradi, Texas Tech University, 5001 Chicago Avenue, Apt 415, Lubbock, TX, 79414, United States, masoud.moradi@ttu.edu

1 - Crowdsourcing Ideas for Innovation - Fixation or Talent?
Christian Pescher, FAU Erlangen-Nuremberg, Lange Gasse 20, Nuremberg, 90403, Germany, christian.pescher@fau.de, Gerard J Tellis, Johann Fueller

The success of crowdsourcing depends on the number and quality of ideas generated by ideators in the contest. Research is sparse as to what characteristics of ideators lead to high quality ideas. We test for two important characteristics, fixation and talent. Our data comes from nine crowdsourcing contests mostly conducted for large corporations. Most importantly, we find that talent is a driver of idea quality, while fixation is not.

2 - Threads of Success: New Empirical Generalizations from a Large Crowdsourcing Dataset
Anirban Mukherjee, Singapore Management University, 50 Stamford Road, 5056, Singapore, 178899, Singapore, anirbanm@smu.edu.sg

We investigate a pioneering crowdsourcing website, Threadless.com, which sources t- shirt designs from a community of amateurs and independent professionals, solicits feedback on the submitted designs, and sells selected designs. Our study examines a carefully collected, novel, large scale dataset tracking over 150,000 designs, submitted by over 40,000 designers, rated 150 million times by over 500,000 users. We focus on two questions. First, what is the conventional wisdom relating to crowdsourcing success— what factors influence the selection of designs by Threadless? Second, does the conventional wisdom stand up to scrutiny—can these factors be predictably and systematically linked to commercial success? The data suggests a substantive difference between the selection criteria of Threadless and the findings from our empirical analysis. We conclude by discussing the implications of our research for designers and firms seeking to ride the crowdsourcing tide.

3 - Incentives and Collaborations: Applications of One-sided Matching in a Crowdsourcing Platform
Yijun Chen, Washington University-St Louis, 1 Brookings Drive, St Louis, MO, 63130, United States, yijun.chen@wustl.edu, Chunhua Wu, Tat Y Chan

The paper studies the collaborations of talents on an competitive online crowdsourcing platform. We develop a structural one-sided matching framework to understand player incentives and investigate the role of economic payoff, competitiveness and participant ability in team formation and competition outcomes. We estimate our model using data from a leading data science competition platform and find that players with different ability levels have heterogeneous preferences towards whether to collaborate and whom to collaborate with under equilibrium. Using model parameters, we conduct counterfactual simulations to study how the equilibrium matching outcomes change under different platform policies. Our analysis on collaboration and participants performance provides implications on how the crowdsourcing platform could better align individual incentives, foster collaboration and improve the overall contribution of the talents.

4 - An Investigation of the Effects of Rhetoric and Dynamic Characteristics on Crowdsource Funding Formation
Masoud Moradi, Ph.D. Candiate, Texas Tech University, 5001 Chicago Avenue, Apt 415, Lubbock, TX, 79414, United States, masoud.moradi@ttu.edu, Mayukh Dass, Dennis Arnett

One of the major challenges faced by potential crowdfunding backers involves their value uncertainty about the projects. To reduce these uncertainties, the project creators provide a project description on the crowdfunding platform, which may consist of text, images, sound clips, and videos. In this paper, we focus on the language style of the project description text and dynamic characteristics of the projects and investigate two research questions: (1) Do benefit-focused language (BFL) and linguistic style match (LSM) of the product description text reduce the value uncertainty of the crowdfunding projects, and positively affect the funding formation? (2) Do the dynamic characteristics such as backer's support and social media shares moderate the above effects? We take a multi-method approach to examine these questions and conduct four laboratory studies to support the effects of the text characteristics on reducing backer uncertainty, and then perform a fifth empirical study, using data from 599 technological gadget projects posted on a popular crowdfunding website to explore the effects on the funding formation using Functional Data Analysis. Results show that both BFL and LSM reduce the value uncertainty, and positively affect the funding formation. We also found support for the moderating effects of the dynamic characteristics. Moreover, findings show the positive effects of BFL and LSM are increasing during the funding cycle. Finally, we conclude with important practical implications and a number of suggestions for project creators.

■ SA07

Fertitta Hall, 239, 2nd Floor

Digital Marketing Information and Media I

General Session

Chair: Dean Eckles, MIT, 77 Massachusetts Ave; E62-541, Cambridge, MA, 02139, United States, eckles@mit.edu

1 - Learning About Peer Effects from Many Experiments: Regularized Instrumental Variable Methods for Massive Meta-Analysis
Dean Eckles, MIT, 77 Massachusetts Ave; E62-541, Cambridge, MA, 02139, United States, eckles@mit.edu, Alex Peysakhovich

The widespread adoption of randomized experiments (i.e. A/B tests) in the Internet industry means that there are often numerous well-powered experiments on a given product. Individual experiments are often simple "bake-off" evaluations of a new intervention: They allow us to estimate effects of that particular intervention on outcomes of interest, but they are often not informative about the mechanisms for these effects or what other inventions might do. We consider what else we can learn from a large set of experiments. In particular, we use many experiments to learn about the effects of the various endogenous variables (or mechanisms) via which the experiments affect outcomes. This involves treating the experiments as instrumental variables, and so this setting is similar to, but somewhat different from, "many instrument" settings in econometrics and biostatistics. Motivated by the distribution of experiment first-stage effects, we present and evaluate regularization methods for improving on standard IV estimators. We illustrate these methods with an application to estimating peer effects in content production in online social networks

2 - Optimal Experimentation: Theory and Evidence from Search Engines
Justin Rao, Microsoft Research, New York, NY, United States, justin.rao@microsoft.com, Eduardo Azevedo, Alex Deng, José Luis Montiel Olea, E. Glen Weyl

Experimentation has become widespread in business and public policy, yet takes very different forms. "Big data" strategies advocated by economists and statisticians use large sample sizes to test a small number of carefully designed and promising interventions. "Lean" methods popular among start-ups, by contrast, use small samples to obtain noisy signals aimed at identifying rare but dramatic successes. We analyze theoretically and measure empirically which strategy provides greater returns on a finite pool of experimental subjects. Our model combines classic hierarchical Bayesian models of experimental outcomes with neoclassical producer theory to determine conditions under which each strategy is optimal. We find that when the quality of innovations is relatively predictable prior to the experiment (when the distribution of quality is thin tailed and innovations are highly heterogeneous ex-ante), a small number of large experiments is preferred. However, when the distribution of innovation quality has very fat tails, it is optimal to run many lean experiments. We analyze a census of experiments from the Microsoft Bing platform that operates in the "big data" range at present. We find innovation quality has extremely fat tails, which implies that nearly all real gains originate in the tail. This suggests large potential profit opportunities from scaling up the number and down the size of experiments. We are in the process of implementing and measuring the effects of this strategic change.

3 - Social Media and Political Donations: New Technology and Incumbency Advantage in the United States
Pinar Yildirim, University of Pennsylvania - Wharton School, Pittsburgh, PA, United States, pyild@wharton.upenn.edu, Ananya Sen, Maria Petrova

Do new technologies change the way political markets work in a democracy? We study the impact of adopting a new technology on campaign contributions received by candidates running for the U.S. Congress. To identify the causal impact of joining Twitter, we compare donations just before and just after politicians open an account in regions with high and low levels of Twitter penetration, controlling for politician-month fixed effects. We estimate that opening a Twitter account amounts to an increase of at least 2-3% percent in donations per campaign. Moreover, this effect holds only for inexperienced politicians who have never been elected to the Congress before. Placebo checks suggest that this impact is not driven by concurrent increase in information about these politicians in newspapers or blogs, TV ads, or campaign expenditures. The gain from opening a Twitter account is stronger for donations coming from new as opposed to repeat donors, for politicians who tweet more informatively, and for politicians from regions with lower newspaper circulation. Overall, our findings suggest that a new communication technology can lower the barriers to entry in political contests by increasing new politicians' opportunities of informing voters and fund-raising.

4 - Lead Offer Effects in Consumer Couponing: Evidence from Field Experiments

Matthew McGranaghan, Graduate Student, Cornell University, Ithaca, NY, United States, mcgranam@gmail.com, Kenneth C Wilbur, Jura Liaukonyte

Firms often present multiple promotions to consumers. Do lead offer values influence response to subsequent offers? We investigate using multiple large-scale field experiments (total N=64,882) in the context of print-at-home coupons. Doubling the lead offer value increases printing of subsequent offers by 18% and redemptions of subsequent offers by 12%. Deeper investigation in the mechanism suggests that spillovers across promotions accrue for multiple reasons, including economies of scale in promotion response and greater attention paid to the set of promotions.

■ SA09

Fertitta Hall, 241, 2nd Floor

Advances in Structural Models

General Session

Chair: Brett Hollenbeck, University of California-Los Angeles Anderson, 1317 S Westgate Avenue, Apt 204, Los Angeles, CA, 90025, United States, brett.hollenbeck@gmail.com

1 - A Lagrange Multiplier Test of Discount Factors in Dynamic Discrete Choice Models

Avery Haviv, University of Rochester, 661 South Ave, Apt 403, New York, NY, 14620, United States, averyhaviv@gmail.com

When estimating dynamic discrete choice models, researchers often fix the discount factor because it is not non-parametrically identified. However, there may be enough statistical power to reject some values of the discount factor due the parametric assumptions. This paper proposes a Lagrange Multiplier test to confirm that the discount factor a researcher chooses is not specifically rejected by the data and the parametric assumptions that they've made. We derive a closed form solution for this test statistic, so it can be calculated directly and quickly from an estimated parametrization. Finally, we derive a confidence interval of plausible values for the discount factor, given the other parameter estimates.

2 - Innovation and Distribution: A General Equilibrium Model of Manufacturing and Retailing

Bart J Bronnenberg, Tilburg University, School of Economics, Dept of Marketing, Tilburg, 5037 AB, Netherlands, Bart.Bronnenberg@uvt.nl

I propose a general equilibrium model of competition in manufacturing and retailing. Relative to the counterfactual of direct sales by manufacturers, the retail sector increases manufacturing entry and produced variety. Although double marginalization in the sales channel raises prices and hurts consumers in quantity, in equilibrium it increases consumed variety and convenience, both valued positively. Consistent with observations, the equilibrium predicts that the size of the retail sector is a constant fraction of the total economy across nations of differing size and wealth.

3 - Learning To Set Prices In The Washington State Liquor Market

Paul Ellickson, Mitch Lovett, University of Rochester, Rochester, NY, yufeng.huang@simon.rochester.edu, Yufeng Huang

How quickly do firms learn about demand in a new environment and incorporate these information in their prices? We study the Washington State liquor market after its privatization in mid-2012, where a few multi-state retailers immediately became dominant players. Using scanner data from Nielsen, we present descriptive evidence showing that these retailers are learning about local demand, as their prices increasingly reflect demand fundamentals. We estimate a random coefficient demand model in order to separate persistent demand fundamentals at the local level, from transitory demand shocks. We then structurally study how firm forms and updates belief that separates these two apart.

4 - Vertical Structure and Pricing: Evidence from the Washington Cannabis Industry

Brett Hollenbeck, University of California-Los Angeles Anderson, 1317 S Westgate Avenue, Apt 204, Los Angeles, CA, 90025, United States, brett.hollenbeck@gmail.com, Kosuke Uetake

This paper exploits a new dataset resulting from the creation of a legal retail cannabis industry in Washington State in 2014. We observe comprehensive data on all transactions in the industry including wholesale transactions since its inception. We examine the role of competition and vertical structure on retail and wholesale prices, including the determinants of bargaining power of retailers, processors and producers. We also study the role of market structure restrictions imposed by the state on welfare, as well as the role of vertical integration in wholesale pricing and the pass through of cost shocks and taxes.

■ SA11

Fertitta Hall, 316, 3rd Floor

New Product Diffusion: Movies

Contributed Session

Chair: Youseok Lee, Rm. 317, Bldg. 58, Seoul Nat'l Univ., Seoul, Korea, Republic of, youseok.lee@gmail.com

1 - Moment of Truth: A Study of Wom Dynamics Two Days Before and After a New Movie Release

Robert Krider, Simon Fraser University, 8888 University Drive, Burnaby, BC, V5A156, Canada, rkrider@sfu.ca, Jason Ho, Andrew Fogg

The financial performance of a movie in North America is highly dependent on its opening week box office performance (about 25% of an average movie's total ticket revenues come from the first week). We extend the marketing literature that has shown how influential word-of-mouth is on motion picture box office during this important first week, by focusing on the effect of the detailed dynamic changes in word-of-mouth immediately before and after a movie's opening. We capture hourly time series word-of-mouth data, operationalized by online ratings, across five days: two days before and two days after individual movies' release days. To parsimoniously capture the variation across movies in the evolution of these ratings, we apply functional data analysis (FDA), a relatively new method in marketing particularly appropriate for summarizing highly nonlinear and non-stationary time series (see, for example, Xiong and Bharadwaj, 2014). This allows us to shed light on the relation between the shape of the word-of-mouth evolution of a movie during this critical "moment of truth" period crossing from the pre-release to post-release days, on the live-or-die first week box office performance.

2 - The Influence of Violence and Profanity on Reviews and Sequel Performance

Sanjay Sisodiya, Associate Professor of Marketing, University of Idaho, College of Business and Economics, 875 Campus Drive, Moscow, ID, 83844-3161, United States, sisodiya@uidaho.edu, Steven Shook, Berna Devezer

Due in part to the excitement of the industry, its economic importance, and availability of data, there is an increasingly growing body of academic research in the movie industry (Eliashberg, Elberse, and Leenders, 2006; Hadida, 2009). A recent trend within the movie industry, is the popularity of movie sequels (e.g., Sood and Dreze 2006). For example, in 2016, 13 of the top 20 grossing movies were associated with franchises. An area that has received scant investigation, is the influence of violence and profanity as content within a sequel. We argue that this form of content could influence performance and have an influence on reviews (expert and non-expert). Though profanity and violence have been studied before in the broader context of movies (e.g., Taylor, 2003), we direct our efforts to investigating how the two may change in iterations of sequels, and then in turn influence sequel success. Reviews are important to consider, since these information sources have been argued to mediate the relationship between production and performance (Hadida, 2009). Accordingly, we consider the role of content and review information on influencing performance. We test the hypotheses using a sample of 226 sequels and measure performance with US box Office data for first day, first week, and nation-wide release (e.g., Huang, Hsieh, Hsieh, and Teng, 2016). For each sequel being investigated, we consider production, theatrical, and exhibition factors (e.g., Eliashberg, Elberse, and Leenders, 2006). To assess information sources and quality, we use expert and non-expert reviews.

3 - Predicting Movie Watching Behavior using Facebook Data and Information-fusion Sensitivity Analysis

Matthias Bogaert, Research Assistant, Ghent University, Tweekerkenstraat 2, Ghent, 9000, Belgium, mattthias.bogaert@ugent.be

The main purpose of this paper is to evaluate the feasibility of predicting whether yes or no a Facebook user has watched a given movie. We benchmark several algorithms (logistic regression, random forest, adaptive boosting, rotation forest and naive bayes) and provide insight in the importance of the predictors and their relationship with movie watching behavior using information-fusion. To gather the data we developed a custom native Facebook app. The results indicate that adaptive boosting outperforms all other algorithms. Time- and frequency-based variables related to media (movies, videos, TV shows, music) consumption constitute the list of top variables. To the best of our knowledge this study is the first to fit predictive models of movie watching behavior and provide insights into the relationships that govern these models. Our models can be used as a decision tool for movie producers to target potential movie-watchers and market their movies more efficiently.

4 - Diffusion Patterns of Movies: The Differences Between U.S. and Korean Market

Youseok Lee, Doctoral Student, Seoul National University, Rm. 317, Bldg. 58, Seoul Nat'l Univ., Seoul, Korea, Republic of, youseok.lee@gmail.com, Sang-Hoon Kim, Kyoung Cheon Cha

To increase box office performance of a movie, a company must understand its diffusion patterns. Numerous studies have developed models to explain and forecast how movies diffuse. There is, however, little research investigating the difference between countries in terms of movie diffusion. While many studies have tried to explain box office patterns, they have rarely considered the Bass diffusion model. The Bass model has been considered appropriate only for new products - durable products, in particular. However, there are no issues in applying the model to movies, because every movie is a new product. According to the Bass diffusion model, product adoption of a consumer can be explained by two factors: the intrinsic motivation (innovation effect) and the extrinsic motivation (imitation effect). This level of autonomy in decision making varies depending on what culture a consumer belongs to. This study explores how the diffusion patterns of movies vary due to cultural difference by comparing the US and Korean movie market. Furthermore, this study examines the determinants of estimated coefficients, thus suggesting that the factors activating the adoption motivation of a consumer perform variously depending on culture. Fifty domestic movies from each country constitute the sample, and box office revenue for 49 days (seven weeks) was collected. Cluster analysis and regression analysis were followed to identify the characteristics of the diffusion patterns. This research may lead to a better understanding of the diffusion patterns of movies by providing empirical evidence that the shape could vary from country to country. The findings discussed here might serve as the basis for developing marketing strategy when a company distributes movies abroad.

■ SA12

Fertitta Hall, 322, 3rd Floor

Internet & Marketing

Contributed Session

Chair: Sonika Singh, University of Technology-Sydney, 15 Broadway, Ultimo, NSW, Sydney, 2007, Australia, Sonika.Singh@uts.edu.au

1 - Visualizing Emergent Identity of Assemblages in the Consumer Internet of Things: A Topological Data Analysis Approach

Tom Novak, Denit Trust Distinguished Professor of Marketing, George Washington University School of Business, 2201 G St NW, Duques Hall #301, George Washington School of Business, George Washington School of Business, Washington, DC, 20052, United States, novak@gwu.edu, Donna Hoffman

In the Internet of Things (IoT), ongoing interactions among consumers, smart devices and digital information lead to the emergence of IoT assemblages. One example is the online service IFTTT.com, a Web and app-based platform that allows consumers to connect over 300 different channels through consumer-created If-This-Then-That "recipes." In this paper, we use topological data analysis (TDA), a methodology consistent with the mathematical aspects of assemblage theory, to visualize the underlying possibility space of 331,391 consumer-created IFTTT recipes. The resulting network from the topological model provides insight into the identity that emerges from consumer IoT assemblages, using interaction events as the unit of analysis.

2 - Economic Consequences of Cookie Deletion

Klaus Miller, Assistant Professor of Quantitative Marketing, Goethe University Frankfurt, Theodor W. Adorno-Platz 4, Frankfurt am Main, 60323, Germany, klaus.miller@wiwi.uni-frankfurt.de, Bernd Skiera

Since the advent of the internet twenty years ago, the majority of (even high quality) content has been provided for free, despite some attempts of digital publishers to introduce paid content. The prevalent monetization model for free content is advertising. The fuel for prices of ads are cookies, which enable advertisers to collect information to better target individual users. Users who delete cookies obviously destroy information that is valuable for advertisers and publishers. The crucial question is how much value is destroyed and how a different cookie deletion behavior would impact this value. To the best of our knowledge, prior research is rather silent about this destruction of value. Such knowledge, however would allow for drawing important conclusions about "acceptable" cookie deletion strategies. "Acceptable" indicates deletion strategies that still guarantees users' privacy and still allow publishers to realize sufficiently high prices for online advertising slots so that content can still be provided free of charge. For example, if a strategy to delete cookie deletion every week destroyed much more value than a daily cookie deletion but only slightly more than a bi-weekly deletion strategy, then it might be justified to avoid daily deletion behavior but encourage weekly deletion instead of bi-weekly deletion. Our empirical study of 54,127 consumers that covers approximately two and a half years is first to provide insights on their cookie deletion behavior and the respective economic loss. It shows that the average lifetime of a cookie is 218 days (median: 68 days). Our additional results will provide important insights for the digital advertising industry as well as consumers and policy makers with regard to quantifying the value of user-data revealed online. Ultimately, our results will add to the literature on quantifying the value of information generated in digital markets and determining the value of privacy.

3 - How Adoption and Diffusion of a Smart Product May be Affected by Referring to Customer Empowerment Activities or the Status as a Start-Up Company

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Numerous smart, connected products have already been brought to market and many more can be expected in the coming years. This development poses several challenges to marketing management, including the need to identify factors that might affect adoption and diffusion of such products. Our work contributes to this stream of research. We investigate whether labeling products as being the result of a customer empowerment process and/or being developed by a start-up company has an impact on perceived consumption values of smart products and/or on the behavioral intentions of customers. As object of investigation, we utilized the social family robot "Jibo". The study was conducted with respondents from a representative online sample from Germany, who were divided into four groups. As manipulations, we informed subjects (i) that Jibo's design was either influenced by customer empowerment activities or generated just by internal experts, and (ii) that Jibo was developed either by a start-up or by an established company. Our results show that referring to both customer empowerment activities and to the company status as a start-up has positive effects on perceived consumption values and behavioral intentions. Research Methodology: Statistical analysis

4 - The Internet's Impact on Market Efficiency

Sonika Singh, Assistant Professor, University of Technology-Sydney, 15 Broadway, Ultimo, NSW, Sydney, 2007, Australia, Sonika.Singh@uts.edu.au, Ellen Garbarino

Easier and less expensive access to information has led to a radical increase in information search, with people spending roughly 25% of their online time searching for information or shopping, more than social networking, reading content, emailing, or media. Information economics argues that this increased level of search should lead markets to become increasingly efficient. Market efficiency assessments using the correlation between price and objective quality, have consistently found only a weak correlation, typically .30 or less. The existing theory argues that the correlation between price and quality is a poor measure of efficiency as opposed to measures based on deviations from the efficient frontier. However, there is scant empirical research that examines market efficiency using deviations from efficiency frontier. Using stochastic frontier analysis, we examine longitudinal data on durable goods to test whether market efficiency improved in the post-internet period in accordance with the prediction of information economics. We find that although the price-quality correlation has not consistently improved, the deviations from the efficiency frontier show a consistent and significant improvement in market efficiency over time, and post-Internet, the categories with lowest price-quality correlations have benefited the most.

■ SA13

Fertitta Hall, 327, 3rd Floor

Promotion: Redemptions

Contributed Session

Chair: Daniel Guhl, Humboldt University Berlin, Spandauer Str. 1, Berlin, 10178, Germany, daniel.guhl@hu-berlin.de

1 - Price Adjustment Policy with Partial Refunds

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Have you ever purchased an item only to notice a short while later that its price was reduced? Many retailers now offer to refund customers the full price difference as long as the price discount occurred within a specified short period of time after the original purchase (e.g. Sears, Walmart, Neiman Marcus). Such price difference refund policy looks very attractive to consumers as it shields them from future price fluctuations. But can this policy be advantageous for the retailer who has to refund the money if prices drop? The existing literature and practice both assume that if price adjustment policy is employed, the consumers should get the full price difference back. In this paper we consider a generalized price adjustment policy where we endogenize the refund amount, allowing the retailer to determine the optimal percentage of the price difference to be returned to consumers. We fully characterize the conditions under which it is optimal to offer only a partial refund to customers as well as the optimal refund fraction. Additionally, we demonstrate that the practice of limiting the price adjustment option to a short period after the purchase is not necessarily in the best interest of retailers.

2 - Consumer Curiosity in Promoted Prices

Keith A. Botner, Assistant Professor of Marketing, Lehigh University, 621 Taylor Street, Bethlehem, PA, 18015, United States, keith.botner@lehigh.edu, Arul Mishra, Himanshu Mishra

Curiosity--i.e., a passion, motivation, or appetite for information or knowledge--is known to be a strong motivator of human behavior. In this manuscript, the authors consider how curiosity aroused by discounted price presentations can influence consumer information search behavior. Specifically, they suggest that--for the same product--a higher pre-discounted price display (e.g., was $99) is more likely to arouse curiosity compared to a lower price (e.g., was $89). Utilizing theories of curiosity, the authors propose that the greater curiosity for high pre-discounted prices occurs because of the interactive influence of i) the knowledge gap between the pre-discounted price and the anticipated discounted price, and ii) the certainty surrounding the knowledge gap. The authors present individual-level email data from an online retailer to demonstrate greater click-through rate (CTR) for high versus low pre-discounted prices. In order to test the causal role of curiosity, the authors present three studies that test for the role of the knowledge gap, certainty surrounding the gap, one's dispositional curiosity, and competing drive states.

3 - Role of Endogenous Consumption in Counter-cyclical Pricing

Minjung Kwon, Doctoral Candidate, NYU, 40 West 4th Street, New York, NY, 10012, United States, mkwon@stern.nyu.edu, Tülin Erdem, Masakazu Ishihara

We propose a new explanation for a pricing puzzle for seasonal products, namely counter-cyclical pricing, drawing on the category-expansion effects of price promotions. Our study underscores the seasonal fluctuation in promotion frequency, rather than the change in the mean price across seasons which motivates most existing studies. We claim that frequent price promotions during the high-demand periods are the firm's reaction to the household's behavioral mechanism - endogenous consumption behavior - in which frequent promotions accelerate consumption through stockpiling. Our descriptive analysis on multiple categories shows that counter-cyclical pricing is associated with the categories for which households' purchase patterns are consistent with endogenous consumption. A reduced-form analysis confirms the flexible consumption rate that varies with the household inventory. Furthermore, we investigate our claim using a dynamic structural model in which households optimize when, what, and how much to buy and consume. The model accounts for the households' dynamic considerations including seasonal fluctuation in category valuation, price expectation, and inventory-carrying cost. Our results indicate that stockpiling, driven by price promotions, increases the consumption rate and thus accelerates the need to restock. We simulate the category-wide demand volume under different scenarios of consumer's behavioral mechanism and pricing policy to quantify the role of endogenous consumption in counter-cyclical pricing. Capturing the demand-expansion effect of price promotions, we show that offering promotions is still favorable for firms during high-demand periods despite the upward exogenous shift in demand.

4 - How Individualization of Product Recommendations and Price Discounts Impacts Coupon Redemption: Insights From a Large-scale Field Experiment

Daniel Guhl, Humboldt University Berlin, Berlin, Germany, daniel.guhl@hu-berlin.de, Sebastian Gabel, Daniel Klapper

Today, using recommender systems is the de facto standard in online retailing. Also at offline retailers recommender systems became increasingly popular over the last decade. Despite their popularity, the short- and long-term impact of recommender systems on consumer behavior is not fully understood. A major challenge is measuring causal effects with observational data (e.g., because multiple marketing instruments are used simultaneously). To overcome this challenge, we conducted a large-scale field experiment at a leading German grocery retailer that runs a loyalty program with more than 300,000 participating consumers. The grocery setting is favorable for our analysis, as a lot of data is available for individualization and high shopping frequencies allow to study long-term effects in a relatively short amount of time. Over 1.5 years we collected data on over 5 million promotions across almost 1,000 coupon campaigns (on the category-brand level). Both campaign selection and price discounts were individualized using loyalty card purchase histories. Consumers received their promotions at in-store kiosk system. As a control, 1.1 million promotions were based on random price discounts and random product recommendations, and 1.1 million promotions were based on random price discounts but optimized product recommendations. We used this setup to answer the following research questions: (1) What is the increase in redemption rates when using recommender systems? (2) What is more beneficial: individualizing prices or differentiating recommended products? (3) What are the long-term effects of recommender systems on consumers purchases? (4) In which categories do recommender systems work best? (5) How do price elasticities of individualized promotions in the loyalty program compare with price elasticities of leaflet promotions? In sum, this paper provides novel insights into recommender systems and price individualization. Our findings enable retailers and manufacturers to run promotions more efficiently in the era of 1-to-1 marketing.

■ SA14

Fertitta Hall, 328, 3rd Floor

Health & Insurance

Contributed Session

Chair: Jong Yeob Kim, New York University, 440 W 34th Street Apt. #7D, New York, NY, 10001, United States, jyk504@nyu.edu

1 - Impact of Lifestyle Diseases on Consumption and Role of Insurance in an Emerging Economy

Saravana Jaikumar, Assistant Professor, Indian Institute of Management Calcutta, M-310 New Academic Block, IIM Calcutta, Joka, Kolkata, 700104, India, saravana@iimcal.ac.in, Shantanu Dutta, Neeraj Sood, Om Narasimhan

In an emerging economy with high income growth, health issues related to overall changes in lifestyle, such as hypertension, heart diseases and diabetes, are growing rapidly. In India, where majority of the medical expenses are paid out-of-pocket, the financial burden faced by the households with individuals diagnosed with diabetes or heart disease is very high. With the exception of a minority elite group, medical interventions and drugs may be very expensive and in some cases, unavailable. Given limited income, an increase in medical expenses is likely to result in households curtailing expenses in other categories such as educational expenses, or in extreme cases 'cut meals' to make ends meet. Hence examining the effect of insurance coverage on consumption patterns, in a privatized health economy such as India becomes paramount. In this study, using a unique household panel data (2004 and 2011) from IHDS (India Human Development Survey) we examine the impact of acquiring these lifestyle diseases on medical and non-medical expenses. We use propensity score matching to identify matching households that do not have these diseases and find consistent results. We find that households with insurance coverage tend to have higher medical expenses as insurance might induce these households to increase frequency of visit to medical professionals. Further, non-medical expenses are also higher for households with insurance coverage. Our findings have significant marketing and policy implications.

2 - How Insurance Coverage Policy Affect Use of Medical Obesity Treatment in Low Income Level Patients

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Globally, rate of obesity is representing not only health concern but also social inequalities these days. It is widely known that there is negative correlation between rate of obesity and socioeconomic indicators, such as income and educational level. In extremely obese group, this negative correlation is more severe. To solve obesity problem, many countries applied multifaceted strategies such as public awareness campaign, social welfare service and fat tax. There is a controversy about whether fat tax is actually effective at reducing obesity rate. However, it is reported that this price-based interventions is significantly reducing high-fat food consumption in low-income level group. However, for the extremely obese group, appropriate medical treatment is also needed. It is reported that medical treatments including high-priced surgical approaches are economical in quality of life view. Notwithstanding higher ratio of extremely obese patients in low-income level group, insurance coverage for medical treatment of obesity is not enough in many countries such as South Korea. In this article, we are scheduled to use data in Integrated Health Interview Series in United States to observe effect of insurance coverage policy change. Also there would be comparison between countries with different insurance coverage policy. Since public perception regarding obesity treatment (especially surgical approaches) can affect patient's decision making process, previous results of internet survey from obese patients would be used to control those issues. Our anticipated result would suggest that proper insurance coverage policy would help low-income level obesity patients take proper medical treatment including medication and surgery.

3 - Obesity and Self Control: Evidence from Food Purchase Data

Matthew Osborne, Assistant Professor, University of Toronto, 3359 Mississauga Road, Suite 2200, Mississauga, ON, L5L 1C6, Canada, matthew.osborne@rotman.utoronto.ca, Ying Bao, Emily Wang, Edward Jaenicke

Does obesity appear to be related to lack of commitment or self-control? We assess this question using a novel and unique dataset that links individual-level scanner data on food purchases to survey data containing questions about an individual's obesity status, when and whether the individual began a diet, and whether the individual is concerned about his or her health or weight. Our empirical analysis is motivated by a theoretical model of how consumption and weight evolves in response to changes in marketing variables. In our model, individuals may be present-biased and overconfident about their future present-bias. Comparative statics from our model suggest overconfidence is positively related to obesity and that the consumption of more overconfident individuals is more responsive to marketing stimuli. We test these implications in our data. In particular we explore whether after an individual states he or she has begun a diet, or expressed concern about weight, a more obese individual is more likely to purchase unhealthy food products in response to changes in marketing variables.

4 - Evaluating Sugary Drinks Tax using Dynamic Addiction Model

Jong Yeob Kim, Graduate Student, New York University, 440 W 34th Street Apt. #7D, New York, NY, 10001, United States, jyk504@nyu.edu, Masakazu Ishihara

Obesity rates in the U.S. have reached epidemic proportions. This rising obesity has significant consequences for individual health and imposes externalities on society at large. Evidence suggests that excess intake of sugar sweetened beverages to be one of the primary contributors to weight gain. To address the growing epidemic of obesity, one option is to target consumer behavior via fiscal policies such as excise fat tax or sugary drinks tax. Research in public health and economics suggest that point-of-purchase interventions in the form of taxes on unhealthy foods can be one of the most cost effective measures in combating obesity. Motivated by recent trends and research in sugary drinks, this paper presents a dynamic structural model to evaluate the effect of sugary drinks. Gordon and Sun (2015) formulate a model of addiction for tobacco that creates an intertemporal link between a consumer's past and present decisions. This paper builds on previous work by developing a dynamic demand model of soda consumption. My modeling framework incorporates stockpiling behavior of consumer, as well endogenous consumption that depends on history of past consumption. I conduct several counterfactuals based on realistic policy scenarios and evaluate how different taxation policies affect consumer's behavior. In model estimation, I follow Osborne (2010) and use newly developed computational techniques by Imai, Jain, and Ching (2009). These Bayesian estimation procedures allow easy incorporation of consumer heterogeneity to evaluate the impact of potential taxes on various demographic groups.

■ SA15

Fertitta Hall, 331, 3rd Floor

Marketing Measurement

Contributed Session

Chair: Leonard Paas, Massey University, 266 Beach Road, Campbells Bay, Auckland, 0630, New Zealand, l.j.paas@massey.ac.nz

1 - Exploring the Relations Between Needs, Positioning, and Satisfaction

Alexander Anokhin, Lincoln University, Oakland, CA, United States, ihimelfarb@lincolnuca.edu, Aharon Hibshoosh

McClelland (1960) has developed a motivational model to explain how needs for achievement, need for power, and need to affiliation affect the action of people. A 15-item scale for assessment of needs was developed and related to a scale of attitudes towards educational institutions, which indicated positioning. First-order factor analysis revealed a 3-factor model for the scale of needs and a 4-factor model for attitudes towards educational institutions. A second-order factor analysis revealed that needs scale is underlined by a single trait-desires as well as a single trait-positioning underlines attitude scale. Using a sample (N=300) of university students both scales were related to satisfaction. The satisfaction was measured by taking the difference between students' expected and actual (received) grades. A structural equation model with latent variables related the needs to positioning and positioning to satisfaction. Results supported psychometric soundness of both instruments. Needs significantly directly and indirectly (through positioning) predicted satisfaction.

2 - How to Measure the Customer Experience Along the Customer Journey

Markus Gahler, University of Augsburg, Augsburg, Germany, markus.gahler@wiwi.uni-augsburg.de, Michael Paul, Jan F. Klein

In today's experience economy, providing superior experiences along the entire customer journey has become a competitive advantage. To manage marketing activities at all customer touchpoints, companies need to measure the customer experience (CE). Recent research provides a theoretically solid understanding of CE as a multi-dimensional construct (e.g., De Keyser, Lemon, Klaus, and Keiningham 2015; Lemon and Verhoef 2016). However, knowledge on how to measure CE along the customer journey is still limited. Extant scales are focusing on a specific domain of the CE concept, such as services (e.g., Verleye 2015) and brands (e.g., Brakus, Schmitt, and Zarantonello 2009), so that they cannot be applied to any customer journey and its different elements (i.e., experiences providers, touchpoints, and purchase stages). To overcome these research limitations, the Marketing Science Institute (MSI) called for more research on CE measurement beyond certain research contexts. We address this call by developing a scale that measures CE considering different dimensions (affective, cognitive, sensorial, physio-behavioral, relational, functional, symbolic), experience providers (brand, personnel, other customers), touchpoints (e.g., advertisement, online shop, store), and purchase stages (pre-purchase, purchase, post-purchase). Our scale development is based on a broad literature review, in-depth interviews with customers, and online surveys using convenience and representative samples. First empirical results will be presented at the conference. The MSI financially supports our research.

3 - A Novel Method for Detecting Careless Respondents in Survey Data

Volkan Dogan, PhD Candidate in Marketing, Eskisehir Osmangazi University, Meselik Kampusu ESOGU, Eskisehir, 26480, Turkey, vlkndgn35@gmail.com

The current paper proposes a novel method to detect careless respondents (CR), namely, 'floodlight detection of careless respondents' (FDCR). This novel post-hoc indice to identify CR is composed of two steps: (1) creating a nonsense regression model and then, (2) testing a moderator role of response time on the nonsense regression model with Johnson-Neyman technique (floodlight analysis). A great deal of evidence demonstrated that the fewer time respondents spend on items, the higher likelihood of carèless responding (Berinsky et al. 2014; Huang et al. 2015b). Although this evidence expanded our understanding of CR, the scientific community is still silence to question that what would be the cut-off value of response time to separate CR from careful respondents?. Past studies have arbitrarily offered some cut-off response time values. Particularly, Huang et al. (2012) used two seconds per item rule to identify CR, while Niessen et al. (2016) used three seconds per item rule to the same purpose. Although arbitrarily defined cut-off response time has increased our understanding of careless responding from the perspective of response time, this approach is a lack of being rigor or systematic. Furthermore, little is known about the systematic calculation of cut-off response time value to separate CR from careful respondents. The present study aims to fill this gap by proposing a novel method to calculate specific cut-off response time for separating CR from careful respondents. Therefore, this new method can be used as a post-hoc indice to identify CR. I call this new method as "floodlight detection of careless respondents (FDCR)" because this new method is based on Johnson-Neyman technique (Hayes 2013), which was dubbed a floodlight analysis by Spiller et al. (2013).

4 - Inter-rater Reliability: The Challenge of Highly Unequal Category Sizes

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Marketing research frequently requires coding of qualitative items into nominal categories, for example, in content analysis, survey research and meta analysis. As reproducibility, or inter-rater reliability, is essential for meaningful categorization of qualitative items, inter-rater reliability should be established and reported using appropriate indices. We introduce a new index of inter-rater reliability that is particularly suitable if category frequencies differ substantially and extant indices diverge. The proposed index uses the observed frequencies to update a non-informative prior for the unobserved category sizes and incorporates these estimates. It emphasizes equal category probabilities if the relative frequencies are unstable due to a small sample, whereas the relative frequencies shape the index more as they become more stable. Hence, the index accounts for both category frequencies and sample noise. In its most general form, with a flexible prior, the index reconciles several important indices in one framework. The Perreault-Leigh index occurs if the prior belief is that all categories are equally large and this belief is held with certainty, whereas the square roots of Scott's pi and Fleiss' kappa correspond to prior beliefs with maximum uncertainty. The new index is easy to compute, model-based and appropriate for any number of items, raters and categories with any frequency distribution, making it broadly applicable. We use simulation to demonstrate its good performance. The index has a similar performance as well-accepted extant indices if categories are (approximately) equally large and it outperforms these extant indices if category sizes differ substantially.

5 - Instructional Manipulation Checks: A Longitudinal Analysis

Leonard Paas, Massey University, 266 Beach Road, Campbells Bay, Auckland, 0630, New Zealand, l.j.paas@massey.ac.nz, Sara Dolnicar, Logi Karlson

Instructional Manipulation Checks (IMC's) assess respondent attention by, for example, asking them not to answer a question once they have read it. IMC's have often been used in one-shot (survey) studies, but their effectiveness has not been assessed in a longitudinal setting, in which respondents are exposed to IMC's at multiple measurement occasions. We assess the relationship between IMC-failure and other indicators for respondent attention, i.e., speeding, straight-lining, the number of characters filled in to answer an open question and the Jaccard test. We empirically validate the application of an IMC at three measurement occasions to the same respondents. Our study also provides a novel longitudinal perspective on IMC failure in conjunction with panel attrition. A latent class analysis based on IMC failure shows that 9.34% of the respondent in our sample can be labelled as Inattentive Respondents in the first measurement occasion and 12.65% in the third measurement occasion. This increase implies that respondent inattention can become a substantive problem over a larger number of measurement occasions. This finding may be particularly relevant for online panels such as M-Turk, SmartSurvey, Survey Monkey and Qualtrics, in which respondents participate over many measurement occasions. We find that the inattention problem can be mitigated to some extent. That is respondent attention is significantly enhanced by providing them a warning early in the survey that states their attention will be checked.

■ SA16

Fertitta Hall, 414, 4th Floor

Advertising Optimization

Contributed Session

Chair: Liwu Hsu, University of Alabama in Huntsville, 301 Sparkman Drive NW, BAB #361, Huntsville, AL, 35899, United States, liwu.hsu@uah.edu

1 - Causal Attribution Modeling and Media Investment Optimization

Saeed Bagheri, Group M, 498 7th Avenue, New York, NY, 10018, United States, saeed.bagheri@groupm.com, Joong Rhim

We have recently developed an approach to evaluate the causal effect of online campaigns by exploiting nature of ad decay over time and impression fadeaway level (IF-level) analysis. The causal impact of an ad refers to the change in a marketing outcome of interest truly due to that ad. For instance, when an audience visits a product's portal after seeing the product's ad, this behavior is caused by the ad only if that audience was not already planning to visit the portal even before seeing the ad. While measuring this causal effect is difficult, it remains extremely important to advertisers for their investment optimization, among other things. In our approach, the converting power of ads is measured as a function of time, whose constant term is our estimated baseline that is independent of ads and only time-varying term reflects the causal effect of ads. Our approach does not rely on randomized test to measure the causal effect and moreover enables the comparison of causality across various factors such as delivery partners or demographic clusters. One of the key benefits of this IF-level analysis is to maximize the causal effect through investment optimization in a future campaign. By expressing the converting power of ads as a function of time, we can formulate the baseline conversions and causal conversions in terms of the number of audiences who see the ads. The number of audiences is related to the amount of investment via a stochastic model that takes into account heavy and light users. Then we complete the link between the investment and causal conversions and solve for the optimal investment that maximizes the causal conversions. This causality analysis complements traditional attribution analyses that tend to assume 100% causality of ads. We demonstrate this approach using an actual ad campaign and compare its performance with traditional attribution analyses.

2 - Impact of Economic Cycles on Consumer Oriented Media Synergy: Choice Between Individual and Multiple Media Selection for Marketers

Abhishek Nayak, IE Business School, Instituto de Empresa, B-82334319, Maria de Molina, 13, Madrid, 28006, Spain, anayak.phd2016@student.ie.edu, Shameek Sinha

We build on the literature of consumer oriented media influence which suggests that understanding media influence only from a marketer s strategic perspective is not enough and consumers play an equally important role in choosing which media they consume when contemplating their purchases. We attempt to investigate this consumer oriented media influence on their purchase intentions and how this influence changes from an economically stable situation to a recessionary period. We also investigate the synergy between Promotional and Informational Media and how this synergy evolves with the economic cycle. We use survey data from the US in the clothing category for the 2008 economic recession. Following the arguments of Construal Level Theory we find that consumers are in a low level construal mindset during economic recessions and hence value the feasibility of a purchase more as opposed to the desirability of a purchase when they are in a high level construal mindset during stable economic times. We find that media synergy between two media types is positive (influence of combined media is more than that of individual media) during economic stable times, however during recessionary times influence of individual media is stronger than the combined media. Thus, it is advisable to focus on multiple media channels during economically stable times as consumers are more prone to get influenced by secondary media sources while focus on single media channel during recessionary times is recommended as consumers are more prone to get influenced by their primary media source. Insights from this research can help marketers to allocate their budgets efficiently during economic cycles.

3 - Delusion in Attribution: Caveats in using Attribution for Multimedia Allocation

Harald J. van Heerde, Massey University, School of Communications, Private Bag 102904, Auckland, 0745, New Zealand, heerde@massey.ac.nz, Peter Danaher

Media attribution is the assignment of a percentage weight to each media touchpoint a consumer is exposed to prior to purchasing. Many firms consider using attribution to allocate media budgets, particularly for digital media, but an important question is whether this is appropriate. An initial hurdle when answering this question is that, despite the surge in interest for media attribution in marketing academia and practice, attribution does not have an agreed formal definition. Therefore, this paper proposes an attribution formulation based on the relative incremental contribution that each medium makes to a purchase, taking into account advertising carryover and interaction effects. The formulation shows that attribution is proportional to the marginal effectiveness of a medium times its number of exposures. This means that often-used media will have high attribution weights. However, optimal allocation decisions are a function of advertising effectiveness, but not a function of past exposure levels. By offering analytical derivations and studying simulated and empirical data, the paper shows how attribution can offer misleading insights on how to allocate resources across media. Moreover, the empirical example demonstrates that substantial gains in purchase probability can be made using optimal allocation compared with attribution allocation.

4 - The Impact of Advertising Expenditures on Profitability in Franchised Outlets

Liwu Hsu, Assistant Professor, University of Alabama in Huntsville, 301 Sparkman Drive NW, BAB #361, Huntsville, AL, 35899, United States, liwu.hsu@uah.edu, Benjamin Lawrence, Jie Zhang

This study contributes to a greater understanding of channel marketing in the context of franchising by empirically examining the effects of different types of advertising expenditures, largely categorized as national or local advertising, on unit level profitability. Our unique dataset allows us to examine the impact of advertising fees allocation at the unit level with line items from the profit and loss statements of over 3,500 franchised hotel properties in the U.S. from 2007 to 2013. We consider the effects of investing in varied national advertising including franchise assessment, loyalty programs, and e-commerce (i.e., online advertising) and in varied local advertising including local salesforce and local media. Our findings confirm prior work that points to the underinvestment in both national and local advertising by the franchisee. We also find that franchisee independence, measured as the portion of revenue from property-specific sources, contributes positively to unit performance and more importantly, moderates the impact of different types of advertising expenditures. These findings expand channel research on the behavioral drivers of advertising allocation decisions in the context of franchising.

■ SA17

Fertitta Hall, 416, 4th Floor

Value Creation and Appropriation

General Session

Chair: Chen Zhou, University of South Carolina, Room 492, Moore School of Business, 1014 Gree, Columbia, SC, 29208, United States, chen.zhou@moore.sc.edu

1 - Contracting to Dis-Incentivize

Desmond Lo, Santa Clara University, 500 El Camino Real, Santa Clara, CA, 95050, United States, hlo@scu.edu, Giorgio Zanarone, Mrinal Ghosh

Research in collaborative ties has pre-dominantly focused on studying how governance forms balance the potential gains against transaction hazards within that relationship. Using the approach of incomplete contracting, we develop a theoretical model of OEM-component supplier interaction that shows how the buyer - the OEM - trades off gains obtained from within the supplier relationship against protecting it's own valuable resources that outside the relationship. Our model shows that OEMs with high level of such valuable but appropriable resources prefer closed-price contracts over open-price contracts to dis-incentivize suppliers from investing in capabilities that may facilitate the appropriation of the OEM's resources. Consistent with our model, but not with alternative theories - Transaction Cost Economics, Property Right Theory, and Multi-tasking Models, our data on procurement contracts show that OEMs tend to use closed-price contracts when their pre-existing resources are high. The use of closed-price contracts reduces both the supplier's dedicated investment and adaptation effort and the OEM's profitability and end-product gains. Our work provides evidence on how parties, cognizant of the "dark side" of relationships, strategically trade-off safeguarding pre-existing resources against sacrificing value within inter-organizational relationships.

2 - Contract and Interorganizational Learning

Yi Zheng, University of Oklahoma, Norman, OK, yi.zheng-2@ou.edu, Qiong Wang

Given that interorganizational learning is essential to buyer-seller successes, we analyze the antecedents, moderators and differential results of interorganizational learning in this study. We find different contracts affect interorganizational learning in distinct ways. Specifically, promotion contract enhances a seller's explorative learning, while prevention contract reduces both explorative learning and exploitative learning. As the levels of behavioral uncertainty increase, both positive effects of promotion contract and negative effect of prevention contract become smaller. Higher levels of environmental complexity decrease the positive effects of promotion contract. We also find that a seller's explorative learning enhances its buyer's shadow of future, while a seller's exploitative learning enhances its buyer's performance. Finally, we reveal how portfolios of various contracts influence firms' interorganizational learning. Managers need to arrange the mix of various contracts in a reasonable way: promotion contract should be greater than prevention contract; discrepancy between promotion contract and prevention contract should be large, so that more interorganizational learning occurs. When promotion contract and prevention contract increase together, a seller's exploitative learning will decrease and then increase in a U-shape.

3 - Value Creation and Appropriation in the Services: A Study of Airlines

Chen Zhou, University of South Carolina, Room 492, Moore School of Business, 1014 Gree, Columbia, SC, 29208, United States, chen.zhou@moore.sc.edu, Rajdeep Grewal

The distinct characteristics, i.e., intangibility, inseparability, variability, and perishability of services present three unique challenges for service firms in managing the primary customer management processes of value creation and appropriation. First, value creation and appropriation take place at the local market level. Second, resource allocation decisions at firm and market level are necessary to manage delivery of value created and to facilitate value appropriation. Third, competition defines customer expectations of intangible and variable services, thereby influencing the performance outcome of value creation and appropriation. In this research we study the impact of value creation and appropriation processes on performance at the market level and the moderating roles of allocated resources and competition for service firms. We test our assertions using multiple secondary data sources from the U.S. airline industry, and apply an instrumental variable approach to address potential endogeneity. In the airline industry, on-time performance is an important metrics that consumers and investors consider when assessing airlines' service reliability and price can be used to usurp the value created. Therefore, we use flight delays and flight prices to measure value creation and value appropriation. We find that value creation decreases performance when a firm has rich market level resources, but increases performance as firm level resources and competition increase. Value appropriation decreases performance as the market level resources increase and the market competition intensifies, while it increases performance as the firm level resources increase. Our research contributes to the literature on services reliability, value creation and appropriation, and the airline industry.

■ SA18

Fertitta Hall, 417, 4th Floor

Consumer Behavior Feedback & Momentum

Contributed Session

Chair: JaeEun Baek, Korea University, Business School, 145 Anam-ro, Seoul, 136-701, Korea, Republic of, jennie@korea.ac.kr

1 - Will Observers Blame a Service Failure That Happens to Others? The Role of Incidental Similarity

Lisa C. Wan, Assistant Professor, The Chinese University of Hong Kong, Hong Kong, Hong Kong, lisawan@baf.cuhk.edu.hk

Incidental similarities triggered by trivial cues such as a shared family name or birthplace can have nontrivial consequences. Incidental similarities are chance similarities between individuals which create a sense of association and generate a fleeting sense of liking between two people (Burger et al., 2004). Existing research therefore suggests that incidental similarities lead to favorable reactions to the similar other. For example, chance similarities to another person can increase compliance with a request to help this person (Burger, et al., 2004) and, if the individual is a salesperson, can increase purchase intentions (Jiang, et al., 2010). Arguably, the effects of incidental similarities are not invariably favorable. For example, a service failure involves the service provider and the suffering customer. From the perspective of an individual observing the failure, the nature of the effect of incidental similarities would depend on whether one feels a sense of association with the provider or the customer. Drawing on the perspective taking theory, when consumers shared incidental similarity with the service provider, they may take the perspective of the provider and attribute him less responsibility for an observed failure. However, when they shared incidental similarity with the suffering customer, the reverse is true. This is the first research to distinguish between conditions in which an incidental similarity increases the favorableness of consumers' reactions to an observed service failure and conditions in which it decreases the favorableness of these reactions. An experiment confirmed our predictions.

2 - Using Regulatory Fit and Unfit to Adjust Front-line Service Providers' Work Engagement When Facing Customer Feedbacks

Shannon X Yi, The Chinese University of Hong Kong, CYT Building, 12 Chak Cheung Street, Shatin, N.T., Hong Kong, shannonyi@baf.cuhk.edu.hk, Chloe Y. Qiu, Lisa C. Wan

With the widely use of the Internet, nowadays customers have much more channels to give positive or negative feedbacks to service providers (comment areas on official websites, third-party reviewing websites, social media, and etc.). Likewise, service providers have more opportunities to know how customers evaluate their service and the overall service quality of their firms. Due to the public impact of these channels, a growing number of service providing firms are following up these feedbacks as a signal of valuing guest opinions and ensuring service quality. While many studies have investigated how these feedbacks affect other guests' behaviors and the firm's actions, few have looked into how the front-line service providers are directly influenced, especially in terms of their work engagement - the construct measuring their devotion to work and highly related to their work overall performance, retention and customer satisfaction. This paper proposes that front-line employee's work engagement after reviewing customer feedback may be moderated by their regulatory fit (fit vs. non-fit) created by employee's own regulatory focus (promotion or prevention focus) and the framing of service principles (the gain or non-loss framing) of the firm. That is, when facing the positive feedback, experiencing regulatory fit would make employee more engaged into subsequent work. When employees face negative feedback, however, regulatory unfit would mitigate their decreasing work engagement. Work affect would mediate the relationship between regulatory fit and engagement. A series of experiments is designed to examine these hypotheses. Its managerial implication will be discussed.

3 - The Carry Over Effect of Irreversible Decision Making

JaeEun Baek, Doctoral Candidate, Korea University, Business School, 145 Anam-ro, Seoul, 136-701, Korea, Republic of, jennie@korea.ac.kr, JungMin Jang

The present research examines the effect of irreversible decision-making on subsequent decision-making. Specifically, we suggest that an initial irreversible purchase requires increased cognitive effort and greater engagement in the deliberative process. Building on the momentum theory (Dhar, Huber, and Khan, 2007), we propose that consumers who experience irreversible choice are subsequently more likely to process information more thoroughly and that it results in fewer decision errors, higher choice possibility, and greater preference for a virtue product than a vice product. In 2 studies, we manipulated the reversibility of a decision and show findings consistent with our assumptions. In Study 1, when participants make a choice with the condition "Exchange is not allowed", they give more cognitive effort during decision-making, hence show lower computation errors in solving the bat and baseball problem (in Frederick 2005) compared with participants in the condition of "Exchange is allowed". In Study 2, we test whether decision reversibility also influences participants' judgement of healthy versus unhealthy foods in the self-regulation embedded choice. Participants in the irreversible (vs. reversible) decision condition tend to exhibit greater choice toward a healthy product (Study 2A) and more prefer the healthy product than the unhealthy product in subsequent unrelated decisions (Study 2B).We believe that our results shed important light on the way in which subtle messages about irreversibility in purchase decision affects unrelated consumer choice by priming an irreversibility mindset. In addition, retail managers should take special care in controlling instruction messages in a store.

Saturday, 10:30AM - 12:00PM

■ SB01

Fertitta Hall, 101, Lower Level

Retailing: General

Contributed Session

Chair: Xu Zhang, University of Michigan, 701 Tappan Avenue, Ann Arbor, MI, 48109, United States, xuzh@umich.edu

1 - Shocks In Cash Supply and Retail Consumption Patterns

Ranjan Banerjee, Dean and Professor Of Marketing, S P Jain Institute of Management and Research, Munshi Nagar, Dadabhai Road, Mumbai, 400058, India, ranjan.banerjee@spjimr.org, Ashita Aggarwal

On November 8, 2016 the Government of India announced the withdrawal of the two largest currency denominations, the 500 Rs and 1000 Rs note. These two denominations, at that time, accounted for 86% of the available cash in the market. While there were many ramifications of this, there are two immediate dimensions worthy of consideration a) the shrinking of income in certain segments of society where earnings are largely cash based b) a shortage of money supply impacting the relative usage of cash versus non cash modes of payment, and a resultant impact on categories consumed. The actual impact will thus differ by income group and nature of occupation. We have data from two outlets of a large supermarket chain. The data covers demographics, and product and category wise sales. We look at sales data for a corresponding period before and after the policy change. We also have data from a similar period in the previous year. We also have some demographic information on the profile of customers of We use a difference in difference approach to analysis , and our analysis allows to arrive at cross category shifts in consumer preferences in account of the intervention. Our analysis allows us to analyse changes in consumer behavior at segment level on account of the intervention, and derive implications for marketers and policy marketers.

2 - Spending Money and Saving Loyalty Points: A Construal Level Perspective

Alina Nastasoiu, McMaster University, 222 Jackson St W, unit 601, Hamilton, ON, L8P4S5, Canada, nastasom@mcmaster.ca, Bendle Neil, Mark Vandenbosch

According to research by Colloquy, the average US household fails to cash in about a third of the amount of loyalty points they collect. Numerous explanations, from onerous points expiration policies, to the lack of availability in rewards, can account for this pattern. We develop an explanation which focuses on the construal level of the loyalty points. First, we use secondary data provided by a loyalty program with some particular design features, to provide support for the idea that refrainment from spending loyalty points is a conscious choice, unaffected by reward availability, expiration policy or disengagement with the program. Secondly, we provide experimental evidence that consumers value loyalty points more than they value the regular currency; as a result, they are more likely to spend money and save loyalty points. Finally, we show that when choosing between a smaller reward which is available immediately and a larger reward which is available later, participants who imagine that they will be using loyalty points to pay are more likely to choose the distant reward, compared to participants who imagine they will use money to pay. This result lends support to the idea that loyalty points are perceived at a more abstract level than money which prevents consumers taking a concrete action, like spending them. However, stimulating loyalty points redemption is crucial for the success of loyalty points. Our research implies that making the points appear more concrete is a way of increasing redemption.

3 - Meet Me Halfway the Value of Bargaining

Junhong Chu, National University of Singapore, Nus Business School, 15 Kent Ridge Drive, Singapore, 119245, Singapore, bizcj@nus.edu.sg, Xu Zhang, Puneet Manchanda

Bargaining is a very important pricing mechanism, prevalent both in the online and offline worlds. However, little empirical work on the value of bargaining in retail markets exists, primarily due to the lack of real-world bargaining data. In this research, we leverage the availability of rich, transaction-level data on bargaining outcomes on a digital marketplace. We build a structural model capturing the processes inherent in a transaction where bargaining is possible. Specifically, we model the decision to bargain, the bargaining realization and the purchase decision. Using our results, we perform a counterfactual analysis to derive the value of allowing bargaining on the marketplace. We do this by disallowing bargaining such that all sellers on the marketplace move to a fixed-price mechanism. We find that the marketplace as a whole and the sellers in the marketplace would both benefit from this policy change. The saved bargaining costs are significant and thus it is also beneficial from a social planner's perspective to ban bargaining. Finally, we show that the benefit of switching to fixed-price mechanism is heterogeneous across sellers, where sellers with low reputation level, high detailed seller rating, and non-promotion products would benefit most from the policy change.

■ SB02

Fertitta Hall, 102, Lower Level

Online Search II

Contributed Session

Chair: Georg von Graevenitz, Ludwig Maximillians University, INNO-tec, Kaulbachstrasse 45, Munich, 80539, Germany, g.vg@uclmail.net

1 - Emotion in Search Adverting: An Empirical Study

Pengyuan Wang, University of Georgia, Athens, GA, 30601, United States, deezephel@gmail.com, Anindita Chakravarty, Phi Cong Hoang

The volume of search advertising has surged in the past years and has become one of the most important marketing channels. Various aspects have been found to affect the ability of the ads to attract clicks. However, it remains unknown how the emotions in the search query or the ad text could affect the attractiveness of the ads. In this study, we obtain a unique large dataset from a major advertising portal, consisting of the click-through rates (CTR) of thousands of search advertising campaigns under thousands of queries. We obtain a set of words or phrases of various emotions through manual labeling, and hence label each query and ad text with its emotions. To understand the impact of the emotions among different industries, we further label each ad campaign with its industry, represented by SIC codes. We then utilize regression trees to study the impact of the ad industry, ad emotion and query emotion on search ad CTR. Based on the computation results, we are able to make the following managerial recommendations: 1) For each industry, what kind of queries performs better, those with emotion or without emotions? 2) For each industry, what is the combination of query emotion and ad text emotion that attracts the most clicks? 3) Without considering industries, what are the overall effect of query emotion and ad text emotion? This study not only contributes to search advertising literatures, but also provides specific search campaign recommendations to advertisers of various industries.

2 - Price in Online Ads

Michelle Andrews, Emory University, 1300 Clifton Rd, Atlanta, GA, 30329, United States, m.andrews@emory.edu, Ting Li

Search engine advertisements are designed to elicit clicks and ultimately conversions. We quantify the causal effect of displaying product price in sponsored ads on performance metrics. Partnering with a major online electronics retailer, we run a large-scale field experiment involving over 3,000 products by randomly exposing consumers to either an ad campaign that included the product price or to a similar ad that did not include the price. Based on over 2 million impressions across devices, over 80,000 clicks, and over 1,500 sales, we find that including price in online ads decreases the odds of clicking by 24%, but increases the odds of conversion by 28%. A possible explanation is the different role price plays depending on where consumers are in the purchase decision process. For consumers in early stages of buying, price plays a prescreening role by presenting information that discourages click-to-reveal behaviors. For consumers in later stages of buying, price plays a decision-aid role by providing information that encourages click-to-buy behaviors. Deterring clicks from consumers who are not ready to buy and persuading clicks from those who are ready to buy consequently reduces click-throughs and stimulates conversions. The increase in quality of clicks thus compensates for the decrease in quantity of clicks.

3 - Role of Face Presence and Dominance on Produc Exploration From Visual UGC

Purushottam Papatla, University of Wisconsin-Milwaukee, School of Business Administration, PO 7423202 N Maryland Ave, Milwaukee, WI, 53201-0742, United States, papatla@uwm.edu

Visits by consumers to online retail sites may begin with product browsing followed by search where the stimuli are examined more closely for product knowledge. The increased knowledge could then lead to purchases either during that visit or repeat visits. Retailers typically facilitate initial product browsing through thumbnails which visitors can click once to enlarge and a second time to visit the product's webpage. Given the increasing use of visual social media like Instagram, however, retailers have begun curating such thumbnail galleries using visual UGC (VUGC) of their products. For instance, the brand Coach may curate a photo posted by a customer while using one of its purses. Since posters on Instagram typically include themselves and/or friends as well in photos that they post, such photos are also likely to include people in addition to products. Thus, when the thumbnails are enlarged by visitors, in addition to providing more visual detail of the product the enlarged versions will also make the people in the photo more clearly visible. Whether this distracts visitors' attention from the product and thus reduces the likelihood of search or provides a context for the product's use and enhances search is, however, not clear. This is the issue that we investigate using data on clicks on more than 82,000 VUGC photos from three categories curated by 52 brands. Our results suggest that the mere presence of face(s) and how much of a photo's area they cover both detract from search for all investigated brands and categories.

4 - Does Online Search Predict Sales? Evidence from Big Data for Car Markets in Germany and the UK

Georg von Graevenitz, Senior Lecturer, Queen Mary University of London, Mile End Road, London, E1 4NS, United Kingdom, g.vg@uclmail.net, Christian Helmers, Valentine Millot

The widespread use of online search engines is producing big and fast growing sets of micro-level data that can be used for empirical research. Research into online search behavior is currently also a fast growing field across a range of disciplines. Recently, data from Google Trends (GT) has been used to forecast consumption (Vosen and Schmidt, 2011; Choi and Varian, 2012), unemployment (Pavlicek and Kristoufek, 2014), real estate transactions (Dietzel et al., 2014), stock markets (Preis et al., 2013), and political and governance related topics (Mellon, 2013, 2014; Mathews and Tucker, 2014). The breadth of this work shows that online search data are useful in many different contexts, due to the diversity of online activities and related search motives. This 'catch-all' characteristic of online search represents an opportunity for researchers in many fields. It also creates a challenge: the observable aggregate data on search behavior result from a mix of distinct motives, such as search to inform a purchase, search for information post sale and search motivated by fandom. Identifying pre-purchase search intensity from aggregate search by using specific search terms is currently the main method used to predict product sales or other outcomes from aggregate search data. This approach can fail as research on prediction of flu outbreaks has shown. Our paper shows how a model of search motives can provide an empirical specification identifying the effect of pre-purchase search on sales using aggregate search data. The model predicts biases that arise if only product specific search terms are used to collect data. It also shows how these biases can be avoided. This approach does not require collection of data on product characteristics. We apply the model to data on online search for products and product-level sales in the German and UK car markets. We demonstrate how aggregate online search data can be used to predict sales and we exploit the exogenous introduction of scrappage subsidies for cars in the aftermath of the Global Financial Crisis to identify the effect of search on sales.

■ SB03

Fertitta Hall, 105, Lower Level

Mobile Marketing with Customer Psychology

General Session

Chair: Xueming Luo, Temple University, 701 S. West Street, Room 234, P.O. Box 19469, Arlington, TX, 76019, United States, Xueming.Luo@temple.edu

1 - Personality Matching to Improve Mobile Ad Effectiveness

Rajiv Garg, UT Austin, 1 University Station, B6000, Austin, TX, 78712-1178, United States, rajiv.garg@mccombs.utexas.edu, Raj Raghunathan, Frenkel Ternofstode

Ironically, over the last decade, increased penetration and ubiquity of mobile technologies has seen reduced effectiveness of mobile ads. In this study we try to address this challenge with a new approach to match mobile ads to mobile apps. We first determine, using crowdsourcing, the personality traits of mobile apps and brands presented in the mobile ads and then evaluate, using a field study, the effectiveness of ads. This effectiveness is measured as brand recall and a click through rate. As identified in the personality matching literature, both similarity or complementarity of personality traits may be used in match selection. But, given the relative static nature of personality of mobile ads and mobile apps, we observe mobile matching much more consistent, conditional on observable mobile user's characteristics.

2 - The Good, Bad, and Ugly of Omnichannel Promotions

Fue Zeng, Wuhan University in China, Department of Marketing, Wuhan, China, zfee@sina.com, Yuchi Zhang, Xueming Luo

Despite the importance of promoting online (offline) customers to buy offline (online), little is known about how such targeted promotions actually influence the web, in-store, and total sales. We exploit two randomized field experiment datasets from a large department store with mobile promotions sent to its loyalty members. Experiment 1 finds that the treatment of targeting online customers with offline shopping promotions (online-to-offline) is effective in lifting in-store sales and total sales. Experiment 2, however, finds that targeting offline customers with online shopping promotions (offline-to-online) increases web sales but fails to boost total sales. This targeting can be even harmful and reduce consumer total spending. Our findings do not support the channel-shift mechanism, because the targeted promotions may not always lead to sales that is substituted between the online and offline purchasing channels. Rather, they support the product category-shift mechanism, where offline (but not online) channel facilitates the purchases of touch and feel tactile products and new category sales with more unplanned purchases and cross-buying. The results demonstrate the value of omnichannel promotions and highlight the conditions under which online and offline targeting is most valuable for firms to promote the other channel.

3 - Consumption-based Mobile Analytics in e-Book Markets: Reading Patterns, Review Ratings, and Promotional Engagement

Wonseok Oh, Korea Advanced Insitute of Science and Technology, College of Business,, Seoul, Korea, Republic of, wonseok.oh@kaist.ac.kr, Angela Aerry Choi, Jae Yun Moon, Paul Merage

We investigate how the reading patterns of mobile-oriented e-book users affect their purchase- related activities, such as review rating, promotional engagement, and purchase frequency. The bases of our analysis are unique e-book consumption data that reflect consumers' reading trajectories and completion ratios with detailed time stamps. We find that in the mobile environment, consumers with incomplete and irregular consumption patterns are more likely to provide low review ratings than those with complete and regular consumption. The results also suggest that even top-selling books are barely read. In addition, we conduct randomized field experiments to ascertain how consumers' reading patterns are associated with purchase frequencies and responses to mobile coupons.

■ SB04

Fertitta Hall, 125, Lower Level

Social Media Sharing II

Contributed Session

Chair: Haris Krijestorac, University of Texas at Austin, 3106 Speedway, Apt 203, Austin, TX, 78705, United States, haris.krijestorac@utexas.edu

1 - Social Media and Mental Health: Investigating Behavioral Contagion from Celebrity Suicides

Srabana Dasgupta, Assistant Professor, Simon Fraser University, 8888 University Drive, Vancouver, BC, V5A 1S6, Canada, srabanad@sfu.ca, Dianne Cyr, Nilesh Saraf

We empirically investigate whether and how behavioral contagion is amplified by social media when celebrities are unintentionally involved in negative or harmful behavior or events. In this context, the celebrities' behavior that propagates through the population is not intended but incidental, and its impact on the population could be positive or negative. For example, drug abuse might be negatively emulated by others, or the negative effects of drugs may result in positive behaviors in that individuals realize its harmful effects. In our study, we examine the possible opposing influences that celebrities may have in the presence of online social media in the context of suicidal contagion. We investigate how social media has altered the manner in which contagion of celebrity suicides unfolds . To do this, we use a census dataset on the 'manner of death' of the Canadian population, and combine it with data mined from Twitter and other news media data to answer the following research questions: Does online social media exacerbate behavior contagion within a population resulting from suicides by celebrities? If yes, then how does online social media affect the contagious influence of celebrity characteristics on the population?

2 - What Gives "Real-time Marketing" its Bite? A Byte of Humor

Yuting Lin, Imperial College London, London, SW7 2AZ, United Kingdom, y.lin14@imperial.ac.uk

Andreas Eisingerich, Sourindra Banerjee, Abhishek Borah

The phenomenon of "real-time marketing" has attracted the attention of academics and managers alike. Yet, little is known about its marketing effectiveness and how real-time marketing creates value for firms. To address this gap, we analyze a uniquely compiled database of 407 real-time marketing tweets of 117 brands over a 6 year period using two outcomes: virality (number of re-tweets and likes) and firm value. We discover key elements other than speed in designing tweets to cut through the clutter. The results show that real-time marketing tweets tinged with humor and that are unanticipated increases virality. We also find that real-time marketing tweets tinged with humor and timed earlier than rival tweets drive virality. Furthermore, the synergy of humorous, unanticipated, and timely content increases firm value. The study highlights the crucial role of humor in driving marketing effectiveness and offers important implications for research and practice alike.

3 - Understanding Virality of Online Videos using Spillover Effects

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We observe how views of online videos is impacted by spillover effects across online hubs in which the videos are viewed. Marketing literature has made efforts to model the spillover effects of new product diffusion across markets. However, these models have yet to be adapted to digital media, such as online videos. These media are vital channels for marketers today, and may exhibit unique diffusion patterns due to factors such as their high perishability and low consumption costs. Using data on the diffusion of 381 online videos viewed over 26 platforms over 1.5 years, we evaluate how the introduction of a video into an online platform (e.g., YouTube, Vimeo) creates spillover effects on to other platforms. This spillover effect is estimated using a pseudo-experiment; for each video existing on multiple platforms, we observe its subsequent view growth after being added to a new platform, and compare this view growth to that of a single-platform video with a similar diffusion patterns up until the time of entry into the new platform. We then observe how the magnitude of such spillover effects are determined by diffusion patterns within adoption hubs, using Bass diffusion model parameter estimates. Our findings can be instrumental in developing sequential seeding strategies that leverage spillover effects for online media. Additionally, they contribute to theory on new product diffusion by demonstrating how spillover effects are exhibited in an online context.

■ SB05

Fertitta Hall, 233, 2nd Floor

User Generated Content Social Influence & Authenticity

Contributed Session

Chair: Jiaxiu He, Western University, Unit 207, London, N5x 2p2, United Kingdom, hejiaxiu@gmail.com

1 - Strategic Behaviors in Online Reviews: A Study of Yelp.com

Tianyu Gu, Doctoral Student, University of Arizona, 1201 East Drachman Street, Apt 164, Tucson, AZ, 85719, United States, gutianyu@email.arizona.edu, Yong Liu, Madhu Viswanathan

Strategic Behaviors in Online Reviews: A Study of Yelp.com Increasingly, peer reviews of products and services influence consumers' purchase decisions. However, most products and services receive several hundred reviews making it difficult to discern the incremental informational value provided by each additional review. In this research, we investigate two key questions related to reviewing behavior, a) what are the differences between multiple reviews for the same product and, b) how do incentives such as competition for attention, need for social approval, and intrinsic motivation to share knowledge affect the review content. In contrast to previous literature that focuses entirely on ratings provided by reviewers, we examine informational differences in review content (text). With review data from Yelp.com, which covers 219,889 reviews for 8,410 Phoenix restaurants in an 11-year period from 2004 to 2015, as the context, we employ text mining and natural language processing (NLP) techniques to discover the dimensions along which the restaurant reviews and reviewers differ from each other and to determine the "positioning" of specific reviews and reviewers. We find that while writing reviews, reviewers, in addition to choosing which restaurant categories to review, differentiate themselves on writing styles and several key service dimensions like food quality, service, environment, price, and location. Further, our results show strong evidence that strategic behavior exists in online reviews. For instance, reviews consistently devote greater attention to certain aspects of the restaurants (such as parking facilities) that previous reviews have not shed light on. Finally, we also find that reviewers' reputation in the online community significantly moderates the influence of these incentives on the reviewing behavior.

2 - Understanding the Drivers of Online Rating Behavior in Collaborative Content Communities

Kihyun Hannah Kim, Assistant Professor, Rutgers University, 1 Washington Park, #1178, Newark, NJ, 07102, United States, kh.kim@business.rutgers.edu, Sarang Sunder, Eric Yorkston

Consumers' online rating behaviors have received much attention from both practitioners and marketing scholars due to the strong link between ratings and product sales. However, while the impact of online opinions on purchasing decisions has been intensively studied, relatively little is known about what drives different online rating behaviors. In flexible discussion forums like collaborative communities, consumers can share their experiences and knowledge actively and freely. Although the range of motivations and influences are broad and the ratings are user generated, understanding the drivers and dynamics of content creation may enable companies to better understand and influence their market offerings. Specifically, we analyze consumer usage and rating behavior in a large-scale online community comprising more than 1 million consumers using and rating more than 20,000 products across a period of 7 years. By examining the individual-level characteristics (e.g., prior experience), peer-level characteristics (e.g., rating distributions), and product-level characteristics (e.g., game type), we propose an integrated framework to understand online rating behaviors. Our proposed model will provide guidance to marketers on how to react to online ratings and incorporate online evaluations in product design.

3 - The Oz Effect: How Does Information Credibility Affect Healthcare Choices?

Zijun Shi, Carnegie Mellon University, Tepper School of Business, 5000 Forbes Avenue, Pittsburgh, PA, 15213, United States, zijuns@andrew.cmu.edu, Xiao Liu, Kannan Srinivasan

When making choices for healthcare products, people might seek information from friends, doctors, scientific journals, online consumer reviews and commercial websites, each with different credibility. Despite conventional wisdom and theoretical belief that information credibility is crucial in healthcare decisions, there has been little empirical evidence on the relative importance of information at various credibility levels. In this paper, we quantify the effect of information credibility on healthcare product sales. Notably, we tease apart other factors that may influence consumer decisions, including information publicity and accessibility. We combine multiple data sources including multi-media data from the Dr. Oz show, consumer reviews and sales data from Amazon, research articles from academic journals and survey data from Amazon Mechanical Turk. In our analysis, online reviews, Dr. Oz's recommendations, and scientific research are treated as information of low, intermediate, and high credibility respectively. We present the main findings using weight-loss products and demonstrate generalizability to other product categories. In addition, we leverage state-of-the-art deep learning natural language processing techniques and analyze content features of the online reviews to further understand whether "story telling" plays a significant role in consumers' purchase decisions. Our results have important public policy and managerial implications on how to balance information credibility, publicity, and accessibility in order to improve consumer decision making in the healthcare domain.

4 - The Importance of Authenticity and Experience in Online Rating Systems

Jiaxiu He, Postdoctoral Fellow, Ivey Business School, Western University, 1255 Western Road, London, ON, N6G 0N1, hejiaxiu@gmail.com, Xin Wang, Mark Vandenbosch

Online product reviews have the opportunity play a critical role in decision-making process of consumers as they can help consumers form a prior expectation/opinion of the quality of the products. However, given the preponderance of bogus and potentially biased reviews, consumer trust in reviews may be low and their effectiveness on forming expectations/opinions diminishes. Even in the desired situation when all reviews are authentic, the overwhelming number of reviews hinders the consumers' diagnostic ability, in particular, for late adopters. In this paper, we investigate the effect of verified purchase status on the helpfulness of reviews and the effects of review helpfulness on selling prices and sales of the products. Helpfulness votes can be viewed as an evaluation of the review (diagnostic usefulness) while verified purchase is a signal about the reviewer (authenticity & experience). Utilizing a unique dataset of online reviews and market dynamics from Amazon about tablet computers, we find that verified, authentic reviews are associated with desirable firm outcomes like increased prices and increased sales. Specifically, reviews with verified purchase are more likely to be considered helpful after controlling for product rating, reviewer characteristics, and product and time fixed effects. In addition, increases helpful votes with verified purchase are significantly related to higher prices and a boost in sales. However, helpful votes without verified purchase do not display the same relationships to prices or sales. Our results have important implications for both firms and rating systems regardless of causality of these effects. Verified helpful votes could lead to firms having increased pricing power enabling them to increase price at no loss of demand. Alternatively, verified helpful votes lead to increased demand and an upward shift in the demand curve. Either outcome is valuable to firms participating in the online marketplace and in turn the marketplace itself.

■ SB06

Fertitta Hall, 236, 2nd Floor

Sharing Economy IV

Contributed Session

Chair: Daniel Kaimann, University of Paderborn, Warburger Str. 100, Paderborn, 33098, Germany, Daniel.Kaimann@wiwi.upb.de

1 - The Evil Necessity: The Role of Surge Pricing in Sharing Economy

Xinying Hao, The University of Texas at Austin, 3500 Greystone Dr., # 262, Austin, TX, 78731, United States, xinying.hao@mccombs.utexas.edu, Garrett Sonnier

Economic theory tells us that in a two-sided marketplace, each side's deal depends on two things: price sensitivity and how well-stocked each side of the market is. Using prices as signals to equilibrate supply and demand, Uber's surge pricing fits the theory perfectly. Yet, surge pricing still faces popular and harsh criticism. In this paper, we examine the consumer's skepticism and psychological resistance to this "unfair" mandatory charge. We propose a sequential decision model to empirically investigate how surge pricing can affect consumers' behavior in both supply and demand side. We aim to provide implications for platforms in sharing economy via three natural experiments: (1) No surge pricing. (2) Optional surge pricing, which would allow riders to opt-in to surges and be expedited to the front of the queue at premium cost. (3) Mandatory surge pricing, which was implemented by informing riders that they were using optional surge pricing, but not allocating any drivers unless surge pricing was selected.

2 - The Strategic Impact of Collaborative Consumption on Product Marketers

Myounghee Moon, University of California-Riverside, 900 University Ave, Riverside, CA, 92507, United States, myounghee.moon@email.ucr.edu, Subramanian Balachander

Enabled by advances in technology, the rise of collaborative consumption can potentially impact consumers and their consumption and product ownership patterns. This emerging trend creates challenges to long-established business such as automobile manufacturers and the hotel industry. While the impact of collaborative consumption on traditional business has received increasing attention in press, academic research is still limited. In this paper, we address the following questions: How does collaborative consumption affect a product marketer and the size of the product market? Would it have differential effects on high- and low- quality products? We answer these questions by identifying the role of inherent quality of products in the consumer decision of product ownership and sharing. We develop an analytical, game-theoretic model of a product market and a connected sharing market to study the above issues. Starting from the model of a monopoly product market, we extend to examine the implication of competition between two quality-differentiated products. Our analysis examines the strategic and economic impact of consumer-to-consumer product sharing on the product demand, firm's profits, consumer surplus, and social welfare.

3 - Behind the Review Curtain: Decomposition of Online Consumer Ratings in Peer-to-Peer Markets

Daniel Kaimann, Paderborn University, Warburger Str. 100, Paderborn, 33098, Germany, Daniel.Kaimann@uni-paderborn.de

The high volume of user-generated ratings per product in peer-to-peer markets requires the customer to make a selection of reviews when searching for reliable product or service information. Peer-to-peer markets are especially suitable for the analysis of online ratings as they represent two-sided markets that match buyers to sellers and thus lead to a reduced scope for opportunistic behavior (e.g., Einav et al. 2016, Rochet and Tirole 2006). We aim to decompose the online ratings by focusing on the customer's decision-making process in leading peer-to-peer carsharing platform. Specifically, we are interested in the following: 'How can we decompose the variance online consumer ratings? In the context of which are the specific determinants of online ratings? How do these determinants interact with each other to indicate an observable product quality?' Using data from the peer-to-peer carsharing platform BlaBlaCar, we analyze 285,172 users registered between 2008 and 2013 and their online ratings focusing on the analysis of the explicit determinants reflecting the variance of online ratings. We find clear evidence to suggest that the average volume of ratings has a significantly negative influence on the submitted online rating. A driver's attitude towards music, smoking, and conversation has a significantly positive influence on his received online ratings. However, we also show that the interaction of gender and attitude has a significantly negative effect on average ratings. Particularly, women who are talkative, like pets, and listen to music are rated significantly worse than their male counterparts.

■ SB07

Fertitta Hall, 239, 2nd Floor

Digital Marketing, Information and Media II

Invited Session

Chair: Xiao Liu, New York University, Stern School of Business, New York University, New York, NY, 10013, United States, xliu@stern.nyu.edu

1 - The Effects of Short-run and Long-run Goals on Customer Motivation: Evidence from a Behavior Tracking App

Nathan Yang, McGill Desautels, 1001 Sherbrooke Avenue, Montreal, QC, H3A 1G5, Canada, nathan.yang3@mcgill.ca, Kosuke Uetake

We investigate the role of short-run and long-run goals in encouraging healthy and sustainable lifestyles. Our analysis uses extensive databases about weight, daily calorie gain by food, and daily calorie consumption by exercise from a large national wellness app. We construct and estimate a structural model of customer food consumption and exercising behavior and examine the effects of the daily calorie budget provided by the app and the long-run goal setting on users' weight reduction. Using the estimates from the structural model, we aim to derive the optimal short-run and long-run goals to keep motivating users.

2 - Large Scale Cross Category Analysis of Consumer Review Content on Sales Conversion Leveraging Deep Learning

Xiao Liu, New York University, Stern School of Business, New York University, New York, NY, 10013, United States, xliu@stern.nyu.edu, Dokyun Lee, Kannan Srinivasan

Online Word-of-Mouth has great impact on product sales. Although aggregate data suggests that customers read review text rather than relying only on summary statistics, little is known about consumers' review reading behavior and its impact on conversion at the granular level. To fill this research gap, we analyze a comprehensive data set that tracks individual-level review reading, search, as well as purchase behaviors and achieve two objectives. First, we describe consumers' review reading behaviors. In contrast to what has been found with aggregate data, individual level consumer journey data shows that around 70% of the time, consumers do not read reviews in their online journeys; they are less likely to read reviews for products that are inexpensive and have many reviews. Second, we quantify the causal impact of quantity and content information of the "read" reviews on sales. The identification relies on the variation in the reviews seen by consumers due to newly added reviews. To extract content information, we apply Deep Learning natural language processing models and identify six dimensions of content in the reviews. The comparative advantage of Deep Learning model is that it can sift category-specific content features across a wide range of product categories without hand coding features with human intervention or domain knowledge. We find that aesthetics and price content in the reviews significantly affect conversion across a wide range of product categories. Counterfactual simulation suggests that re-ordering review content can have the same effect as a 1.6% price cut for boosting conversion.

3 - Does the Media Bias News in Favor of Advertisers? Evidence from Coverage of Car Safety Recalls

Ananya Sen, MIT, 21, Rue des Amidonniers, Toulouse, France, ananyasen100@hotmail.com, Graham Beattie, Ruben Durante, Brian Knight

Commercial media rely heavily on advertising revenues and have an interest in keeping a good relationship with their advertisers. When controversial issues about advertisers emerge, the media may be tempted to under-report them to avoid harming this relationship. We test this hypothesis by examining the relationship between how prior advertising spending by car manufacturers in US newspapers affects coverage of car safety recalls. We find that a medium-long term advertising relationship, as opposed to a short term one which is characteristic of the existing literature, between the newspaper and manufacturer, captured by the amount of ad spending by the manufacturer in that newspaper over the previous two years, leads to significantly less coverage of recalls involving those particular manufacturers. Focusing on car safety recalls enables us to overcome a key identification concern in the literature, since it allows us to disentangle the effect of advertisers' influence from that of readers' tastes which, in this case, should lead to more news coverage, since safety-concerned readers owning vehicles of the recalled brand should demand more information about the recall. We confirm this hypothesis in our empirical findings. We also investigate how market structure mediates the effect of advertising revenue on bias.

4 - The Regulatory Power of Crowdsourced Reviews: Evidence from New York Restaurants

Chiara Farronato, Harvard Business School, Boston, MA, United States, cfarronato@hbs.edu, Georgios Zervas

We investigate the circumstances under which crowdsourced reviews can substitute for government oversight. Using data from New York restaurant health inspections and Yelp, we estimate a predictive model of restaurant health code violations. We categorize violations by the degree to which they can be predicted based on consumer reviews. We then estimate the joint impact of these two information sources on restaurant demand, and show that both reviews and health grades affect the consumer decision making process.

■ SB08

Fertitta Hall, 240, 2nd Floor

Market Frictions and Consumer Welfare: Multi-Market Contact, Liquidity Constraints and Entry Barriers

General Session

Chair: Ahmed Khwaja, Yale University, 165 Whitney Ave, Box 208200, New Haven, CT, 06520, United States, ahmed.khwaja@yale.edu

1 - Liquidity Constraint and Household Shopping Behavior

Srinivasaraghavan Sriram, University of Michigan, Ann Arbor, MI, United States, ssrira@umich.edu, Puneet Manchanda, Kanishka Misra

We study how short-term income changes affect where and what a household purchases in the presence of liquidity constraints, with particular emphasis on the propensity to (a) purchase private label products and (b) shop at discount stores. Since most of the extant research has considered the effect of income in isolation, we know little about the role of liquidity in influencing where and what customers purchase. We perform our empirical analysis on the Nielsen data on household purchases in non-durable packaged goods categories during a period when the federal government disbursed $100 billion as a part of Economic Stimulus Payments (ESPs), with an average US household receiving approximately $900. Households received these payments over a nine-week period, with the date of disbursement determined based on the second-to-last digit of the taxpayer's Social Security number. Since the timing of disbursement, and hence receipt, were randomly assigned across households, the timing of the short-term income shock is exogenous. A survey of 60,000 Nielsen panelists that elicits information on the week during which they received the ESP payment and the magnitude of the payment enables us to pin down the time when each household had this excess cash at their disposal. By looking at the timing of receipt of the ESP for the panel households along with their purchases of non-durable goods from the Nielsen data helps us understand the relationship between short-term infusion of cash and purchase behavior. In addition, the survey contains information on each household's access to liquidity, which helps us infer how income and liquidity moderate the effect of this short-term influx of cash on the purchasing behavior of households.

2 - Efficiency Gains from Removing Entry and Price Controls: Evidence from a Change in Regulation

Maria Ana Vitorino, University of Minnesota, Minneapolis, MN, United States, vitorino@umn.edu, Katja Seim

This paper investigates empirically the role of Portuguese deregulation in shaping the structure of local markets for driving instruction and competition among driving schools. We develop a framework that integrates quality and price competition among horizontally and vertically differentiated driving schools. We estimate the model using detailed data on the market structure, firm attributes and prices, and consumer preferences for 593 schools in 117 local markets. We use the estimated parameters of our model to predict the effect that the 1998 easing of price and entry restrictions governing the sector had on firm profits and consumer welfare. We also explore the effect of new regulations currently being considered.

3 - The Collusive Effect of Multimarket Contact on Prices: Evidence from Retail Lumber Markets

Ahmed Khwaja, Yale University, 165 Whitney Ave, Box 208200, New Haven, CT, 06520, United States, ahmed.khwaja@yale.edu, Beomjoon Shin

This paper investigates whether multimarket contact leads to collusive pricing in the retail lumber market and assesses the effect of potential regulation on consumer welfare. Focusing on the competition between Home Depot and Lowe's, we assemble a unique data set of prices and sales in the pressure treated lumber category. We first provide reduced form evidence of the effect of multimarket contact on collusion by showing a positive and significant correlation between price and multimarket contact. In order to understand the role for regulation in remedying the collusion we estimate a model in the BLP equilibrium framework. The model allows for conduct parameters which capture the degree of collusion in setting prices. We find that the conduct parameter for capturing the effect of multimarket contact on collusion is significant and positive, implying that multimarket contact leads to higher prices than those from a competitive Bertrand-Nash equilibrium. Using the model estimates, we conduct a counterfactual analysis to measure the consumer welfare impact due to collusive pricing. We find that regulations that curb such collusion can increase consumer surplus increases by as much as $61,000 per month. To the best of our knowledge, this is the first paper that shows state-level multimarket contact facilitates collusive pricing with implications for consumer welfare. The finding has important policy implications that might suggest the need for monitoring prices in states where retail firms have a greater degree of multimarket contact.

■ SB09

Fertitta Hall, 241, 2nd Floor

Structural Models V

General Session

Chair: Ron N. Borkovsky, Toronto, ON, M5S 3E6, Canada, ron.borkovsky@rotman.utoronto.ca

1 - Large-scale Demand Estimation with Search Data

Stephan Seiler, Stanford University, 350 Alabama Street, Unit 11, San Francisco, CA, 94110, United States, sseiler@stanford.edu, Tomomichi Amano

Many markets, especially online, are characterized by sellers that stock large numbers of products and sell each product relatively infrequently. At the same time, consumer browsing information is typically tracked by online retailers and is much more abundant than purchase data. We propose a demand model that caters to this type of setting based on search and purchase data. Our approach is computationally light, yet allows for flexible substitution patterns. We apply the model to a data set containing browsing and purchase information from a retailer stocking over 1,000 products and recover elasticities for the entire assortment. Price experiments implemented by the retailer for a subset of products are used to validate our approach.

2 - Private Labels and Retailer Profitability: Bilateral Bargaining in the Grocery Channel

Mitchell Lovett, Duke University, Fuqua School of Business, Campus Box 90120, Durham, NC, 27708, United States, mitchell.lovett@duke.edu, Paul Ellcikson, Pianpian Kong

We examine the role of store branded ``private label'' products in determining the bargaining outcomes between retailers and manufacturers in the brew-at-home coffee category. Exploiting a novel setting in which the dominant, single-serve technology was protected by a patent preventing private label entry, we develop a structural model of demand and supply-side bargaining and seek to quantify the impact of private labels on bargaining outcomes. We find that, while bargaining parameters are relatively symmetric across retailers and manufacturers, the addition of private labels alters bargaining outcomes by improving the disagreement payoffs of the retailers (relative to the manufacturers), thereby shifting bargaining outcomes in the retailer's favor.

3 - How does Sugar Tax Affect Demand?

Song Yao, Northwestern University, 2001 Sheridan Road, Dept of Marketing, Evanston, IL, 60208, United States, s-yao@kellogg.northwestern.edu, Stephen Seiler

Price-based interventions are widely considered by policy makers as a tool to shift customers' behavior. This paper investigates one of such policy interventions where a local government imposes tax on sugar-sweetened beverages (SSBs) in order to discourage the unhealthy consumption and fight obesity and diet-related diseases. Through an extensive set of analyses we document the effect of the tax on retailers' pricing decisions and show that it has a significant effect in reducing SSBs consumption. We further estimate a demand model which gives more insights on how the tax affects different demographic groups.

■ SB10

Fertitta Hall, 313, 3rd Floor

Marketing Alliances

Contributed Session

Chair: Kiran Pedada, Texas Tech University, 3002 4th Street, Apt C155, Lubbock, TX, 79415, United States, kiran.pedada@ttu.edu

1 - Distribution Strategies of Complementary Products and Financial Performance: The Impact of Exclusive, Partially Exclusive, or Non Exclusive Models

Richard T Gretz, Associate Professor of Marketing, University of Texas at San Antonio, 1 UTSA Circle, San Antonio, TX, 78249, United States, richard.gretz@utsa.edu, Carlos Bauer, Suman Basuroy

Product exclusivity is a ubiquitous practice, particularly among complementary products, and yet the amount of research that has empirically tested its effectiveness is rather limited. Furthermore, existing studies have mostly focused on the benefits for hardware manufacturers ignoring the complementary side of the network, that is, software producers. The purpose of this study is to explore the effectiveness of exclusivity, partial exclusivity or non-exclusivity strategies and the impact that length of exclusivity has on product revenue. To accomplish this, we use a multi-method approach to investigate the benefits and limitations of these strategies. Empirical results based on exclusive, non-exclusive, and partially exclusive U.S. home video game releases from 1995 through 2010 on associated consoles show that partial exclusivity has a positive effect on products' revenue outperforming fully exclusive strategies. Results also show that exclusivity duration positively impacts revenue for partially exclusive products. Experimentally, the study shows that partial exclusivity increases consumers' willingness to purchase a product compared to full and non-exclusive approaches. We also investigate the influence of partial exclusivity on current and future product owners. Our findings provide managers with insight into exclusivity-related strategies in networked markets.

2 - Role of Network Ties in Selecting Partners for Marketing Alliances: Implications for Firm Risk

Ashish Sharma, Ph.D. Candidate, University of Georgia, Terry College of Business, Athens, GA, United States, ashish82@uga.edu

Anindita Chakravarty, Chen Zhou

The role of marketing alliances and network position in firm value has received significant attention. Recently scholars have started to investigate the role of a firm's alliance partners' network density in firm risk. While such research has focused on the network positions of either only the focal firm or the partner, it is necessary to simultaneously consider the network positions of both firms in an alliance to identify the sources of incentive asymmetry within alliances. In this research, the authors investigate how asymmetries in pre-alliance direct and indirect network positions of the two firms might create incentive asymmetry in marketing alliances, affecting alliance performance and firm risk. By applying a dyadic perspective and incorporating the notion of asymmetry in pre-alliance network positions of two firms, the authors highlight that costs and benefits of the focal firm's pre-alliance network positions will be relative to the degree of overlap with network positions of the partner. Furthermore, by theorizing asymmetry in network positions to represent variations in levels and diversity of knowledge resources as well as in social status, the authors demonstrate how firms might take unfair advantage of an alliance relationship by flaunting intangible social signals over and above tangible resources such as level and variety of information.Key words: marketing alliances, firm risk, pre-alliance network position, direct tie asymmetry, indirect tie asymmetry.

3 - Implication of Market Facing Corporate Social Responsibility for Strategic Alliance: Rub-off Effects

Sean Yim, Assistant Professor of Marketing, Penn State Erie, The Behrend College, 5101 Jordan Road, 220 Burke, Erie, PA, 16563, United States, sean.yim@psu.edu, U. N. Umesh

Drawing from organizational learning and market-based assets perspectives, we examine the role of Corporate Social Responsibility (CSR) in alliance partnerships. We introduce the concept of market facing CSR (MFCSR), which we define as a unique subset of corporate culture that corresponds to customers who value firm's pro-social behavior. We investigate the rub-off effects (learning effect and reputation effect) of MFCSR in the strategic alliance. Learning effect explains the extent to which one firm's MFCSR affects the changes in the other firm's post-alliance MFCSR. Reputation effect illustrates the extent to which one firm's reputation (MFCSR) affects its partner's market response (sales growth). Further, we test the moderating roles of geographical proximity and brand assets on the rub-off effects. We use response surface analysis to test the conceptual model, combining three different data sources - ASSET4, SDC, and Compustat. The results indicate that the similarity between two firms' MFCSR level is a necessary condition for the post-alliance learning effect (an increase in MFCSR) and the reputation effect (an increase in market response). High proximity (close distance) between the two firms allows the firms' MFCSR learning under the condition of different MFCSR levels, and the brand assets further enhance the reputation effect. As such, MFCSR is a unique concept distinct from the conventional view of CSR in the literature, provides better marketing insights, and explains sales growth. We recommend marketing managers to consider MFCSR in the alliance partner selection process.

4 - Determinants of International Marketing Joint Venture Dissolutions in Emerging Markets

Kiran Pedada, PhD Candidate, Texas Tech University, 3002 4th Street, Apt C155, Lubbock, TX, 79415, United States, kiran.pedada@ttu.edu, Venkatesh Shankar, Mayukh Dass

Multinational firms from developed markets (DMs) are rapidly expanding into emerging markets (EMs) such as China and India. Many DM firms enter EMs through international marketing joint ventures (IMJVs) with EM firms. However, it is estimated that about half of these joint ventures get dissolved. From both theoretical and managerial standpoints, it is important to study DM-EM IMJV dissolutions. Building on the literatures on strategic alliances, emerging markets, and relationship termination, and using a uniquely compiled dataset of IMJVs in India, this study investigates the determinants of DM-EM IMJV dissolutions, including IMJV factors (e.g., investment, scope, distribution of control), DM firm factors (e.g., resource similarity), and EM factors (e.g., market uncertainty). The findings will shed light on the mechanism by which IMJVs turn sour. They will also help DM and EM firms make better IMJV decisions with regard to partner selection, investment, scope, and distribution of equity. Finally, the findings will also offer insights on how to leverage EM market conditions to reduce the likelihood of and delay IMJV dissolutions.

■ SB11

Fertitta Hall, 316, 3rd Floor

New Product Diffusion: Game Theory

Contributed Session

Chair: Mahmood Pedram, Grenoble Graduate School of Business, 12 rue Pierre Sémard, Grenoble, 38000, France, mahmoodpedram@hotmail.com

1 - Analyzing Cross-platform Information Propagation

Christine Balagué, Telecom School of Management, Paris, France, christine.balague@it-sudparis.eu, M. Mohamad Ghassany

Using data gathered from multiple sources across the World Wide Web (social networks, news websites, etc..), the objective of this work is to describe the features behind the information propagation on the web. We first group the collected data by their similarity that may have been induced by a common factor, e.g. similar topic. Second, we go through information cascades analysis in terms of their temporal and structural characteristics that allows us to find their main propagation patterns. Third, we investigate the problem of clustering the cascades into groups that behave similarly with respect to their diffusion on the web. The presented approach is unsupervised and uses only behavioral data.

2 - Demonstration Strategy for Innovators in Markets with Consumer Learning Effect

Chenchen Di, University of Illinois, 1107 S 4th St, 24, Champaign, IL, 61820, United States, cdi2@illinois.edu, Yunchuan Liu

In practice, innovative firms offer product demonstrations, including product samples, trials, policies (money-back guarantees) or advertisement, allowing consumers not only to learn about their preferences regarding new products, but also to reduce their perceived risk. The purpose of this research is to determine the equilibrium demonstration strategy for firms on new products using a game theoretic model and to explain how demonstration strategies affect competition in covered and uncovered markets with consumer learning effect. We examine how the tradeoff between product differentiation and market share effects resulting from demonstrations affects competition under consumer learning effect. Our results indicate that without consumer learning effect or with low consumer learning ability to use product information to lower perceived risk, innovative firms always provide more information through demonstrations to increase profits. However, when consumers have a high learning ability to use product information to lower perceived risk, the relationship between the profit and demonstration level of an innovative firm is nonmonotonic: demonstration level depends on product differentiation effect and consumer learning effect. Moreover, when consumers are able to process product information to reduce perceived risks, more information provision through demonstration intensifies competition; when consumers are not able to process information properly, more information provision through demonstration may soften competition.

3 - A Market Structure Analysis on the Launch of New Products and Asymmetric Growth of Existing Products: How Does the 80/20 Law Emerge?

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This research discusses a mechanism of the 80/20 law (Pareto's law) which indicates skewed phenomena in which a small number of elements (e.g., customers, firms, or brands) produce most of the outcomes (e.g., sales, profits, or shares). First, the 80/20 law is formulated theoretically from the Mandelbrot model which includes parameters both (A) the probability of a new product launch and (B) the asymmetric growth rate of an existing product respectively. The latter, (B), indicates whether the growth rate of an existing product decreases or increases relatively according as the product grows, or whether the growth rate of a higher-ranked product is smaller or larger than that of a lower-ranked product. Thereafter, we show the 80/20 law formulated by the Mandelbrot model is generally observed in markets using scanner panel data (study 1). Next, a Monte Carlo simulation with an algorithm based on the parameters in the Mandelbrot model generates virtually artificial data matching the scanner panel data. If this artificial data matches the observed data well, i.e., if the 80/20 law emerges by the Monte Carlo simulation, the algorithm shows one of mechanisms of the 80/20 law (study 2). Last, a method to analyze the market structure is proposed on the basis of the parameters, (A) the probability of a new product launch and (B) the asymmetric growth rate of an existing product calculated by the Monte Carlo simulation of the 80/20 law. This method gains theoretical advantages over other market structure analyses in the fields of marketing and industrial organization, because this is based on the theoretical and empirical model, the 80/20 law. The result illustrates directly temporal and spatial comparisons of structure among markets by common criteria/metrics (study 3). Further, this suggests, for example, firms' product management strategies and portfolio strategies how they allocate their limited resources among new products and existing products in a market, or among markets in which new products are easily launched and markets in which larger brands grow considerably.

4 - Competitive Product Release Timing

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In this research, we set up a game-theoretic model to find out the optimal product release timing for competitors in a duopoly. The goal is to help managers determine whether they should engage in a synchronous release schedule vis-à-vis their competitors or to hasten the release of their product or delay it until after the competition's is available. Initial results suggest that if competition is unbalanced, the stronger firm would find it optimal to delay their new product release while the weaker firm would find it optimal to hasten it. Current trends in the video gaming industry are used to explore these findings.

■ SB12

Fertitta Hall, 322, 3rd Floor

Internet Consumer Behavior

Contributed Session

Chair: Qilin Ma, University of Macau, Avenida da Universidade, Taipa, Macau, China, qilinma888@126.com

1 - The Influence of Observational Learning on Consumer Behavior Through Visible Trends

Leonard Rackowitz, University of Hamburg, Moorweidenstraße 18, Hamburg, 20148, Germany, leonard.rackowitz@uni-hamburg.de, Nadja S Grabenströer, Olaf Maecker, Mark Heitmann, Michel Clement

Recent technological developments facilitate an increase in information transparency for consumers. We examine how the visualization of trend curves (e.g. via Mashable, Google Trends or Kindle eBookTracker) impacts consumer behavior on individual and market level. We argue that information about historical sales or klick patterns leads to observational learning and incites consumers to draw inferences about markets with respect to future demand in terms of trajectory and uncertainty. Since observational learning is typically operationalized by cumulative numbers, trend curves add a variety of measures to it. We show in three experiments that historical information on sales trends (a) impacts individual consumer decisions above and beyond the effect of cumulative sales, (b) increases market concentration as compared to the absence of sales information, and (c) can lead to a lower market concentration than cumulative sales information (e.g. the number of previous downloads). Specifically, information on positive global and short-term trends increases future sales above and beyond cumulative sales information. However high adoption velocity and a high variation of adoptions over time increase consumer uncertainty and thereby attenuate sales. These insights suggest that it is valuable for managers to monitor trend developments and (re-)consider marketing budget allocation over time. E-commerce sites offering social information should consider our findings for website design.

2 - An Empirical Investigation of Internet Addiction and Repeat Purchase Intention: Moderating Roles of Intrinsic Motivation, Brand Trust and Risk Aversion

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With the popularity of online commerce and social media, increasing number of consumers are becoming addicted to Internet and Internet addiction receives increasing research attention among academics in different fields. Majority of extant studies look at its connection with psychological problems and unregulated consumer behavior. Few empirical studies have been conducted to explore the potential impact of Internet addiction on repeat purchase intention, as well as the confounding effects of personality and emotional factors. To fill the literature gaps, this study intends to investigate the relationship between Internet addiction and repeat purchase intention, as well as potential moderating effects of intrinsic motivation, brand trust, post purchase regret, neuroticism, and risk aversion. Flow theory serves as the theoretical foundation for this study. Data were collected from a Qualtrics consumer panel using an online survey and 361 valid responses were received. The regression analysis results showed a negative relationship between Internet addiction and repeat purchase intention, as well as positive moderating effects of intrinsic motivation, brand trust, and risk aversion. The findings suggest the importance for retailers to generate engaging Internet shopping experience, lower risk perception, and promote brand trust among online consumers in order to encourage repeat purchase intention and online sales. The theoretical, managerial and public policy implications, limitations, and future research directions conclude the remark.

3 - Customer Engagement and Online Reviews

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Online reviews are becoming increasingly important sources of information for shoppers, influencing their choice of products, services and retailers. These reviews, therefore, impact business of several firms in a multi-sided platform like online marketplaces. Customers may write these reviews due to altruistic motives with a desire to help other consumers or due to egoistic motives, for self-gratification, and associated hedonistic or economic rewards. The act of reviewing therefore is one of the most influential expressions of customer engagement. Customer engagement is a significant construct in online and social business environments and may offer valuable insights in customers' propensity to write online reviews. While there is established literature on role of satisfaction and trust in posting online reviews, role of customer engagement is under-explored. This study aims at understanding the role of customer engagement in writing online reviews. The research also explores how this relationship differs by product complexity and product involvement. The investigation involves multiple studies using mixed method research that include in-depth interviews, surveys and experimental design. This study contributes to evolving scholarly research on customer engagement. The study provides a framework to retailers to track customer engagement and arrive at tangible actions to convert engagement to positive word of mouth. It also provides an understanding of the nature of product categories wherein engagement is more likely to result in positive word of mouth.

4 - The Role of Online Reviews in Mainland Chinese Visitors' Food and Beverage Related Behavioral Intentions - The Case of Macau

Qilin Ma, University of Macau, Avenida da Universidade, Taipa, Macau, China, qilinma888@126.com, Ying Ho

Nowadays with the proliferation of online consumer reviews, customers typically seek comments from other users before making their own purchase decisions. Although the impacts of online product reviews on consumer behaviors have been investigated by many researchers, relatively less attention has been paid to the role of online reviews in the marketing of service products. Inspired by the strong spending power of Mainland Chinese consumers, this study explores how online reviews of Macau food and beverage outlets may shape Mainland Chinese visitors' food and beverage consumption behaviors. We are interested in how (1) different attributes of online consumer reviews (e.g., overall rating, length, recency, etc.) and (2) level of restaurant knowledge people gained from reading the online reviews influence the word-of-mouth intention and dining intention of Mainland Chinese visitors to Macau. We conducted an empirical analysis using survey data collected from 150 Mainland Chinese visitors to Macau who have read online reviews of Macau food and beverage outlets. Evidences suggest that overall rating of the restaurant, recency of the review, and abundance of textual information in the review significantly influence Mainland Chinese visitors' word-of-mouth intention and dining intention. Moreover, product and promotion knowledge people gained from reading online reviews play an important role in shaping their behavioral intentions. Managerial implications on how food and beverage operators may use online review platforms to positively influence consumption behaviors will be discussed.

■ SB13

Fertitta Hall, 327, 3rd Floor

Promotion: Retail

Contributed Session

Chair: Andrea Kuennen, N/A, Hofstr. 70a, Cologne, 51061, Germany, kuennen.andrea@gmail.com

1 - Measuring the Effect of Retail Promotions on Conversion Rates: A New Prediction Approach

Leonardo David Epstein, Professor of Statistics, Universidad de Los Andes, Ingeniería Comercial / El Reloj, Piso 3, Av Mons Alvaro del Portillo 12455, Las Condes, Santiago, 7620001, Chile, lepstein@uandes.cl, Maria-Ignacia Vicuña

The talk reports on a novel method to measure the effect of promotions on customer conversion rates, a key measure of promotion effectiveness. In retailing the conversion rate is the probability that a person who visits the store will make a purchase. Thus, a manager that conducts a promotion with the purpose to increase conversion rates will find it useful to evaluate the success of the promotion. The method uses the arrival and purchase counts in time bands within a day, for instance one-hour bands. Then, it builds a counterfactual baseline with predictions of the number of purchases in each time-band during the promotion interval, conditional on the hypothesis that the promotion did not take place. To evaluate the effect of the promotion, the approach computes the differences of these appropriately transformed predictions and the corresponding appropriately transformed observed number of purchases. These differences are prediction residuals. Positive prediction residuals are evidence of association between the promotion and an increased conversion rate in the corresponding time-band. To compute the predictions, the method uses only pre-promotion data and regression models where co-variables include factors time-band within a day, day of the week, week of the month and month. Thus, the prediction residuals compare an observed conversion rate in a specific time band to a predicted conversion and a matching band. The talk presents graphical tools to help managers visualize the effect of a promotion on conversion. Some advantages of the approach are, 1) does not require to build model for the promotion effect, often a difficult task since the distribution of the data prior to and during the promotion may differ markedly, and 2) the method controls for the differential effects the promotion may have on conversion as the promotion evolves from one time-band to the next, and 3) provides and adjusted overall effect at the end of the promotion. An illustration combines arrival data obtained from video images and sales recorded at the sales register.

2 - Price Promotion Strategy and Retailer Performance

Ruohao Sun, University College of Southeast Norway, Hønefoss, 3511, Norway, ruohao.sun@usn.no, Fred Selnes, Auke Hunneman

In this paper, we investigate the effect of price promotion on retailers' sales performance. Price promotions can positively influence a retailer's performance by increasing store traffic and the sales of non-promoted products/categories. However, price promotions may also negatively affect retailer performance by reducing the sales of high-margin substitution categories/products, inducing price-searching behaviors, and lowering customers' reference prices. As a result, empirical evidence of the relationship between price promotions and retailer performance are mixed and sometimes contradictory. How to effectively design promotion strategies so that a retailer can enjoy the benefits while minimizing the side effects? Building on prior knowledge, we identify two key dimensions of price promotion: promotion scope and promotion intensity. In general, retailers have to determine the level of these two dimensions in any promotional campaign. We find that promotion scope has a stronger influence on store traffic and overall sales, compared with price promotion intensity. We also show that promotional effect is significantly influenced by store characteristics such as store size and average transaction size. The positive effect of promotional scope is magnified in larger stores, where customers are likely to purchase more products in one shopping trip. Just the opposite, the effect of promotion intensity is found to be more salient in smaller shops. Both strategies are more effective in stores with more loyal customers (larger average basket size).

3 - Using Rewards Programs in Public Policy: Some Success from a Field Experiment on Subway Trains

Nan Yang, National University of Singapore, 15 Kent Ridge Drive, Mochtar Riady Building, 6-3, Singapore, Singapore, yangnan@nus.edu.sg, Wai Yan Leong

In this field experiment, we document some success in using rewards programs--a marketing mix well-tested in for-profit environment--as a public policy tool to promote pro-social behavior: shifting peak-hour subway-train rides to off-peak. Using randomized controlled trials, we are able to address the common selection problem and the endogeneity of program designs in the empirical literature on rewards programs' evaluation. Four-hundred-and-seventy-five regular peak-hour subway commuters were randomized to either one of four ten-week programs rewarding early travels or the control group. From their smart travel cards, we obtain information on nearly 100,000 morning trips over a year, spanning before, during, and after the reward period. We find that a fare rebate averaged 1.4 Singapore (approximately 1 U.S.) Dollar per trip shifted 5% of the trips to at least thirty minutes earlier, effectively contributing to easing overcrowding. A non-tiered reward program--defined as one where rebate per trip does not increase as commuters make more early trips--is less effective in encouraging shifts than a tiered reward is during the reward period. However, the relative effect sizes reverse after the discontinuation of monetary rewards, which is consistent with the hypothesis that the tiered reward program may "crowd out" commuters' intrinsic motivations to travel off-peak.

4 - Looking Beyond Sales – Promotion Impact on E-tailer Profit, Loyalty, and Growth

Andrea Kuennen, University of Tuebingen, Nauklerstr. 47, Tuebingen, 72074, Germany, kuennen.andrea@gmail.com, Dominik Papies

The last decades have seen continuous growth in promotion activities of manufacturers and retailers alike. One likely reason is that promotions lead to an immediate and tangible sales reaction, which is well documented in the literature. Despite the ubiquity of promotions, surprisingly little is known about their impact on other, potentially even more important firm goals, such as firm profit. In addition, firm goals change over time depending on the strategic orientation of the firm, i.e., young firms and e-tailer in particular will more likely focus on sales and customer growth and loyalty, whereas mature firms will focus on profits. The role of promotions for these different, interdependent, and potentially conflicting goals is unclear. Against this background, we develop a framework of how different promotional activities affect different company goals such as sales, profit, and loyalty. To empirically assess our framework, we collect a data set from a large online retailer that encompasses all purchases made by all customers in seven major European markets. We estimate a multi-level model that controls for own- and cross effects of prices and promotions, and for other marketing instruments. Based on detailed data on contribution margins, we can assess the profit impact of the promotions. Our results indicate that promotions have divergent impacts on different firm goals such as sales and profits.

■ SB14

Fertitta Hall, 328, 3rd Floor

Healthcare in Marketing

General Session

Chair: Jian Ni, Johns Hopkins University, Johns Hopkins University, Baltimore, MD, 21202, United States, jni@jhu.edu

Co-Chair: Manuel Ignacio Hermosilla, Johns Hopkins University, Johns Hopkins University, Baltimore, MD, 21201, United States, mh@jhu.edu

1 - Can Viagra Advertising Make More Babies?

Tongil Kim, Emory University, 1300 Clifton Rd NE, Atlanta, 30322, United States, ti.kim@emory.edu, Diwas KC

Ever since the United States allowed direct-to-consumer television advertising for prescription drugs in 1997, Erectile Dysfunction (ED) drug makers have persistently been top spenders. Using hospital birth and television advertising data from Massachusetts between 2002 and 2010, we show that increased ED television advertising leads to higher birth rates. We take advantage of the exogenous variation in television advertising around Designated Market Area borders and further sharpen the border identification strategy with detailed zip code-level data. Our results, robust to different functional forms and falsification tests, show that a 1% increase in advertising leads to approximately 132 additional births per a million population (equivalent to 1% of the national average birth rate) among women 20-49. Our findings suggest a possible unintended benefit of permitting ED drug direct-to-consumer adverting, which might be relevant for countries that struggle with low birth rates.

2 - Money-Back Guarantees and Service Quality: The Marketing of In-Vitro Fertilization

Madhu Viswanathan, University of Arizona, United States, madhu@email.arizona.edu, Shan Yu, Mrinal Ghosh

Marketing practices like Money-Back Guarantees (MBGs) are prevalent in many nontraditional consumer markets but are often decried for taking advantage of poorly informed consumers. In this research, we empirically test two contrasting views- "light" theories, like signaling and insurance which advocate the positive impact of marketing practices and "dark" theories, like firm sorting that postulate the negative impact of such practices in the In-Vitro Fertilization market. Our analysis is conducted on a large and unique longitudinal dataset that includes clinic-level treatment and outcome statistics for almost all IVF clinics in the U.S., fertility clinic characteristics, and information on state-level insurance mandates and demographic characteristics. Using an instrument variable approach to account for the endogeneity of MBG decisions made by fertility clinics, we find more support for the "light" and positive impact of marketing practice. Our results suggest that MBGs can work as signals of quality despite the incentives for clinics to engage in opportunistic behaviors.

3 - Clinical and Commercial Impacts of Drug Availability

Manuel Ignacio Hermosilla, Johns Hopkins University, 100 international dr, Baltimore, MD, 21201, United States, mh@jhu.edu, Jian Ni

The increasing frequency of drug shortages (temporary or permanent unavailability of medical drugs) has become an important matter of policy debate. Survey evidence suggests that shortages may introduce difficulties in the provision of medical care by forcing providers to substitute away from optimal treatments. For example, the Institute for Safe Medication Practices (2011) reports that over 80% of surveyed professionals faced difficulties obtaining comparable drugs during shortages, and that 64% of them thought that shortages created risks for patients. Although the frequency of shortages varies across therapeutic areas, they are not uncommon in areas heart diseases, hematology and anesthesiology, where drugs that have been available for a long period of time and thus become the standard of care, may become suddenly unavailable and so create a treatment vacuum. In these cases, forced substitution may yield material declines in the quality of clinical outcomes, and even increases in mortality. We attempt to characterize the clinical outcome impacts of disruptions to drug accessibility caused by shortages, and provide possible policy interventions for this important policy questions. We do so by focusing on a set of "exogenous shortages." As opposed to shortages caused by suppliers' market outlook, "exogenous shortages" are reportedly caused by disruptions of the supply chain, such as technical problems in production facilities or unavailability of raw materials. We further investigate the impacts on total treatment cost, as well as commercial impacts such as the post-shortage usage and pricing of drugs in classes that experience a shortage.

4 - Optimal Investment in Support of Current Drug and Development of New Drug

Yi Qian, University of British Columbia, Vancouver, BC, 60208, Canada, yi.qian@ubc.ca, Zhili Tian

Pharmaceutical firms typically invest 12 - 18 % of their revenues in the new drug development and also invest significant amount in promoting the marketed drugs. The marketing spending on each of the marketed drugs is often equivalent to or even higher than that for developing a new drug. Despite so much investment in the new drug development, only around twenty new molecule entities are approved every year for the entire pharmaceutical industry. To boost their revenues, firms often emphasize marketing of the current drugs at the expense of developing new drugs. However, the source for the two competing investments is from the revenues of the existing drugs. Hence we develop models to address the investment in the existing drugs and development of new drugs. Our methods optimally allocate the fund between marketing communication and new drug development for three scenarios. We demonstrate that the financing constraints delays the new drug development. By setting aside a fraction of its revenue to the promotion of the current drug and development of new drugs, the firm can partially alleviate the financing constraints. Our research implies that the government should implement policies to foster the collaboration between a large established firm and a small innovative firm. Through this type of collaboration, innovative firms can access capital which is crucial for developing new drugs.

■ SB15

Fertitta Hall, 331, 3rd Floor

Marketing Metrics

Contributed Session

Chair: Namig Nurullayev, Goethe University Frankfurt, Theodor W. Adorno-Platz 4, Frankfurt am Main, 60323, Germany, namig@wiwi.uni-frankfurt.de

1 - How Managers Make Trade-offs Between Metrics when Making Marketing Budgetary Decisions

Ofer Mintz, Louisiana State University, 2117 BEC, Baton Rouge, LA, 70817, United States, omintz@lsu.edu, Yakov Bart, Peter J Lenk, David Reibstein

Metrics help marketers be more accountable, increase their value in the eyes of upper management, and can be used as leading indicators of firm performance. While prior research has primarily focused on linking marketing-mix efforts with financial metrics and examining the effectiveness and use of individual metrics, we still know very little about how managers make trade-offs among multiple metrics available to them when making decisions. Firms need guidance on deciding which metrics to employ, and with increasing use of digital technologies that have made it easier for managers to access multiple metrics, the complexity of that decision has only been exacerbated. To bridge this knowledge gap, this work examines the preference weights managers place on metrics employed in their "ideal" dashboards for a number of marketing budgetary decisions. Further, it examines how such preference weights differ by type of decision and whether metrics are used internally or for selling the budget proposal to others in the firm. To develop a theoretical framework, it draws on managerial accounting, information systems, marketing, and strategy literatures. From a methodological perspective, the proposed model differs from standard, hierarchical Bayes conjoint analysis by allowing partworths to vary by choice set in addition to by subject; i.e., every choice has a unique partworth. The heterogeneity model provides the structure for estimating variation of the partworths across subjects and context, and Bayesian analysis integrates across partworths to estimate the impact of subject-level covariates and context effects on metric desirability. We believe these modeling contributions should be useful for future conjoint work even outside the metrics context.

2 - A Model for Evaluating Metric Effectiveness: Correcting for Endogenous Selection Effects and Ex-ante Expectations

Peter J Lenk, Professor, University of Michigan-Ann Arbor, Ross School of Business, 701 Tappan, Ann Arbor, MI, 48109-1234, United States, plenk@umich.edu, Ofer Mintz, Timothy J. Gilbride, Imran S. Currim

Decision makers in multiple disciplines rely on metrics or key performance indicators when assessing a particular course of action. For example, when a manager considers changing internet advertising, he or she may consult current levels of awareness or consideration. An important unresolved methodological question determining which metrics lead to better outcomes because managers tend to select metrics that they believe to be more effective. This research proposes a multi-equation model for evaluating metric effectiveness that models endogeneity due to selection effects and correlated unobservable variables. The selection effect model differs from past literature in that managers choose metrics based on their ex-ante expected effectiveness, as opposed to their ex-post effectiveness, which would be unknown to the manager when the decision has to be made. Our empirical application relates to metrics used to make marketing-mix decisions. Our results show that while some metrics are more effective than others for particular decisions, awareness, satisfaction, and willingness to recommend are effective across a variety of marketing mix decisions. Additionally, we are able to determine the effects of firm, industry, and decision characteristics on metric selection and effectiveness.

3 - A Comparison of Methods to Calculate Return Rates: Evidence from 16 Retailers

Namig Nurullayev, PhD candidate, Goethe University Frankfurt, Theodor-W.-Adorno-Platz 4, Frankfurt am Main, 60323, Germany, namig@wiwi.uni-frankfurt.de, Siham El Kihal, Bernd Skiera, Christian Schulze

The return rate is an important metric for retailers then even small changes in the return rate can have great impacts on retailers' bottom line. Given the importance of the metric, it is surprising that retailers use (internally) and report (externally) return rates obtained via three different calculation methods. These three methods use different types of information to calculate the return rate: the number of items returned, the revenue amount returned, or the profit amount returned. This article investigates, whether the existence of different methods adversely affects stakeholders' ability to compare return rates across companies (cross-sectional) and across time (time series). Using a rich data set from 16 retailers covering more than 8 million orders of which more than 2 million orders were returned, we investigate when the calculation methods lead to different results and how big the differences are. (1) We find that differences in return rate calculation methods are substantial, which can severely hamper cross-company comparisons—an effect driven by differences in prices and margins of ordered and returned products. Therefore, (especially external) stakeholders interested in comparing several companies have to use the same calculation method for all companies. (2) At the same time, the calculation method has only little impact on insights gained from analyses across time—return rates calculated via different methods largely move in sync. Therefore, stakeholders interested in comparing return rates within one company over time can use any of the three calculation methods, as long as they use it consistently.

■ SB16

Fertitta Hall, 414, 4th Floor

Advertising & Consumer Behavior II

Contributed Session

Chair: Ji Yoon Kim, Korea University, #611 LG-Posco, Korea Uvi, Anam Dong, Seoul, 136-705, Korea, Republic of, jiyoon77@korea.ac.kr

1 - Should Charities Use Photos of 'People in Need' in Charity Advertising? Anthropomorphism, Donor Fatigue and Haptic Cues

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Anthropomorphism is attributing human like traits, emotions and intentions to non-human objects (Guthrie, 1997). Advertisements for charity acquire such human characteristics often by including photos of 'people in need' in charity advertising. (Small, Deborah A., and Nicole M. Verrocchio 2009). Other research such as 'identifiable victim effect' also support such advertising campaigns with pictures of 'people in need' (e.g. Kogut Tehilia and Ilana Ritov 2005). However, we refute the effectiveness of above advertising by showing the rise of donor fatigue on repetitive exposure to such charity advertising. We show that a three-dimensional anthropomorphized stimuli increase willingness to donate among patrons (for e.g. a baby shaped card to create awareness against child abuse). We conduct 4 studies, Study 1 establishes charity advertising with pictures of 'people in need' and its effect on willingness to donate among donors. Study 2, establishes donors fatigue on seeing charity advertisement with pictures of 'people in need'. Study 3 establishes mental imagery effect of visualizing anthropomorphized stimuli. Study 4 establishes combined effect of haptic and visual cues of anthropomorphized stimuli on willingness to donate. It is relevant to marketing as it provides a method to charity organizations to increase donations. It shows the limitation of existing charity advertising practices. It also trace the longitudinal effect of charity advertising on donor fatigue. It contributes by refuting an existing popular charity advertising technique, introducing a new technique and tracing the longitudinal ill effects of existing practice.

2 - Does Distance Make it Beautiful? Spatial Distance and Consumers' Product Evaluations

Ming-Tsung Kung, National Sun Yat-sen University, Kaohsiung, Taiwan, Kmts7888@mail2000.com.tw, Xing-Yu Chu, Chun-Tuan Chang

This research examines how advertisers can use the spatial distance between a human model and a product to enhance consumers' product evaluation. In this research, we propose the "distance is worth" metaphor and suggest that this metaphorical link may influence consumers' product evaluation: a greater distance between the model and the product in an ad will make it easy for consumers to associate the advertised product with a greater sense of the product's worth, which leads to favorable product evaluation (e.g., stronger purchase intention, willingness to pay more, and more actual amount spent). A serial multiple mediation analysis is used to test the proposed sequential mechanisms underlying the above phenomenon: perceived power and then perceived product value. We further propose that a product's brand power (high vs. low) impacts the effects of spatial distance. The results show that product evaluations are more favorable under the following two circumstances: a) when a product with high brand power is placed relatively far from the model, and b) when a product with low brand power is placed relatively close to the model. The current research is the first to illustrate that power can be primed through a visual cue (i.e., a distance between model and product) in an ad. The findings also have important implications both for brand managers and advertisers. Marketers may benefit from using a spatially far distance between advertised product and model in ads to increase consumer associations with power and perceived product value.

3 - Cosmetic Surgery Beauty in Advertisements: Reactions of Female Consumers to Female Advertising Models Who Have Undergone Cosmetic Surgery

Pornchanoke Tipgomut, PhD Candidate, Massey University, School of CJM, Private Bag 102904, NorthShore, Auckland, 0745, New Zealand, p.tipgomut@massey.ac.nz, Leo Paas, Angela McNaught

Many commercial messages portray models who have undergone cosmetic surgery because advertisers expect model attractiveness to enhance advertising effectiveness. Our research establishes a boundary condition: We show that facial cosmetic surgery enhances female advertising model attractiveness only if consumers do not perceive these surgical changes on the model's face. Two studies conducted in Thailand show that more cosmetic surgery changes lead to a higher number of consumers believing that the model underwent cosmetic surgery, thereby reducing the positive effect of enhanced model attractiveness on advertising effectiveness. Therefore, this research extends the advertising literature on consumers' reactions to female advertising models on an important development that was previously ignored in the literature. Also, this research tests the validation of model attractive on advertising effectiveness in a non-Western context, i.e., most previously studied research on attractiveness of advertising models was conducted in Western countries. Managerially, the reported empirical findings imply that advertisers should carefully consider portrayal of female advertising models who have undergone cosmetic surgery, not only focusing on the beauty of the models' faces but also considering perceived cosmetic surgery. In terms of social responsibility, this research reminds government and policy makers to protect consumers from negative consequences.

4 - The Effect of Brand Personification in Advertising

Ji Yoon Kim, Assistant Professor, Chonnam National University, 77 Yongbong-ro,Buk-gu, Kwangju, 61186, Korea, Republic of, jykim2016@jnu.ac.kr, Kyounghee Chu

Brand personification is defined as a figure of speech in which inanimate objects are characterized in terms of human attributes, thus representing the object as a feeling and living person. Therefore, brand relationship research shows that the humanizing of brands and products generates more favorable attitudes and enhances performance of a brand. However, there has been limited research on the effects of brand personification in consumer evaluation. Therefore, this research focuses on the brand personification which has not been studied extensively. Study 1 tests the effect of brand personification on the consumer's evaluation between men and women. Study 2 tests the effect of brand personification on the men's evaluation. This research can provide useful guidelines for the advertising managers to utilize brand personification method when planning the advertisement. Therefore, marketers can make an effective brand personification strategy with a clear understanding of the boundary conditions on the impact of brand personification in consumer's attitude.

■ SB17

Fertitta Hall, 416, 4th Floor

Managing Human Capital in Marketing

General Session

Chair: Christine Moorman, Duke University, Fuqua School of Business, 100 Fuqua Drive, Durham, NC, 27708-0120, United States, moorman@duke.edu

1 - Does the Presence of a Customer in the Boardroom Matter?

Raghu R Bommaraju, PhD Student, University of Houston, Houston, TX, United States, rbommaraju@bauer.uh.edu, Michael Ahearne

We examine how the presence of a customer on the board affects firm performance. Based on resource dependency theory, we hypothesize that having links with customers at the highest echelons of the organization help improve firm performance. We test our hypotheses using a sample of 329 B2B firms over a period of nine years (2007-2015). We find that firms with a customer on the board have better market-based outcomes (Tobin's q). Furthermore, the presence of a customer on the board is more valuable when the CEO has long tenure or demand uncertainty is higher. In contrast to that, a customer on the board is less valuable when the firm is highly diversified or has marketing personnel in the top management. Overall, our results indicate that customer on the board helps firm make better strategic decisions, both by bringing customer-related issues to the table and by providing valuable information.

2 - Marketing CEOs: Where are They, and How are They Different?

Stephen J Anderson, Assistant Professor of Marketing, Stanford University, Stanford, CA, United States, sjam@stanford.edu, Frank Germann, Rajesh Chandy

CEOs have uniquely powerful effects on the fortunes of the firms they lead. Among other things, their thinking and actions help drive the strategic emphasis of firms, and help determine the extent to which their firms focus on marketing activities (and markets more generally). Recent research suggests that the thinking and actions of CEOs can often be traced back to their formative years as managers. In particular, research points to the role of functional backgrounds (such as formative backgrounds in marketing) in driving the thinking and actions of CEOs - and consequently the fortunes of their firms. Our research focuses on CEOs with marketing backgrounds (or Marketing CEOs for short). We examine a number of questions about Marketing CEOs: • How prevalent are Marketing CEOs? Which industries are the most likely to feature Marketing CEOs? Do the firms led by Marketing CEOs differ in size or customer type? • How are the career paths of Marketing CEOs different from those with other functional backgrounds? Do factors such as education, insider experience or mobility influence the trajectories of Marketing CEOs? • How are the actions and mindsets of Marketing CEOs different, relative to CEOs with other backgrounds? For instance, do Marketing CEOs implement different governance, investment or compensation strategies? Do they think differently in terms of the time horizon or external focus of their firms? • Are Marketing CEOs better or worse than other CEOs in driving their companies' performance? How does the performance impact of Marketing CEOs vary by firm and industry? We address these questions by examining a unique data set of companies and CEOs, spanning the 2003-2012 period.

3 - Highways and Rural Household Expenditure on Education

Thomas Zhang, London Business School and Queen Mary University of London, London, United Kingdom, szhang@london.edu, Rajesh Chandy, Om Narasimhan

In 2015, rural Indian households spent over 20% of their non-food budget on education. In 2010, education represented only 10.8% of their non-food expenditure, and in 2000, it was almost negligible at less than 0.6%. This dramatic rise in household spending on education not only interests policy-makers, but also holds implications for marketers seeking to understand the shifting patterns of household consumption among the poor in developing countries. What drove this dramatic increase of education spending in household budget share? Factors behind this major shift in demand for education have yet to be studied, in contrast to previous research that focused on supply-side factors of education in developing countries, such as the provision of training or schools. We argue that higher educational demand by rural residents can come from higher in-person exposure to their aspirational groups - social groups that they like to be members of, such as educated professionals. Exposure to real people in their aspirational groups encourages beliefs of attainability and the subsequent pursuit via education. Poor rural life can otherwise be very parochial, with little chance for such exposure. We argue that transportation infrastructure can provide the exposure that led to the increases in educational demand. We show the results from a natural experiment. Between 1999 and 2009, India constructed the Golden Quadrilateral national highway system to link the major cities of New Delhi, Mumbai, Chennai, and Kolkata. This highway system cut through the rural areas in between the four major cities exogenously, allowing many rural households to gain more exposure to educated social groups in the cities via visits. We show that households who could now more easily visit the cities spent more on education after arrival of the highway, and we control for alternative possible explanations.

4 - Is Employee-based Brand Equity a Double-Edged Sword?

Christine Moorman, Duke University, Fuqua School of Business, 100 Fuqua Drive, Durham, NC, 27708-0120, United States, moorman@duke.edu, Nader T Tavassoli, Alina Sorescu

Employee-based brand equity is the value a brand provides to the firm through its effects on the attitudes and behaviors of its employees. In the first major study on this topic, Tavassoli, Sorescu, and Chandy (2014) find that executives accept pay levels 12% lower when working for high equity brands. Using identity theory, the authors argue that leading a company with a high equity brand benefits executives through a transfer of brand equity. This nonmonetary compensation is valued by executives now and in future employment opportunities. Tavassoli et al. (2014) imply that this lower pay leads to higher profits by pointing to bottom-line benefits of employee-based brand equity. However, the relationship between pay and profits is not a straightforward one. Our findings suggest that exploiting brand equity by achieving lower pay represents a false economy. Specifically, costly turnover and productivity losses result from lower pay. Tavassoli et al. (2014) do not examine this question. Our data, which combines Y&R's BAV data to capture brand equity, Fortune's Best Places to Work data for measures of employee pay, productivity, and turnover, and Compustat for firm performance, does. We find that profit gains derived from lower compensation costs are attenuated by a negative effect on productivity and turnover. We also find that the relationship between brand equity and pay is a nuanced one. Specifically, we find that two dimensions of brand equity—brand stature and brand strength—have opposite effects on pay, and predictably affect profits via employee behavior in terms of productivity and turnover. Finally, Tavassoli et al.'s results are for senior executives and they show that the effect is for the CEO, who is the public face of the company. Our results show that these effects generalize to all salaried employees.

■ SB18

Fertitta Hall, 417, 4th Floor

Consumer Behavior Shopping

Contributed Session

Chair: Atanu Adhikari, Indian Institute of Management Kozhikode, IIM K Campus, IIM Road, Kunnamangalam, Kozhikode, 673570, India, atanu.adhikari@iimk.ac.in

1 - The Effect of Consumer Confusion on Satisfaction using GPS Data in a Shopping Mall

Ryunosuke Nagai, Takachiho University, Koto Ward, Higashisuna 8-7-11-801, Tokyo, 136-0074, Japan, nagai@takachiho.ac.jp

The objective of this study are: 1) to focus on the consumer confusion mechanism from perspectives of overload confusion and similarity confusion, 2) to explore consumers' actual state of confusion in a shopping mall, and 3) to analyze shopper behavior from the perspective of consumer confusion studies using global positioning system (GPS) data. Consumer confusion studies are needed reconsideration. "Project Impact" carried out by Walmart showed that a refinement in the number of items led to a decrease in sales. Scheibehenne et al. (2010) did meta-analysis and found that an increase in the number of items has no reliable impact on choice difficulty. As the reconsideration, Xu et al. (2013) used assortment size (as overload confusion) and perceived similarity (as similarity confusion) to analyze the mechanism of confusion. In this study, the data were collected in an urban shopping mall in Tokyo, Japan. The shoppers answered two questionnaires before and after shopping, and went shopping with the GPS logger. The number of stores visited was recorded by the GPS logger and used as the scale of overload confusion. The most number of stores in one category was used as the scale of similarity confusion. A total of 106 responses were used in the data analysis. Regression analysis revealed that the interaction effect between overload confusion and similarity confusion has a significant inverted U-shape effect on satisfaction. The shoppers who visited too many stores in one category experienced confusion, and had low satisfaction. On the contrary, the shoppers who visited too many stores inter-disciplinary categories did not experience confusion. The findings have significant academic and managerial implications. Academically, they contribute to consumer confusion studies in terms of mechanism analysis, true states of confusion in a shopping mall, and GPS research methods. Managerially, they suggest that when shoppers face too many shops in similar categories, there is a decreasing trend in satisfaction. To correct this, shopping malls can arrange shops layout in more various categories.

2 - Making Mystery Shoppers Count: An Empirical Study

Mengze Shi, Professor of Marketing, University of Toronto, Rotman School of Mangement, 105 Saint George Street, Toronto, ON, M5S 3E6, Canada, mshi@rotman.utoronto.ca

Service industry accounts for 80% of the U.S. economy. Unlike the manufacturing sector where finished goods can be inspected after production and before consumption, the service industry does not enjoy such a buffer due to simultaneity between service production and consumption. Consequently, it is notoriously difficult to manage the service quality delivered by frontline employees. To ensure their service employees to provider consistently high-quality services to meet customer needs, service organizations have developed a multitude of monitoring programs. Among them, Mystery Shopper Program (MSP) is one of the commonly adopted monitoring programs that directly inspects the service experiences. This paper provides an empirical study of the effect of mystery shopper programs. First, we develop an analytical framework to specify the underlying mechanisms for MSPs. Analysis of the model generates hypothesis for how service employees may respond to MSPs. We then leverage a unique internal database acquired from a multi-national service firm to provide empirical evidences on the properties of the monitoring program and the impacts on employee performances. In the data the service firm changed compensation system during the observation period. Our results indicate that MSPs can be an effective monitoring tool; but MSPs would work if and only if the monitoring outcomes are properly incorporated into the employee compensation system. Overall, the results not only provide fresh insights into MSPs and service employees, but also useful guidelines for how to properly design effective MSPs.

3 - An Experiment to Examine the Effectiveness of Augmented-reality in Marketing Communication Strategy on Attitude and Purchase Intention

Akihiro Inoue, Professor, Keio University, 4-1-1, Hiyoshi, Kohohoku-ku, Yokohama, 223-8526, Japan, ainoue@kbs.keio.ac.jp, Felicia Chou

In this research, we have investigated on the effects of AR (Augmented Reality) technology in marketing communication strategy on attitude and purchase intention. The market-size of the AR on related industries expands continuously, such as creative in marketing communication, simulation in real purchase occasions (i.e., cloth-fitting), games, and so on. However, the studies in marketing area seem relatively not-large-enough. We developed an experimental environment so as to examine the effectiveness of AR in marketing communication on attitude and purchase intention. In the experiment, we developed the environment where a TV-CM of a toothpaste brand is merged with a self-reality. Also, we have constructed the three types of PC platforms, that is, a device with AR, an App without AR, and a HP without AR. We measure the attitude and purchase intention to the toothpaste brand, in addition to the personal psychological measures, such as hedonic-utilitarian, involvement with the toothpaste. We run the multi-group structural equation modeling and found that the significant heterogeneity among the platforms. That is, the AR platform is found to have the highest effect with regard to the hedonic segment, the App to the utilitarian segment, and the HP to the high-involvement segment. The details are to be given in the presentation.

4 - Congruence or Conflict? How Cognitive and Affective Store Image Effect Hedonic and Utilitarian Reasons for Purchase

Atanu Adhikari, Associate Professor, Indian Institute of Management Kozhikode, IIM K Campus, IIM Road, Kunnamangalam, Kozhikode, 673570, India, atanu.adhikari@iimk.ac.in

While research on store image and its antecedents are available in marketing literature, albeit dated, there is very little work studying different types of store image, especially from the perspective of cognitive and affective nature. Marketing literature on consumer behavior found that consumers' product purchase rely on (1) consummatory (hedonic) gratification, and (2) instrumental, (utilitarian) reasons. Hence, reasons for purchase may primarily be guided by either utilitarian or hedonic image of stores depending upon the reasons consumers buy the product. This paper looks at whether there exists a congruence or conflict as to how different types of store images affect the reasons for the purchase. This study also investigates the mediating role of product image in this relationship. With the help of assimilation and contrast theory, we develop a framework. We then, with the help of three experiments, show that there exists both congruence and conflict between store image and reason for purchase. With the help of a 2 x 2 table, we show under which conditions congruence would happen and what condition will warrant conflict. The potential processes that underlie these effects are discussed.

Saturday, 1:30PM - 3:00PM

■ SC01

Fertitta Hall, 101, Lower Level

Retailing: Store Choice

Contributed Session

Chair: Francesca Sotgiu, HEC Paris, 1 Rue De La Liberation, Jouy en Josas, 78350, France, f.sotgiu@vu.nl

1 - Retail Competition on a Salop Circle under Linear Demand and Implications for a Monopolistic Manufacturer

Amiya K Basu, Professor of Marketing, Syracuse University, Whitman School of Mgmt, 721 University Avenue, Syracuse, NY, 13244-2450, United States, abasu@syr.edu, Charles A Ingene, Atasi Basu

A Salop circle model of oligopolistic competition (evenly spaced retailers, uniformly distributed customers, constant demand) has been used to examine retailer competition. We modify the Salop model by assuming that demand density is Q = (a - b*P) at every location on the circle, where P is the price inclusive of transport costs. The price ceiling at which demand goes to zero is a/b. For a monopolistic manufacturer selling through competing local retailers: • We obtain the symmetric Bertrand-Nash equilibrium in closed form. • Ignoring the administrative cost of distributing to retailers, the manufacturer's profit rises with the number of retailers (N); the increase shows diminishing marginal returns the higher is a/b. • As N increases, competition lowers the retailer margin. By raising N, the manufacturer reduces double marginalization, thus approximating channel coordination. • While the channel behaves approximately as a coordinated channel, the profit gain from an increase in N largely goes to the manufacturer while retailers obtain a lower share of channel profit. • After incorporating the administrative cost of distribution, the optimal number of retailers is lower the higher is a/b. Thus, products with high price ceilings require fewer retailers. We then examine the effect of entry by an online seller and find the conditions under which: • Only the online retailer can survive, • Both online and local retailers can compete successfully, • The online retailer cannot survive. We offer examples of retail products in each of these categories.

2 - Measuring the Agglomeration Effect on Consumers' Store Choice

Heemok Park, University of Connecticut, Storrs, CT, United States, hpark@business.uconn.edu, A. Yesim Orhun, Joseph Pancras, Srinivasaraghavan Sriram

Location is a key determinant of a retailer's profitability. One of the most important criteria for deciding where to locate a store is proximity to consumers. All else being equal, consumers will choose a store that minimizes travel costs. Another important factor is whether the location is close to other stores that provide different types of products. Because consumers often purchase multiple types of products in a single trip, the agglomeration (i.e., cluster) of various types of retailers can provide shoppers with the benefit of convenience. An interesting notion is that these multi-purpose shoppers may travel farther to visit a store with other retailers nearby than a store standing alone. From the retailers' perspective, this means that they can increase the catchment area by locating next to another retailer that carries different types of products. In this study, we quantify the agglomeration effect as the increase in the catchment area for retailers. We develop a multinomial choice model and apply it to a consumer store choice data. We measure the increase in consumer's likelihood of visiting a particular grocery store when he/she also visited a non-grocery stores in its vicinity. Based on this measure we then infer the increase in the catchment area that a retailer could enjoy by locating next to other types of stores.

3 - What Factors Drive Overall Store Price Image

Rajagopalan Sethuraman, Southern Methodist University, Marketing Dept Cox School of Business, P.O. Box 750333, Dallas, TX, 75275-0333, United States, rsethura@mail.cox.smu.edu, Richard Briesch, William Russell Dillon

In a recent survey by Booz & Company, grocery shoppers indicated that the #1 reason for selecting a store for their primary (stock-up) shopping is (lower) overall store price. Traditional EDLP stores are facing challenges to their low price leadership position from discount grocery stores like Aldi's, Dollar Stores, and online stores such as Amazon. Managers of these EDLP stores wonder whether Every Day Low Price is a good strategy for sustaining low price store image or whether the firm should offer discounts to promote a low price image. If discounts are a good way to create lower price image, in what categories/SKUs should the discounts be offered and by how much? This research addresses the above questions. Data are collected using online survey from 5569 consumers in the United States across 84 product categories. These consumers were presented with assortments in a choice experiment setting in which the prices of SKUs were manipulated to be 0%, 10% and 15% off regular price. They were then asked about their overall store price impression and their propensity to switch stores. We also collected data on category characteristics and consumer demographic / psychographic characteristics. Preliminary analysis indicate that Fresh Fruits, Milk and Eggs are the top three product categories that influence shoppers' overall store price perceptions and that store brands represent 16% of the top 100 SKUs that signal lower prices in consumer minds when discounted by 10%. Further modeling and analysis are underway to gain insights into category, SKU and consumer characteristics where price discounts influence overall store price impression and store switching.

4 - Growing Private Label Share: Importance of Shelf Position and Proximity Relative to National Brands

Francesca Sotgiu, Professor, Vrije Universiteit, De Boelelaan 1105, 1081 HV Amsterdam, Amsterdam, Netherlands, f.sotgiu@vu.nl, Murali K Mantrala, Manfred Krafft, Sebastian Tillmans

Most food, drug and mass merchandise retailers have made significant improvements to the quality of their own-brand products. Many now have multi-tiered store brand programs. However, retailers lack the big budgets of the national brands (NBs) when it comes to marketing. For that reason, private label (PL) in-store merchandising plays an especially critical role today in attracting consumers' attention - and spending. Among the crucial in-store variables are PL products' shelf placement, assortments, and prices relative to NBs, as well as other competitive PLs within a product category. Academic research on PL in-store merchandising strategy is rather sparse. In this research, therefore, we investigate how variations in shelf placement and proximity of PLs to NBs impact PL sales and growth in share of category sales, based on 109 weeks of data from 290 stores of an actual consumer goods retail chain in Germany. We also examine which brand, category, and store characteristics amplify or attenuate the impact of shelf positioning on PL and NB market shares. Overall, we find that variation in the proximity of PLs to NBs on the store shelves does matter and the cannibalizing effect of PLs on NBs increases as the distance between them becomes smaller. However, premium NBs are not significantly affected by changes in PL positions. We discuss the implications of these and other findings for PL in-store merchandising strategies.

■ SC02

Fertitta Hall, 102, Lower Level

Online Search III

Contributed Session

Chair: Nima Jalali, University of North Carolina, UNCC, Charlotte, NC, 28223, United States, nyahyapo@uncc.edu

1 - Brand Competition within Online Keyword Search Process

William J Allender, Assistant Professor, McMaster University, DeGroote School of Business, 1280 Main Street West, Hamilton, ON, L9H 6X6, Canada, allendw@mcmaster.ca, Ruhai Wu, Jie Jian

Consumers often invest in an extensive online search process before purchasing experience goods. Their purchase interest of different brands varies during the search process. This study focuses on the evolution of purchase interest throughout the consumer search process. We build a theoretical model to interpret consumer purchase interest of competing brands from the online keyword search volume. We use the Chinese search engine and automobile sales data to examine how consumer interest changes over time across SUV models in China. We further investigate how brands' marketing strategies affect the competition throughout the search process. We find asymmetric purchase interest switching between specific brands. This allows us to identify the conduciveness of the models to an online context. The disadvantaged brands receive low investment returns from online advertising and promotion strategy, as a significant proportion of their potential consumers will shift to competitors.

2 - The Role of Personalization and Position Effects in Paid Search Advertising

Sebastian Schubach, University of Passau, Innstrasse 27, Passau, Germany, sebastian.schubach@uni-passau.de, Jan H. Schumann, Alexander Bleier

Paid search advertising remains one of the most important revenue sources in online advertising. In this ad form, advertisers need to manage two main levers: an ad's design and its position on the search engine result page. With respect to design, an important, but still under-researched factor is the personalization of ads to users' search queries. Regarding position effects, prior work has shown their strong impact on an ad's effectiveness. Yet, so far it is unclear how ad effectiveness is influenced by the interaction of ad personalization and position effects. Do the effects of personalization depend on an ad's position? Might personalization be a way to overcome the negative effect from ads appearing at lower positions on the search results page? We address these main questions in a controlled lab setup where we manipulate ads' personalization and positions on the result page. Our work adds to prior research on search engine advertising as well as the personalization of marketing communications. For managers, we derive meaningful and applicable insights that help develop enhanced paid search advertising strategies.

3 - Charting the Path-to-purchase using Topic Models

Hongshuang (Alice) Li, Indiana University, Marketing Department, Office HH 2133, Bloomington, IN, 47405, United States, aliceli@indiana.edu, Liye Ma

Customers submit search phrases to search engines in order to gather information for their purchase decision. These search phrases directly express the customers' need in their own language and thus provide valuable information to the marketing management. Interpreting customers' search phrases renders a better understanding of customers' desire, which is critical for marketing success. In this paper, we propose a hierarchical Bayesian model to analyze the latent topics embedded in customers' search phrases and the evolvement of such topics along their path-to-purchase. Using a unique dataset with more than 8,000 individual customers' search phrases at various search engines which lead to visits to a hospitality firm's website, our proposed model identifies four latent topics, which are "business", "leisure", "loyal", and "luxury". While leisure-related words are more likely to be searched at the beginning of a purchase journey, customers are paying more attention on "business" topic when they are further along the path-to-purchase. The analysis on the combination of topics at the individual customer level reveals the strength of the focal firm's leisure-related features, especially for high-end customers and loyal customers, which also points to the potential lags of its business-oriented service and amenities. Our method can be used by marketing managers to extract structured and quantitative information out of search phrases and evaluate their investment on search marketing. The richer knowledge of customers' latent stage on path-to-purchase through their search phrases can also help in better designing the firm's offerings and promotions to the customers.

4 - Consumer Search in Online Retail: Relative Roles of Product and Context Content in Visual user Generated Content

Nima Jalali, Assistant Professor of Marketing, University of North Carolina Charlotte, 9201 University City Blvd, Charlotte, NC, 28269, United States, nima.jalali@uncc.edu, Purushottam Papatla

The literature suggests that visits by consumers to online retail sites may begin with exploratory product browsing. If the site content encountered during this stage is stimulating, however, browsing may turn into search where the stimuli are examined more closely for product knowledge and can result either in impulse purchases or repeat visits and future purchases. A visit could, therefore, be the start of a purchase funnel that begins with browsing and ends with a purchase if the retailer can take the visitor to the search stage. Retailers therefore need to present website content that takes visitors down the funnel to increase sales. Several retailers facilitate this through thumbnails, curated using visual UGC from sites like Instagram, which let visitors explore products on arrival. A first browsing-click on a thumbnail presents an enlarged image with more visual detail to stimulate interest while a subsequent search-click on the enlarged image takes visitors to the product's page. We investigate the efect of visual details of the product - operationalized as the area of the photo devoted to the product - and its use-context, i.e., who, where, and how, it is used, by investigating clicks on over 10,000 photos curated by 12 brands across 473 products. Our results suggest that product detail is significantly more important in the search click. Specifically, search-clicks exhibit an elasticity of more than 15% to the area of the photo devoted to the product, while browsing-clicks are essentially unaffected by the same.

■ SC03

Fertitta Hall, 105, Lower Level

Darkside of Retargeting and Consumer Annoyance

General Session

Chair: Xueming Luo, Temple University, 701 S. West Street, Room 234, P.O. Box 19469, Arlington, TX, 76019, United States, luoxm@temple.edu

1 - Trade-offs in Online Advertising: Modeling and Measuring Advertising Effectiveness and Annoyance Dynamics

Anindya Ghose, New York University, New York University, New York, NY, 10012, United States, aghose@stern.nyu.edu, Vilma Todri, Param Vir Singh

Digital advertisers often harness technology-enabled advertising scheduling strategies, such as ad repetition at the consumer level, to improve advertising effectiveness. However, such strategies can elicit annoyance in consumers, who increasingly deploy ad-blocking technologies. Our study captures this trade-off between effective and annoying display advertising. We propose a hidden Markov model (HMM) that allows us to investigate both the enduring impact of display advertising on consumers' purchase decisions and the potential of persistent display advertising to stimulate annoyance in consumers. Additionally, we study the structural dynamics of these display advertising effects by allowing the corresponding effects to be contingent on the latent state of the funnel path in which consumers reside. Our findings demonstrate a tension exists between generating interest and triggering annoyance in consumers; whereas display advertising has an enduring impact on transitioning consumers further down in the funnel path, display-advertising exposures beyond a frequency threshold can have an adverse effect by increasing the probability that consumers will be annoyed. Investigating the dynamics of these annoyance effects, we reveal that consumers who reside in different stages of the funnel path exhibit considerably different tolerance for annoyance stimulation. Our paper contributes to the scant but important literature of annoyance effects in digital advertising and has significant managerial implications for the online advertising ecosystem.

2 - When Retargeting Ads Work and Backfire

Takeshi Moriguchi, Waseda University, 1-6-1 NIshiwaseda, Shinjuku-ku, Tokyo, 169-8050, Japan, moriguchi@waseda.jp, Xueming Luo, Guiyang Xiong

Online retailers have widely adopted retargeting ads to convert customers who had previously browsed the websites or abandoned shopping carts. Yet, the effectiveness of such retargeting remains unclear. This study exploits several randomized field experiments to test how the effects of retargeting ads vary depending on the ad copy content and purchase funnel stages. The experimental results suggest that compared to the hold out without retargeting, the retargeting ads in lower funnel based on shopping cart abandonment history can engender significant incremental purchase responses. The effects are driven by the ad copy that highlights product return information rather than product reminder or shipping. Additional analyses with precise retargeting timing after cart abandonment suggest some negative customer annoyance effects if with too quick reminder ads. These findings implicate that retargeting ads with customer services of product return information can effectively recover the abandoned shopping carts and boost sales revenues.

3 - Sensor Data, Privacy and Behavioral Tracking: Does Usage Based Auto Insurance Benefit Drivers

Charles Weinberg, University of British Columbia, Sauder School of Business, Vancouver, BC, Canada, charles.weinberg@sauder.ubc.ca, Ting Zhu, Miremad Soleymanian

Usage-Based Insurance (UBI) is a recent auto insurance innovation that enables insurance companies to collect individual-level driving data, provide feedback on driving performance, and offer individually targeted price discounts based on each consumer's driving behavior. In this paper, using detailed information on insurance premium, retention rates of customers and individual driving behavior (from sensor data) for the UBI adopters, we examine and estimate the effect of the UBI policy on changing the customers driving behavior, which is a potential source of profit improvement for the insurance company beyond better selection among customers and higher retention rates. The key results of our analysis show that after UBI adoption, motorists improve their driving behavior, resulting in being safer drivers, providing a meaningful benefit for both the driver and the insurance company. We find that not all components of the UBI measure appear to change over time. In particular, we find that customers decrease their daily average hard brake frequency by an average of 21% after using UBI for six months, but we cannot find any significant effects on the mileage driven by customers after UBI adoption. We also find heterogeneous effects across different demographic groups. For example, younger drivers are more likely to adopt UBI and they also improve their UBI scores faster than older drivers after UBI adoption; and females show more improvement than males. We also find that economic incentives lead to higher adoption rates of UBI and greater improvements in driving behavior. Our results suggest that by sharing private consumer information with the insurance company, UBI is not only beneficial to the company, but also to consumers who become better drivers.

■ SC04

Fertitta Hall, 125, Lower Level

Social Media Networks II

Contributed Session

Chair: Russel Parrish Nelson, University of California-Irvine, 6386 Adobe Circle, Irvine, CA, 92617, United States, rpnelson@uci.edu

1 - Manipulation of Online Forums by Firms: Implications for Equilibrium Outcomes

Sreyaa Guha, Doctoral Student, IE Business School, IE University, Calle Maria De Molina 12, Madrid, 28006, Spain, sreyaa.guha@student.ie.edu, Shameek Sinha

In this paper, we develop a utility based model of preference formation in online communities to understand the effects of firm manipulation and investigate the equilibrium of preferences emerging out of the social interactions. We incorporate firm's manipulation role as a continuum from no manipulation to complete manipulation. Our utility specification allows for self-selection in network participation and unequal intensities of interactions by developing a utility function that accounts for social dependencies, namely - reference group and homophily. When firm manipulation is applied to our utility specification it becomes possible to identify settings under which firm manipulation can adversely affect preferences in presence of social interactions which would have otherwise remain unidentified if firm manipulation was modelled under the assumption of no social dependencies and equal intensity of interactions. We find that firm manipulation affects the idiosyncratic and social interaction components of utility differentially and therefore entails different implications for the preference equilibria. Specifically, our findings reveal that firm manipulation (1) has no effect if private preference is present but similar reference groups or homophilous individuals are absent (2) can potentially move individuals towards or away from an undecided state or even reverse their preferences depending on whether the private or social utility components are of same or opposite signs and which one of the two is higher in magnitude. We also observe a special case of a unique equilibrium under opposite signs of utility components, where with increasing firm manipulation, the equilibrium is always changed to favorable from unfavorable or neutral.

2 - Company's Marketing Strategies and Opinion Leaders in Network

Zhuo Zhang, Ph.D. Student in Marketing, Shanghai University of Finance & Economics, 33, Lane183,Yuanping Road, Room101, Shanghai, China, xixizz@sina.com, Weihe Gao

Promotional chat among consumers in BBS is an effective tool for advertise the company's product and image. Chatting in BBS as a "sales assistant" has been acknowledged by marketing managers. Former research involved in the factors which affected the consumers to chat with each other. Researchers standing on the position of consumers rather than considering the roles of companies, little is actually known about how company's marketing strategies impact users engagement in official networks. In this paper, we analyzed the data from the network game BBS, applied web crawling technique to extract data of game players' BBS communities. According to the framework of information dissemination process, we use the quantile regression models. We found that: (1)Company aims to bring opinion leaders' superiority into fully play but the roles of opinion leaders in the network will be weaken when company released a list of them in BBS. (2)As compared with OLS regression results, users' participation behaviors were asymmetry affected by some factors such as author's levels, time difference from the post to the first comment and so on. (3)The "crowd sourced elites" elevating their levels constantly from the ordinary internet users played the intermediary role in the process of 'browsing the post then comment' in the network.

3 - The Evolution of Cooperation in Social Networks

Russ Nelson, Assistant Professor, Northwestern University, 44 Montgomery St, Suite 1800, San Francisco, CA, 94104, United States, russ@northwestern.edu

Cooperation is a defining feature of our societies, markets, and social networks. Identifying why an individual would choose to pay a cost for another individual to receive a benefit is critical to understanding the evolution of cooperation. Much research has used the Prisoner's Dilemma framework to explore the mechanisms underlying the choice to cooperate, however few studies have compared these explanations or evaluated how they sustain cooperation in real-world settings. Here, I show that the evolution of cooperation can be modeled by translating mechanisms for the evolution of cooperation to simple patterns in longitudinal data. I demonstrate this approach by analyzing the Twitter promotions exchanged between competing gourmet food trucks in Southern California and show that cooperation can evolve even when individuals choose to cooperate in only a fraction of their interactions. The results imply a process that repays cooperators over time, rather than immediately, as assumed by direct reciprocity.

■ SC05

Fertitta Hall, 233, 2nd Floor

User Generated Content Negativity

Contributed Session

Chair: Nikolaos Korfiatis, University of East Anglia, Norwich Business School, Thomas Paine Study Center 0.15, Norwich, n, United Kingdom, n.korfiatis@uea.ac.uk

1 - Does the Negativity of Negative Reviews Inform the Helpfulness of Online Reviews More Than the Positivity of Positive Reviews?

Morris George, Associate Professor, Hankamer School of Business, One Bear Place #98007, Waco, TX, 76798, United States, Morris_George@baylor.edu

Online product reviews have become an important factor in consumers' purchase decisions. With the large number of reviews posted about most products, identifying certain reviews as helpful definitely makes it easier for customers to learn more about the product. A number of studies have been published about the factors deciding the helpfulness of these reviews such as the length and rating of the review, characteristics of the summary statement and the review text. Even though these studies tell us a lot about what makes a review helpful in general, there is lack of emphasis on whether the factors determining helpfulness vary across review ratings. In other words, do the factors influencing the helpfulness of a negative review differ from those for a positive review? Will the idea of loss aversion suggested by prospect theory apply in this context? The negativity of a negative review (low star rating) may act as a stronger warning sign making the review more helpful compared to what the positivity in the review text could do to affect the helpfulness of the positive reviews (high star rating). We will use the product review data obtained from Amazon and use the natural language processing to test these effects. We will assess the negativity and positivity of the review text in terms of the number of negative/positive words used, and the specific words used, performing separate analyses of negative and positive reviews. The findings can add to our understanding of online product review assessment and also help customers write more helpful reviews.

2 - Semantic Characteristics of Spam Reviews and the Financial Incentives

Eun Hee Ko, Emory University, 201 Dowman Drive, Atlanta, GA, 30322, United States, eun.hee.ko@emory.edu, Douglas Bowman

As consumers increasingly rely on online customer reviews as information sources, their validity has become a growing concern. To date, research examining fake reviews has focused exclusively on numeric features of customer reviews such as extremity of star ratings or length of the review in characters. However, customer reviews are characterized not only by their arithmetic factors but also by semantic factors (e.g., review content). In this study, we investigate the characteristics of spam reviews, emphasizing their semantic features. In particular, we take into account the emotional components and hidden semantic structures featurizing review spams. A challenge is that malicious manipulations of consumer opinions can rarely be directly observed. Accordingly, we apply a spam review detection algorithm to build a labeled dataset (i.e., spams, non-spams) using a semi-supervised classification method. We then conduct analyses of spam review characteristics. To analyze the semantic features of spam reviews, we rely on a fully automated system by employing a dictionary-based sentiment analysis and topic modeling, a text mining technique. The results show that spam reviews are positively related to the sentiment-related emotions (e.g., fear, joy) and the valence of positivity and are negatively related to neutral or low-arousal emotions (e.g., anticipation, sadness). The results also suggest that incorporating the semantic structure of the text of reviews improves the model. In addition to the analyses regarding spam reviews' characteristics, we investigate the factors that motivate malicious spamming activity and find that products with weak brand reputation present greater incentive to manipulate reviews. We further find that product price, popularity or time since launch, product demand, and reputation of a product in the past time period have significant impacts on review fraud.

3 - The First-review Effect: Interdependence Between Volume and Valence of Online Consumer Reviews

Sungsik Park, University of Florida, Department of Marketing, 249A STZ, Gainesville, FL, 32611, United States, sungsik.park0@gmail.com, Woochoel Shin, Jinhong Xie

This paper uncovers the striking power of a product's first consumer review. Our analytical model suggests that two key metrics of online consumer reviews, valence and volume, are not independent, but instead, evolve interdependently. This interdependence forms a mechanism to transfer a (dis)advantage from a product's first review to both a long-lasting (dis)advantage in future WOM valence and an increasing (dis)advantage in future WOM volume. As a result, a single consumer review can significantly influence the fate of a given product. These theoretical predictions, while seemingly unlikely, are supported by our empirical investigations. For example, more than thirty percent of vacuum cleaner models offered by both amazon.com and bestbuy.com receive first reviews of opposite valence on the two websites. Those with a negative first review subsequently suffer a loss in both valence and volume vis-a-vis their counterparts with a positive first review, even after 36 months. More strikingly, the first-review effect on WOM volume increases over time. Our findings underscore a crucial weakness in the consumer review mechanism: as a consumption-based information source, it creates an information-availability bias. Specifically, when a quality product is denigrated by its first review and thus suffers low initial sales, it loses opportunity to correct this negative bias via subsequent reviews. This weakness in the consumer reviews not only harms sellers' profits but also potentially deprives consumers of the chance to enjoy high-quality products. These findings have substantial implications for online sellers, ecommerce platform providers, and consumers.

4 - Temporal Characteristics of Review Valence: Do Online Reviews Reflect True Product Quality?

Nikolaos Korfiatis, University of East Anglia, Norwich Business School, Thomas Paine Study Center 0.15, Norwich, United Kingdom, n.korfiatis@uea.ac.uk, Panagiotis Stamolampros, Vasileios Sagiadinos, Efthymia Symitsi

We investigate the existence of temporal effects on the arrival of positive and negative reviews by testing two different hypotheses that derive from Construal Level Theory (CTL) and the bathtub curve of quality management. Employing a unique dataset, sourced from a meta-aggregator of online reviews for durable search goods, we explore how the time distance between product purchase and review publication influences the distribution of positive and negative reviews. Utilizing the reviewed product's date of purchase, we also examine how this distribution is altered during the different stages of a product's lifecycle. Our results suggest that the time distance between the point of purchase and review publication negatively influences review valence. In addition, using negative reviews as a proxy of a product's failure rate we show that this failure rate follows a U-shaped distribution, confirming a clustering of negative reviews at the burn-in and wear-out stages of the product lifecycle, thus adhering to the bathtub curve. Our results are of importance for researchers as they show that online reviews reflect the true quality of a product. Retailers should expect an increased likelihood of receiving a negative review when they introduce a new product to the market or in the case that they sell an older variant of a particular product.

■ SC06

Fertitta Hall, 236, 2nd Floor

Innovation II

Contributed Session

Chair: Sudhir Voleti, Indian School of Business, 2118, Ac2 L1, Isb Gachibowli, Hyderabad A.P., 500032, India, sudhir_voleti@isb.edu

1 - How, Why and to What Extent Do Chief Marketing Officers Matter in Firms' Radical Service Innovations? An Empirical Investigation of Contingent Effects

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Chief marketing officers (CMOs) have received much attention in the marketing literature, for their role in assessing market attractiveness, developing value propositions, and implementing marketing strategies (Eric Boyd et al., 2010; Weinzimmer et al., 2003). Yet, very little is known on how they can play a pivotal part in promoting radical service innovations within a firm. To address this issue, we draw on upper echelons theory (Hambrick, 2007; Hambrick and Mason, 1984) to develop a research model linking the general human capital of a CMO (i.e., a CMO's knowledge and skills that are not specific to any firm and transferable as well across industries) with radical service innovations (Custodio et al., 2013). Specifically, this study intends to address two research questions: (1) How, why and to what extent does the general human capital of a CMO influence a firm's radical service innovations? and (2) Under what conditions is CMO general human capital more or less effective in stimulating radical service innovations? By combining data from self-reported surveys and panel data of firms in US-based service industries, this study proposes an upper-echelons explanation for why generalist CMOs (i.e. CMOs with higher general human capital) can have greater impact on radical service innovations than those with lower general human capital. In addition, we analyze boundary conditions of general human capital of CMOs that may affect radical service innovations, including conditions at the CMO-level (i.e. CMO responsible for sales), top management team (TMT)-level (i.e. TMT tenure), and industry-level (i.e. market turbulence). The findings contribute to a better understanding of CMOs' potentially highly influential role in the creation of firms' radical service innovations.

2 - Don't Do It Right, Do It Fast? Speed and Quality of Innovation in Digital Markets

William Rand, Assistant Professor, NC State University, Raleigh, NC, 27695, United States, wmrand@ncsu.edu, Ming-Hui Huang, Roland T Rust

Why do digital markets often result in very fast innovations of questionable quality? In this study we explore the relationship between speed of innovation in a digital technology-enabled networked complex market and firm/market performance. The market can take the form of the Internet-of-Things, global digital supply chains, social media, digital business platforms, or other digitally enabled networks in which the innovation process is embedded and the innovative goods and services embodied. Using an agent-based model that allows optimal innovation speeds to emerge from market competition and by drawing rigorously from the literature to derive a set of input parameters that are varied in the ABM model, we show that firms should innovate "fast" (with lower average quality) when the market has a larger number of firms, shorter technological epochs, and lower uncertainty about customer demand; when firms have higher IT capabilities; and when the average speed of firms in the market is faster and outside options are less attractive; otherwise firms should innovate "right" (taking the time to ensure higher quality). We conclude that "Don't Do It Right, Do It Fast" can be the correct strategy for digital markets—markets that typically have fast technological change, many competitors, and active turnover of the competitor set. The fast but somewhat sloppy innovation that we see in many Silicon ley markets can sometimes be the right strategy.

3 - Optimizing Strategic Orientations for Superior Firm Performance

Shekhar Misra, Doctoral Student, Indiana University, 1309 E. 10th Street, HH 2100, Bloomington, IN, 47405, United States, shemisra@indiana.edu, Abhi Bhattacharya

The convergence of rapid technological changes and evolving customer preferences has resulted in increasingly shorter business model life cycles (Hamel 2000; Wiklund and Shepherd 2005). Therefore, in order to guarantee future success, firms need to constantly explore new ways to deal with the continuously evolving competitive environment. Existing research suggests that firm success comes from aligning and leveraging their market and entrepreneurship orientations with competitive environment turbulence (Atuahene-Gima and Ko 2001). In fact, researchers have demonstrated that both market orientation (MO - focusing on serving changing needs of existing customers) and entrepreneurial orientation (EO - exploring new revenue streams) result in superior firm performance (Rauch, Wiklund, Lumpkin and Frese 2009; Kirca, Jayachandran and Bearden 2005). However, very limited evidence exists regarding the joint effect of MO and EO on firm performance. Additionally, the majority of existing research on strategic orientation has focused on its impact on economic rents (i.e., returns), while its impact on firm risk and firm costs has been mostly neglected. In this study we examine the joint influence of MO and EO on three distinct dimensions of firm performance - returns, risks and costs. Additionally, this study investigates the mechanism through which firm's strategic orientation(s) translate into firm performance. Specifically, we examine the role of number of new product introductions and product quality as two possible mediators for the association between strategic orientation and firm performance. This research provides a better understanding of how, when and why a firm's strategic orientation(s) results into superior firm performance and how firms can balance their focus between these two divergent strategic orientations to optimize different aspects of firm performance.

4 - The Product-market Antecedents of Firms' Innovation and Marketing Focus

Sudhir Voleti, Assistant Professor in Marketing, Indian School of Business, 2118, Ac2 L1, Isb Gachibowli, Hyderabad A.P., 500032, India, sudhir_voleti@isb.edu, Ashish S Galande

Profit maximizing firms do several things to survive and thrive. In this paper, we focus on three choices by Technology Sector firms: (1) which product-markets to operate in, (2) The extent of 'Innovation focus' to adopt, and (3) The extent of 'Marketing Focus' to adopt. We posit that the extent of Innovation and/or Marketing focus in Technology firms is a function of their product-market location choices. We empirically test for the hypothesis that product-market choices and capabilities differentially influence an Innovation or Marketing focus. We model firms' Marketing (Innovation) focus as a function of firm characteristics, standard control variables and product-market strategy and capabilities. We use Marketing (R&D) expenditure as a proxy for Marketing (Innovation) focus. For product-market strategy and capabilities, we mine text on product-market descriptions, factorize text tokens to infer latent topical structure underlying the text corpus, Interpret topic factors in terms of their capability roots, and thereafter transform into metric variables. Under the assumption that latent topics represent underlying firm capabilities in product-market space, we show that: [1] Marketing [Innovation] focus is a function also of firm capabilities in product-market space, [2] That the function above is quadratic (hence, there exist optimal levels of topic emphasis in firms), [3] A plurality of firms fall below the median split on both Marketing and Innovation focus and [4] Lagged topics also exert influence, especially in Innovation focus.

■ SC08

Fertitta Hall, 240, 2nd Floor

Game Theory of Information and Online Economy I

General Session

Chair: Pınar Yildirim, University of Pennsylvania, Huntsman Hall Marketing Suite, University of Pennsylvania, Philadlphia, PA, 19104, United States, pyild@wharton.upenn.edu

1 - Tailored Cheap Talk

Pedro Gardete, Assistant Professor, Stanford University, 655 Knight Way, Stanford, CA, 94305, United States, gardete@stanford.edu

We consider a cheap-talk game in which the persuader may be imperfectly informed about the receiver's preferences. We find that, when the sender's motives are transparent to the receiver, the sender prefers to remain in a state of willful ignorance. The receiver prefers complete privacy unless if disclosure is necessary for communication to take place, in which case she prefers the sender to be perfectly informed. We also find that the sender's first-best outcome is attained by pooling with undesirable sender types. When communication is costly, the cost can affect outcomes separately from the content of messages, and moreover trade may break down at intermediate cost levels. Our results are discussed in the contexts of online advertising, sales, dating and job search.

2 - Why Customer Service Frustrates Consumers: Exploiting Hassle Costs by a Tiered Customer Service Organization

Yi Zhu, University of Minnesota, 321 19th Ave S, Suite 3-150, Minneapolis, MN, 55455, United States, yizhu@umn.edu, Anthony Dukes

Can a firm limit the amount of redress it pays out to dissatisfied customers by forcing them to endure hassle costs? We examine how a Customer Service Organization (CSO) can be designed to exploit consumer hassle costs and reduce redress payouts to complaining customers. We find that a tiered organizational structure embeds hassle costs for those dissatisfied customers who seek the highest levels of redress claims. The optimal tiered-structure specifies that first level CSO agents are empowered with lower payout authority than higher level agents. Only by escalating her complaint to an upper level agent, and thereby incurring additional hassle costs, can a dissatisfied customer obtain more redress from the firm. Next, we explore the heterogeneity of hassle costs motivate by studies suggesting that some consumers (e.g. elderly and minorities) have a higher hassle cost when dealing with a CSO. Larger hassle costs imply higher prices, more profits and worse product design. Finally, implementing a tiered CSO is profitable if consumers have sufficient hassle costs. This research suggests that consumer frustration may be systematically embedded in the firm's design of its CSO through the deliberate exploitation of consumer hassle costs.

3 - Attracting Artists to Music Streaming Platforms

Mark Bender, PhD, University of South Florida, 4202 E Fowler Ave, Tampa, FL, 33620, United States, bender@usf.edu, Tansev Geylani, Esther Gal-Or

In this paper, we investigate the conditions under which it can be profitable for artists to distribute their music through a streaming platform. We provide insights regarding the share of royalty that the streamer must award to artists in order to lure them to its platform. We also explore the streaming platform's decision to potentially exclude artists who are more difficult to attract because of their popularity with fans. Our results show that such exclusion is more likely the weaker the negotiating position of the platform vis-à-vis the artists is. Such a weaker position may arise, for instance, when subscribers value the variety offered by the platform to a lesser extent or when technology prevents the streaming platform from replicating the music buying experience.

4 - Conspicuous Consumption on the Long Tail: How Can Luxury Brands Benefit from Counterfeits?

Pınar Yıldırım, Assistant Professor of Marketing, Huntsman Hall Marketing Suite, University of Pennsylvania, Pennsylvania, PA, 19104, United States, pyild@wharton.upenn.edu, Jessie Liu, John Z. Zhang

We study how luxury brands can use product line expansion as a strategy when facing a threat from the counterfeit market. Consumers who are status-conscious consider the benefits and costs of buying luxury items in order to strengthen the beliefs of others about their status. Our findings suggest that product line expansion strategy serves these high-end consumers and their motives to strengthen their status image. In a market with counterfeiters, consumers have an incentive to buy additional products in order to reduce the uncertainty of their status signals. Increasing consumption makes it harder for others to imitate status when authentic brands signal quality and status with higher precision compared to counterfeits. Since each luxury item purchased contributes to one's status in a marginally declining fashion, it is rational for a luxury brand to expand its product line such that it maintains its core product and introduces peripheral products with lower status signalling benefits and prices. We further show that an increasing counterfeit market share can increase status-conscious consumers' willingness to pay for luxury goods. As a result, presence of counterfeiters can increase the profit of a luxury brand.

■ SC09

Fertitta Hall, 241, 2nd Floor

Method: Bayesian Models II

Contributed Session

Chair: Ty Henderson, University of Texas at Austin, 5803 Tom Wooten CV, Austin, TX, 78731-6512, United States, ty.henderson@mccombs.utexas.edu

1 - Models of Endogenous Willingness to Respond in Choice Experiments

Tetyana Kosyakova, Goethe University Frankfurt, Theodor-W.-Adorno-Platz 4, RuW Building, Frankfurt, 60323, Germany, kosyakova@econ.uni-frankfurt.de, Thomas Otter, Felix Eggers

The standard practice in discrete choice experiments asks respondents to make a fixed number T of choices each. When the data collection is outsourced, the contract with the research agency usually specifies the minimum number of respondents that complete all T choices, and respondents that complete fewer choices are discarded, potentially leading to a selection bias. In this study, we test an approach that leverages heterogeneous willingness to respond in a population and allows respondents to adjust to the number of choice sets individually. This approach results in respondent-specific Ti, reflecting a respondent i's differential willingness to respond. However, willingness to respond, and thus Ti, is likely correlated with unobserved preferences to be measured in the experiment. In that case, the way information is pooled across respondents in standard hierarchical Bayes or random coefficients model becomes invalid. We document the resulting bias and propose a class of hierarchical Bayes models that endogenize the number of choices Ti or equivalently the decision when to drop out of the experiment. The resulting models allow researchers to analyze studies in which respondents have not completed the entire choice experiment or differ in the number of answered choice sets.

2 - Selective Enforcement of Organized Retail Theft Laws

Michael H Braun, Southern Methodist University, 6212 Bishop Blvd., Fincher 309, Dallas, TX, 75206, United States, braunm@smu.edu

A Bayesian analysis of arrest data shows wide variation across jurisdictions in initial charging levels in retail theft situations, with nonwhites being charged with higher crime levels than whites. Jurisdictions with higher per-capita incomes are more likely to exhibit this racial discrepancy. The genesis of the problem is Texas has enacted a vaguely worded statutory scheme for Organized Retail Theft (ORT). ORT carries stiffer penalties than garden-variety shoplifting, but the statutes are worded such that a person who is guilty of retail theft is also guilty of ORT by definition. The original charge at the time of arrest impact bond amounts, plea negotiating leverage, and ultimately the criminal records of suspects who are often mentally ill, teenagers, or who have never been in trouble but for one arrest.

3 - Efficient Analysis for Multivariate Binary Data with Polya-gamma Auxiliary Variables

Ty Henderson, Associate Professor, University of Texas at Austin, 3408 Mount Barker Dr, Austin, TX, 78731-5725, United States, ty.henderson@mccombs.utexas.edu, Qing Liu

Existing non-compensatory models in the literature often treat latent "must have" or "can't have" thresholds as independent binary events, when instead there may be consumer-based or producer-based reasons to believe that consideration is related across or within attributes. This research proposes a discrete choice model with latent binary attribute consideration that accommodates potential consideration dependencies across attributes within an extreme value error structure. We extend a Bayesian data augmentation strategy using latent variables for logistic regression to the multivariate context, which yields many of the same advantages as the well-known Albert and Chib (1993) data augmentation strategy for the Probit model. Our proposed approach flexibly accommodates brand-level non-compensatory screening as well as other attribute-level screening. We examine the proposed model in both stated preference and revealed preference data.

■ SC10

Fertitta Hall, 313, 3rd Floor

International

Contributed Session

Chair: Roberta Aguzzoli, Durham University, Durham University Business School, Mill Hill, Durham, DH13LB, United Kingdom, roberta.aguzzoli@durham.ac.uk

1 - Do Corporate Reputation Dimensions Matter for Consumers' Buying Decision? A Cross-national Study

Jorge Lengler, Lecturer in Management, Durham University, Mill Hill Lane, Durham, DH13LB, United Kingdom, jorge@lengler.org

Anne Hjortsholm, Roberta Aguzzoli

With the increasing attentiveness on corporate reputation and its potential value creation, there is a current need to further explore the dimensions of corporate reputation from the perspective of consumers' buying decision. This study was therefore set out to explore how consumers in Denmark and Ireland rank the importance of corporate reputation dimensions for the buying decision of a shopping and convenience good, and thus focused on the dimensions' disaggregated importance. By use of a quantitative research approach, responses from 523 Danish consumers and 323 Irish consumers were collected and employed for data analysis. The results showed more similarities than differences between Danish and Irish consumers' ranking of the six corporate reputation dimensions' importance for the buying decision of a shopping and a convenience good. In fact, a trend was evident in the ranking of the dimensions' relative importance across both countries and products, where certain dimensions continuously ranked higher. Next to the trend, the results also showed corresponding dimensions and corporate reputation per se typically ranked higher in the shopping good relative to the convenience good.

2 - Attitude of Indian Consumers Towards International Luxury Brands

Shadma Shahid, PhD Scholar, Jamia Millia Islamia, New Delhi, new Delhi, 110025, India, shadma137941@st.jmi.ac.in, Rahela Farooqi

India is a home to some of the richest individuals in the world. With the fastest growing high net worth individuals (HNIs) in Asia and increasing high income group (HIG) consumers the Indian luxury market is seen as 'next China'. Data for the study was collected from 327 respondents across three major cities in India (New Delhi, Mumbai and Bangalore) through mall intercept method and snowball sampling technique was used. Hypothesis was tested using Structural equation modeling. The result of the study shows a positive relationship between influencing factors to purchase luxury goods with attitude and intention.

3 - Culture and Government Policies on International Market Entry

Tianjiao Qiu, Associate Professor, California State University Long Beach, 1250 Bellflower Boulevard, Long Beach, CA, 90840, United States, tianjiao.qiu@csulb.edu

International market entry through foreign direct investment (FDI) has been noteworthy for firms to achieve cross-country capacity expansion and diversification in host countries. Nonetheless, considerable uncertainty and potential loss of investments often accompany opportunity through FDI. With the increasing impact of FDI on global marketing, both academia and practitioners demonstrate strong interest in understanding which factors impact post-entry performance outcomes of international market entry. Researchers has identified that entry mode, entry timing and entry scale have significant implications for the success of international market entry. Despite findings on performance outcomes of international market entry strategies, there is a scarcity of relevant empirical research on antecedent factors of firm market entry decisions. Due to the uncertainty and potential irreversibility of investments, decisions about the entry scale can be complicated. To shed light on antecedent factors of the entry scale decisions, the current study draws on a strategic fit perspective to explore which host country cultural attributes and government policies correspond to increased levels of firm entry scale. Analyzing data of 288 firm-year observations for the period between 2005 and 2012 with hierarchical linear modeling techniques, the findings demonstrate that host countries with higher levels of uncertainty avoidance as well as higher levels of long-term orientation and indulgence are able to attract larger entry scale from FDI firms, even after controlling for host country macroeconomic factors and globalization levels. In addition, government policies that support entrepreneurship in host countries also boost the level of entry scale.

4 - The S-shaped Curve Relationship Between International Pricing Strategy and Export Performance

Roberta Aguzzoli, Lecturer in Management, Durham University, Durham University Business School, Mill hill Lane, Durham, DH13LB, United Kingdom, roberta.aguzzoli@durham.ac.uk, Jorge Lengler, Carlos Sousa, Catarina Marques

Exporting has become increasingly important for governments and for firms. Exports deserve government attention because they contribute to the economic development of nations. Not surprisingly, the argument that exporting activity is crucial to both organizational and national prosperity has gained much support in recent decades. Therefore, identifying the key drivers of export performance is an area of interest not only to researchers, but also to public policy-makers and managers. One of the key factors impacting the firm performance is marketing strategy. In this context, understanding the impact of export pricing decisions, particularly the degree of price adaptation, is of paramount importance because of its direct effect on the firm's revenue and profit levels. The purpose of this study is to address a topic that has received little attention in the marketing literature. Using partial least squares path modeling we seek to test alternative patterns of relationships between international pricing strategy and export performance. This is particularly relevant since price adaptation and export performance have been assumed in the literature to have a linear relationship. However, recent papers published in the field suggest the possibility that a non-linear relationship may exist between these two constructs. To address this gap in the literature we examine whether the relationship between price adaptation and export performance is linear or non-linear. We do that comparing companies from two countries that share similar business traits: Brazil and Portugal. The direct linear and cubic effects of pricing strategy on export performance were not significant. The cubic relationship between pricing strategy and export performance is only significant when moderated by manager's international experience.

■ SC11

Fertitta Hall, 316, 3rd Floor

New Product Diffusion: Social Influence II

Contributed Session

Chair: Li Sun, Zayed University, Zayed University, P.O.Box 19282, Dubai, United Arab Emirates, Li.Sun@zu.ac.ae

1 - Within-category Peer Effects in the Market for Hybrid Electric Vehicles

Jad Sassine, PhD Student, Massachusetts Institute of Technology, Cambridge, MA, 02142, United States, jsassine@mit.edu, David Keith

It is now well established that peer effects are an important influence in the diffusion of new technologies. Peer effects have been identified at the level of the product category, for example solar photovoltaic panels (e.g. Bollinger and Gillingham 2012), and for individual products that are clearly identifiable within their product category, such as the distinctive Toyota Prius hybrid-electric vehicle (e.g. Narayanan and Nair 2013). Do category-level peer effects reflect the existence of peer effects for individual products within the category? Or do peer effects also exist between related but distinct products within the same product category? The answer influences firm product portfolio strategies and efforts to accelerate new product diffusion. We test for the existence of within-category peer effects in the California hybrid vehicle market using the state's high occupancy vehicle (HOV) lane incentive as an instrument, which allowed single-occupant use of hybrid vehicles in HOV lanes, but for which only the most efficient hybrid vehicle models qualified. We find evidence of peer effects between distinct hybrid vehicle models, with evidence of stronger peer effects between models of the same brand. Our results suggest that the interactions within product categories are an important influence on innovation diffusion, of particular benefit to firms offering multiple products in the same category.

2 - How Social Contagion in New Product Diffusion Depends on Innovativeness of Consumers Involved

Weiyi Deng, PhD Candidate, Rotterdam School of Management, Erasmus University, Burgemeester Oudlaan 50, Rotterdam, 3062PA, Netherlands, deng@rsm.nl, Maciej Szymanowski, Xi Chen

Social contagion is a key factor in new product diffusion. The success of diffusion depends on whether early adopters serve as opinion leaders and trigger adoption by less innovative consumer segments. Extant research is however inconclusive on whether early adopters indeed tend to be opinion leaders. Some studies report correlation in self-reported measures of innovativeness and social influence or attribute failures of new products to negative opinions of early adopters. However, other studies propose that social influence weakens with increasing dissimilarity of consumers. By this line of reasoning, social influence should be higher within the same segment (early adopters) than across different segments (early adopter and follower). In this study, we use large data set on consumer new music band adoption to study how social contagion likelihood depends on the difference in consumers' innovativeness. Our data are sourced from an online music-oriented social network and include data on social connections and new band adoption. We also collect online google search trends data for each band as proxies of band popularity over time. We develop individual-level measures of innovativeness and infer social contagion from users' adoption behaviors and social network connections. The findings provide insights into how contagion probability is influenced by the difference in innovativeness levels of the individuals involved. Implications for personalized marketing in new product diffusion are discussed.

3 - Intrahousehold Peer Effects in Smartphone Adoption

Minjung Park, University of California-Berkeley, Haas School of Business, 545 Student Services Building, Berkeley, CA, 94720-1900, United States, minjungp@gmail.com

This paper examines intrahousehold peer effects in the adoption of smartphones. Using unique household panel data, I find that a household member becomes much more likely to adopt a smartphone if another household member has previously adopted one. Using rich information on individual characteristics and inter-person relationships, I also investigate the interplay between individual-specific or pair-specific traits and the degree of social influence in smartphone adoption. The results suggest that the strength of the intrahousehold peer effects critically depends on the characteristics of the "influenced" member as well as the relationship between the two members.

4 - Are Network Externalities Chilling or Warm? A Case of the U.S. Video Game Market

Li Sun, Assistant Professor, Zayed University, Zayed University, P.O.Box 19282, Dubai, United Arab Emirates, Li.Sun@zu.ac.ae

Shanfei Feng

Positive network externalities and the derived bandwagon effect are often the default image people have for a market of network good: as the utility of a product increases with the number of users for the same product, there will be demand-side economies of scale and it generates a positive reinforcement loop to expedite the adoption process. However, Goldenberg, Libai, and Muller (2010a) and few others questioned this stereotyped image and found the network effects turn out to chill the overall adoption process rather than expedite it. The rationale is, people often hold a wait-and-see attitude when encountered with a new network product and accept it only when sufficient number of others have adopted. In the framework of utility theory, the network effects then are not an extra benefit added to the overall utility but instead a constraint imposed in a consumer's choice decision (Goldenberg et al. 2010b). It is an empirical question whether there are such social thresholds in consumers' minds when they decide whether to adopt. In our examination with the U.S video game markets across the fifth and sixth generations, our empirical results support the theory of chilling but not warm effect in the market, but such effect tends to dissipate in the sixth generation. Possible explanations are also provided.

5 - Opinion Leadership and New Product Adoption in Social Media

Duygu Akdevelioglu, University of California, Irvine, Verano Place, Irvine, CA, 92617, United States, dakdevel@uci.edu, Selcan Kara

Identification of opinion leaders is a major concern for businesses because they have outstanding impacts on various stakeholders including the company, customers, and society in general. In order to speed up the adoption of new products, marketers search for ways to determine and target opinion leaders who are highly connected to information sources such as online networks and social media in today's marketing environment. This research investigates how to identify opinion leaders who are highly influential in new product adoption because of the following reasons. First, opinion leaders are constantly exposed to innovations (Goldenberg et al., 2009). Second, they rarely ignore the information that others have (Iyengar et al., 2011) which results in knowledgeability about a particular product (Grewal et al., 2000). Finally, they are more involved in new products than others. This paper examines innovativeness and self-construal as antecedents of self-reported opinion leadership, and sociometric opinion leadership, which is evaluated with objective measures such as the number of likes, and comments in their Facebook account, etc. Both self-reported and sociometric opinion leadership positively influence new product adoption. Results of a survey (n=300) revealed that self-reported and sociometric measures of opinion leadership tap into different constructs. Specifically, sociometric measures reflect opinion leadership better than self-reported because sociometric opinion leaders are true experts (Iyengar et al. 2011). Additionally, independent self-construal positively affects sociometric opinion leadership. This research provides a unique framework to explain how opinion leaders should be identified.

■ SC12

Fertitta Hall, 322, 3rd Floor

Method - Conjoint Analysis

Contributed Session

Chair: Felix Eggers, University of Groningen, Nettelbosje 2, Groningen, 9747 AE, Netherlands, f.eggers@rug.nl

1 - Frequency Knowledge Heuristic in Binary Discrete Choice Experiments

Mauricio Ferreira, Chief Methodologist, Hypothesis Group, Los Angeles, CA, United States, mferreira@hypothesisgroup.com, Rottem Sagi, Eugene Oh, Michael Thottam

In Discrete Choice Experiments (DCE), products are represented as bundles of features, and respondents are asked to make choices among these bundles. The model generally assumes consumers adopt a compensatory rule where they consider all features of the product and mentally weight them in terms of their importance to arrive at a preference for a bundle. Previous research has shown that consumers may not always employ a compensatory rule and have explored various heuristics in DCEs (Gilbride & Allenby, 2004; Yee, Hauser, Orlin, & Dahan, 2007). One heuristic that has not been well addressed in the context of DCEs in the past is the frequency knowledge. The Frequency knowledge effect suggests that the mere quantity of attributes associated with a brand can influence consumer knowledge (Alba & Marmorstein 1987). Frequency knowledge effect has been shown to influence consumer preferences beyond the preference of the particular attributes. That is, a brand shown to possess more attributes could simply be perceived to be better regardless of any specific feature of that attribute. To address this gap in the literature, we explored the frequency knowledge effect and show how to create designs to control for the bias. We also compare survey results in which DCE designs with binary features do and don't control for the effect of knowledge frequency bias. We found that DCE designs which control for the knowledge frequency effect provide more insight into consumer preferences for experiments with binary attributes. We conclude by offering recommendations for applied research using DCE designs that control for Frequency knowledge bias.

2 - Measuring Preferences Based on Attribute Exploration

Sebastian Hein, WHU - Otto Beisheim School of Management, Vallendar, Germany, sebastian.hein@whu.edu, Christian Schlereth

Because many products and services become more and more complex, consumers not necessarily process all available information while forming preferences during product choice. Recently, Internet technology became available to track and measure data online, which product information has been accessed. For Marketers, this new kind of data has the potential to complement insights derived exclusively from final purchase decisions. Yet, the quality of predicted preferences based on this data is unclear. We address the problem in this paper by transferring the idea of measuring attribute exploration in a stated-preference setting and comparing it to state-of-the art methods such as discrete choice experiments and rating-based conjoint methods. Therefore, we propose our new method Attribute Exploration Method, discuss possible parametrizations, and develop four models, which differ in the type of decisions they incorporate for predicting preferences. In an incentive-aligned empirical study with about 1400 respondents, we demonstrate its use and show that its predictive validity performs equally well compared to choice-based conjoint. However, the method needs less choice-sets and additionally performs substantially better than rating-based conjoint. We also provide insights on suitable parametrizations of the Attribute Exploration Method and the value add of incorporating this data.

3 - Precision Matters: How Craft in Conjoint Analysis Affects Price and Positioning Strategies

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Conjoint analysis, especially choice-based conjoint analysis (CBC), has become the preferred method to measure consumer preferences for product or service features. It is well established that CBC needs to identify the relative partworths accurately to be of managerial value. For example, if a consumer values a change from a gold- to a silver-colored smartwatch twice as much as a change from a brown- to a black-leather band, then a CBC study should estimate relative partworths that are also in a two-to-one ratio. In this paper, we argue that, in addition to accuracy, the relative size of the error term, i.e., precision, matters managerially. Greater precision results in a higher absolute magnitude of the partworth and is often called the "scale" in the conjoint-analysis literature. We show that precision matters (1) when making positioning decisions, (2) when estimating the market equilibrium price of products, and (3) when valuing a copyright or patent. It also matters whether precision is measured with respect to estimation, internal (holdout) validation, or external validation. We demonstrate empirically that the quality of execution of a conjoint-analysis study, also known as "craft," affects precision. Investments in craft, such as rich stimuli, incentive-aligned choice tasks, training videos—instead of relying on defaults, dramatically affect precision and, in turn, managerial decisions and patent/copyright valuations. Failure to strive for the highest possible craft, and failure to evaluate precision with respect to validation tasks, may lead to suboptimal and costly managerial decisions, inaccurate forecasts of marketplace response, and inaccurate patent/copyright valuations.

■ SC13

Fertitta Hall, 327, 3rd Floor

Eye Tracking in Advertising

Contributed Session

Chair: Anocha Aribarg, University of Michigan, Ross School of Business, 701 Tappan Street, R5478, Ann Arbbor, MI, 48109-1234, United States, anocha@umich.edu

1 - An Eye Tacking Study on the Exposure Effect of Creative Ads

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Utilizing an eye tracking,the experiment investigates the effects of different number of exposures of creative and non-creative online ads on consumers' eye fixations. The results showed (1) that at any level of exposure frequency, the creative ads always received more attention than non-creative ads did; (2) that subjects' first-fixation durations on creative ads presented an inverted U-shaped curve peaking at medium level of exposure frequency; and (3) that the subjects' pupil diameters reached the peak value when they were exposed to the creative ads for the second time, suggesting that they paid the highest level of attention. As the rapid development of Internet, more and more companies choose online advertising which is highly cost effective and widely spread. Advertisers are trying to make their ads stand out to compete for consumers' attention with intense exposures and creativity (Maysam and Saeed2014; Alexandre and Thomaz2015). To better understand whether creative advertising can always draw much more of consumers' attention and can advertising effectiveness be achieved by simply increasing number of exposures, it is important to examine the movement and states of consumers' eyes. Prior studies used questionnaire and behavioral experiments to study this issue (e.g., Southgate, Westby, and Page 2010; Wilson and Till2012; Yang and Smith 2009). However, these self-reported measures have a disadvantage, because consumers' actual attentions cannot be exactly measured by the mentioned ways. Physiological measures of attention have been realized to be more reliable (Rosbergen, Pieters, and Wedel1997). If you want to know what people are paying attention to, follow what they are looking at (Davenport and Beck 2001). Therefore, the purpose of our study is to measure more precisely (1) the impacts of creativity in online advertising on viewers' attention; and (2) the impacts of different number of exposures to creative advertising versus that to non-creative advertising on viewers' visual attention by using eye-tracking.

2 - Diagnostics for Ad Pretesting using Mixed Frequency Time Series

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Managers collect moment-to-moment (MtM) reactions to video advertisements to understand how ad content drives likeability. However, MtM likeability of an ad is obtained every second, whereas its scene-by-scene ad content is measured every five seconds because viewers need time to comprehend the storyline being developed in the sequence of scenes. In other words, ad likeability and ad content evolve asynchronously at different time-scales. This raises the question: how to analyze the dynamic impact of ad content on likability when these metrics evolve at different time-scales? We derive and validate an original mixed frequency Kalman filter by incorporating the role of asynchronicity, which facilitates the estimation of the effects of slow moving variables on the fast moving ones (or vice versa). Thus we solve the mixed frequency estimation problem without aggregating high-frequency variables, which entails no loss of information and hence circumvents potential estimation biases. Consequently, we can estimate the asynchronous effects of scene-by-scene ad content on moment-to-moment likeability. An empirical study using real market data from 100 video advertisements from 10 product categories offers new findings on the impact of ad content on ad likeability. Specifically, we find that ad content is relevant for ad likeability, and that effects of content dimensions vary largely among industries, between industries and even between ads for the same brand, with irritation and entertainment being the most impactful dimensions. The proposed approach yields diagnostic information on (i) Which video frame(s) to edit? (ii) Which ad content dimension(s) to modify? And (iii) how own ad performs about other ads from the same product category or across multiple categories? Thus managers can use the proposed approach to analyzing ad pretesting data and create high impact video ads.

3 - Consumer Response to Native Advertising

Anocha Aribarg, Associate Professor, University of Michigan, Ross School of Business, 701 Tappan Street, R5478, Ann Arbbor, MI, 48109-1234, United States, anocha@umich.edu, Eric Schwartz

Native advertising is a form of online advertising that matches the form and function of the platform on which it appears. Our research focuses on a particular form of "in-feed" native adverting where an online publisher inserts ad displays in stream with editorial contents (e.g., Yahoo, Facebook, LinkedIn). The FTC has paid close attention to this form of advertising and has imposed guidelines on how advertisers need to clearly mark their native ads to assure that consumers do not confuse them with contents. Our research aims to assess consumer responses to native ads in comparison to banner ads, explore the process that drives the differences and examine how prominence of the brand name shown on a native ad may moderate the responses. We use survey data coupled with eye-tracking data to show that native ads are more effective than traditional banner ads because consumers have harder time avoiding looking at the ads due to their proximity to the contents. We also find that even if consumers do not click on the native ads, they still recognize the brands advertised. Our results suggest that advertisers do not need to mask their ads to confuse consumers. In contrast, showing brand names more prominently on native ads can lead to higher brand awareness, a winning practice that is aligned well with the FTC guidelines.

■ SC14

Fertitta Hall, 328, 3rd Floor

Sustainability

Contributed Session

Chair: Stav Rosenzweig, Ben-Gurion University of the Negev, Department of Management, Guilford Glazer School of Business & Manageme, Beer Sheva, 84105, Israel, stavro@som.bgu.ac.il

1 - Don't Be a Big Waster! Regulating Consumer Behaviors Through the Experience of Guilt and Shame

Maggie Y. Chu, Assistant Professor, The Open University of Hong Kong, 30 Good Shepherd Street, Homantin, Hong Kong, Hong Kong, myychu@ouhk.edu.hk, Lisa C. Wan

The nowadays consumption-based lifestyle has led to an unprecedented growth of solid waste; people often buy products without regard to their actual needs. There is a common consensus that waste must be reduced by changing the behavior of consumers themselves. The research we propose in this paper aims to address this issue. We speculate that consumers' decisions to reduce waste are governed by negative emotional reactions that are associated with wasting, in particular, guilt and shame. These two emotions are commonly experienced when people engaged in behaviors that are in violation to societal or moral standards (e.g. having consumed irresponsibly). Extant research suggests that guilt and shame often co-exist; however, their influences on people's behaviors can be substantially different (e.g. Tangney, 1991). A fundamental difference between these two emotions is that guilt-laden people focus on the bad behaviors committed but shame-laden people focus on the bad qualities in themselves. We speculate that this may differentially affect people's self-efficacy perceptions, and thus leading guilt to have a positive impact on consumer likelihood to stop wastage but shame to have a negative impact on such likelihood. As noted above, shame is often less likely to result in behaviors that correct one's wasteful consumption than guilt is. However, this may not always be true. Since shame-laden people tend to have a stronger desire to repair their damaged social images, we therefore predict that when waste-reducing behavior is instrumental to gaining social approval, the negative impact of shame will be alleviated.

2 - Economic Gains Stimulate Negative Evaluations of Corporate Sustainability Initiatives

Tamar Makov, Yale, New Haven, CT, 06511, United States, tamar.makov@yale.edu, George Newman

In recent years, many organizations have sought to align their financial goals with environmental ones by identifying strategies that maximize profits while minimizing environmental impacts. Examples of this 'win-win' approach can be found across a wide range of industries, from encouraging the reuse of hotel towels, to the construction of energy efficient buildings. Although win-win strategies are generally thought to reflect positively on the organizations that employ them, here we find that people tend to respond negatively to the notion of profiting from environmental initiatives. In fact, observers may evaluate environmental win-wins less favorably than profit-seeking strategies that have no environmental benefits. The present studies suggest that how those initiatives are communicated to the general public may be of central importance. Therefore, organizations would benefit from carefully crafting the discourse around their win-win initiatives to ensure that they avoid this type of backlash. We suggest that the negative response to environmental win-wins results from a fundamental psychological divide between social relationships that are perceived as communally-oriented versus those that are perceived as market-oriented. Specifically, when a communal relationship is established, profits can "taint" the positive value associated with pro-social behavior because they violate the norm that one should give without receiving something in return. In market contexts, however, this norm is not present and thus it may be perfectly acceptable, and perhaps even expected, to profit from one's actions. Here we examine the distinction between communal and market norms in the context of environmental win-wins. In a series of four experiments, we document a negative reaction to initiatives that result in both environmental and financial gains. We further identify important boundary conditions of this phenomenon and suggest ways in which organizations undertaking sustainability initiatives can avoid potential backlash.

3 - Understanding Consumer Response to Climate Change Amelioration Policies

John H Roberts, Professor, University of New South Wales, 6/61 Kirribilli Avenue, Kirribilli, Sydney NSW, 2061, Australia, johnr@agsm.edu.au, Pamela Morrison, Edward Wei, Aysha Brown

This paper examines the general public's support for climate change amelioration policies by advancing a model of individual level evaluation processes and calibrating it for different segments of the population. Based on surveys of both climate change scientists' and members of the public's evaluation of, and support for climate change policies we develop a segmentation scheme that calibrates differential response amongst supporters, agnostics and deniers. Using a discrete choice experiment, we show how population level response to both policies and information will be misestimated if we do not account for segment differences. The policy implications of our results suggest that "more of the same" in terms of messages by scientists can potentially be counter-productive.

4 - On Sustainability Initiatives of Firms

Sumitro Banerjee, Associate Professor of Marketing, Grenoble Ecole de Management, 12 rue Pierre Sémard, Grenoble, 38000, France, sumitrob@hotmail.com

We analyze a firm's decision to undertake sustainability initiatives by incurring additional costs to alleviate harmful side effects of their business operations. Considering such side effects are social "bads", we show that a monopolist invests in sustainability initiatives reduce their harmful impact only if it causes a higher disutility among consumers than the general populace. Further, such initiatives result in complete neutralization of all damage caused by its business operations only if either the cost of such initiatives is below a threshold, or the level of damage is below an upper bound and the cost of the initiatives is above the threshold with the ratio of damage to cost also below a threshold. However, if the ratio is above the threshold the monopolist under-invests in sustainability leaving some lingering residual damage. In case where the extent of damage is unobservable to consumers, signaling leads to the firm causing lower actual damage to distort its sustainability efforts downwards thereby forcing the firm causing a high damage to undertake the same level of initiative as under complete information. We also derive implications for pricing, competition and regulatory policy arising from our analysis.

5 - License to Pollute: Do Car Environmental Cues Increase Consumer Driving?

Stav Rosenzweig, Ben-Gurion University of the Negev, Department of Management, Guilford Glazer School of Business & Manageme, Beer Sheva, 84105, Israel, stavro@som.bgu.ac.il, Aviv Steren, Ofir Rubin

Marketers often design well-thought-of marketing actions only to discover that consumers' reaction to their actions either rebounded or even backfired. The literature largely ascribes many such undesirable reactions to a licensing mechanism, in which individuals allow themselves to behave in a manner they would otherwise not engage in had they not previously engaged in a good or moral behavior. Based on the literature on licensing effects and on the effect of cues, we posit that the presence of an environmental cue when purchasing an energy-consuming product elicits a licensing effect that generates increased product usage. We examine a national environmental policy implemented in Israel in 2009, designed to reduce pollution by incentivizing the purchasing of new energy-efficient cars. Using this policy in a quasi-experimental design, we test changes in kilometers traveled following the implementation of the policy. We suggest that the mere presence of an environmental cue - a pollution scale - in the context of purchasing a new car, triggers a licensing effect and consequently increases car usage. We contribute to the literature by (1) suggesting that the presence of a cue is enough to trigger a licensing effect; (2) using a quasi-experiment offering a strong external validity; and (3) whereas prior literature focused primarily on food consumption, we examine the effect of licensing on energy-consuming products associated with long-term environmental consequences. Similar policies, designed to curb energy consumption and pollution by incentivizing the purchase of energy-efficient cars, have been implemented in most OECD countries, but their effectiveness has not been scrutinized in the literature. Examining the reaction of consumers to such environmental policies is critical because of their far-reaching health, environmental, resource-depletion, and economic implications.

■ SC15

Fertitta Hall, 331, 3rd Floor

Segmentation: General

Contributed Session

Chair: Milad Darani, Texas A&M Universtiy, 503 Southwest Pkwy, apt 1204, College Station, TX, 77840, United States, milad.md183@gmail.com

1 - A Latent Class Segmentation Approach to Mapping the Investor Market

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The question "who uses a financial advisor?" has gained significant research attention over the last decade due to the growing importance of financial advisors with respect to their role in individual financial planning. The extant literature explores the relationship between various predictor variables and the financial advice decision. While these studies provide important insights, they have a number of shortcomings, which when addressed can improve our understanding of the financial advice decision. First, the extant literature heavily relies on demographic variables, which are known to be weak predictors of behaviour. Second, there is a strong assumption of a homogeneous investor market, which indicates that investor heterogeneity is ignored. To address these concerns, we conduct a latent class segmentation using psychographic and behavioural characteristics. The results indicate that there are two distinct segments underlying the financial advice market. For both segments, the decision to use a financial advisor is positively related to risk tolerance, investor confidence, and trust in a financial advisor. However, the effect sizes are larger

for segment 1, indicating greater sensitivity to the predictor variables for this group. Furthermore, the results demonstrate that certain predictor variables are statistically significant for one group and not the other. For segment 1, the financial advice decision is related to personality type, trust in financial advisor substitutes, and positive attitudes towards financial advisors. For segment 2, the financial advice decision is related to negative attitudes towards financial advisors. Given these results, using a classification analysis, we can predict segment membership using demographic characteristics with 70% accuracy.

2 - A New Segmentation Tool for Airlines

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Since 2008, many North American airlines have implemented fixed amount checked baggage fee policies to decrease their check-in and baggage handling costs (e.g., $25 for the 1st and $35 for the 2nd checked baggage for Air Canada). The success of this change has led to a current debate at many of these airlines on whether and how to make further changes in this area. Airline travel has frequently been identified as a commodity-type service with little brand loyalty among the customer base, especially for leisure travelers. Currently, the major segmentation tool for airlines is the type of travelers (i.e., business travelers vs. leisure ones) and the type is often indicated by the booking time, assuming the business travelers book their tickets closer to their intended departure time. The current research explores the possibility of an additional segmentation tool by making the baggage fee "floating" along with the air ticket price across time. Our hypothesis is that travelers, especially baggage checkers, have different price sensitivities for air ticket price and baggage price. We haven't identified any work on how to use both types of price sensitives to segment market. Our research demonstrates a new method that affects airlines' estimate of the potential value of passengers who utilize an auxiliary service such as baggage checking. If some passengers are primarily air ticket price-sensitive leisure customers who travel infrequently and are not loyal to a particular airline as existing research shows, will they have the same price sensitivity for their checked bags, will the new "floating" baggage fee policy bring more revenue or decrease the baggage handling personnel cost, or will this new policy motivate the travelers to switch to another airline? We examine these research questions through revealed choice method and identify the conditions airlines can keep customers but increase revenue simultaneously.

3 - Dynamic Segmentation by Multiple Items Purchases using Machine Learning. Leveraging Transaction and Attitudinal Data

Milad Darani, PhD Student, Texas A&M Universtiy, College Station, TX, United States, milad64@tamu.edu, Venkatesh Shankar

With the explosion in data on consumer transactions, purchase sequences, and attitudes, companies are constantly seeking better methods to analyze such data and target the right customer segments with the right offerings and right marketing practices. Prior market segmentation research has primarily focused on deriving customer segments based on demographics or brand choice data rather than on purchase sequences and attitudes. We propose a new machine learning approach that uses a mixture of hidden Markov models (MHMM) to cluster customers based on their purchase sequences of multiple items and predicts their cluster membership probabilities based on more than 200 attitude and demographic variables through a Lasso regression variable selection model. We illustrate our approach by estimating our models on a uniquely compiled dataset of transaction and attitudinal data in the salty snacks category from a large supermarket chain.

■ SC16

Fertitta Hall, 414, 4th Floor

Advertising & Consumer Behavior III

Contributed Session

Chair: Eugene Chan, University of Technology-Sydney, 810/18 Park Lane, Chippendale, 2008, Australia, ehchan@outlook.com

1 - The Drivers and Consequences of Ad Blocking

Evert de Haan, Assistant Professor, Goethe University Frankfurt, Frankfurt am Main, Germany, dehaan@wiwi.uni-frankfurt.de

In this study the drivers and consequences of ad blocking are investigated using a 2x2 experimental design. The effectiveness and impact of banner advertising in terms of attention, brand recall, website evaluation, and other factors is investigated for both ad block users and non-ad block users. I find that, if websites would be able to expose everyone to online advertising, the attention to the ads and the impact the ads have on brand recall is significantly lower for ad block users than for non-ad blocker users. Part of this difference in ad effectiveness is explained by the self-selection effect of installing ad blocking software. Ad block users are for example more ad avoidant and have more negative attitudes towards advertising in general than non-ad block users. With this, the ad blocking software in itself is less damaging than often reported in industry reports. Requesting ad block users to turn off the ad blocking software to gain access to the website therefore only provides limited benefits for advertisers and publishers. Ad block users are however more often willing to pay for ad-free content than non-ad block users. Using a market simulation, I find that alternative strategies can be more profitable for publishers, e.g. instead of forcing visitors to turn off the ad blocking software websites can better ask for a small fee for ad-free content to this group of visitors as an alternative. For advertisers this would in turn result in the ads being shown to visitors who are more sensitive to advertising, increasing overall advertising effectiveness.

2 - Is Bigger Always Better the Impacts of Product-model Size Ratio and Brand Social Role on Advertising Effectiveness

Ming-Tsung Kung, National Sun Yat Sen University, Kaohsiung, Taiwan, Kmts7888@mail2000.com.tw, Chun-Tuan Chang, Xing Yu Chu, Hsin Yi Wang

This research examines how advertisers can use the ratio between the size of the human model and the size of the product to enhance advertising effectiveness. We explore the "size embodies power" metaphor and its possible influence on advertising effectiveness, theorizing that a larger product-to-model size ratio in a visual ad will make it easy for consumers to associate the advertised product with a greater social power. A 2 (product-model ratio: large vs. small) x 2 (brand social role: leader-like vs. friend-like brand) full-factorial design is conducted in Study 1a using two real chocolate brands (Godiva and Kinder Bueno). Focusing on females, Study 2 employs the same experimental design using a fictitious brand name for perfume (hedonic) and facial cleanser (utilitarian) to rule out the effects of product type. We find that people have a stronger purchase intention and a more favorable attitude toward the ad under the following two conditions: a) when a larger product-model ratio (i.e., product size is bigger than the model size) is used to promote a brand that is positioned as a leader, and b) when a smaller product-model ratio (i.e., product size is smaller than the model size) is used to promote a brand that is positioned as a friend. Processing fluency is found to be the underlying mechanism that explains the above phenomena. The current research is the first to illustrate that, in an ad, power can be primed through a visual cue: the size ratio between product and model.

3 - Holistic Perception of Celebrity Endorsers and the Role of Unique Outline

M. Liu, Associate Professor, University of Macau, Macao, iloveorangedeeply@hotmail.com, Yongdan Liu

Research to date examining the nature of celebrity advertisement has been limited to celebrity's faces, facial expressions, and etc. However, little research in marketing domain has considered the consequences of how celebrity's outline is automatically processed. Neuroscientific research suggests that brain has evolved specific capabilities enabling automatic process of person's image in a holistic manner. Such holistic perception mainly relies on its low spatial frequencies, which represent the coarse visual information. Here, the authors tested the hypothesis that the celebrity endorser with unique outline (hair style, posture, etc.) is more effective to trigger consumers' purchase intention than the ones without unique outline. In this study, unique hair style was tested in Experiment 1 by using Jackie Chan's (famous Hong Kong martial artist in Asia and Hollywood) faceless cartoon image. The results of t-test indicated that even without face, nearly half of the participates can consciously or subconsciously identify the celebrity, which leads to higher purchase intention of endorsed products. Body gesture was tested in Experiment 2 by using real advertisement of Jackie Chan and Jet Lee as stimuli (both are very famous martial artists in Asia and Hollywood). The stimuli faces were created by blending 50% of celebrity's face with 50% of an unfamiliar model's face chosen to be of similar age and attractiveness to the celebrity. Results of Experiment 2 was analyzed by ANOVA and pairwise comparisons, and chi-square test. It showed further evidence that consumers rely on outline cues to identify the celebrity. The results also suggest that holistic processing precedes the analysis of local features during celebrity identification.

4 - The Height of Luxury: Vertical Location Matters in Advertisements for High Status Items

Eugene Chan, Senior Lecturer, Monash University, 26 Sir John Monash Dr., Caulfield East, 3145, Australia, ehchan@outlook.com

Consumers often refer to luxury goods as "high status" items and associated with the "upper class". Consumers likely rely on this metaphorical linkage in their cognitive processing of advertisements for luxury goods. Across four experimental studies, we report that participants are more likely to buy from and are willing to pay more money for luxury goods that are advertised visually along the top than along the bottom. This is because participants process luxury goods that are advertised at the top more fluently than those at the bottom, thus increasing their attitudes toward such high status items. This effect only arises for luxury goods for which participants have an association with "top", but not for pedestrian goods for which they do not. Our findings offer implications for marketers and advertisers in terms of where to place or design advertising and communication materials for luxury goods.

■ SC17

Fertitta Hall, 416, 4th Floor

Entrepreneurship

Contributed Session

Chair: Zuhui Xu, Shanghai University of Finance and Economics, xuzuhui1990@163.com

1 - Consumption, Entrepreneurship and Poverty Alleviation: A Marketing Perspective

Arun Sreekumar, University of Illinois, Urbana-Champaign, 183, Wohlers Hall, 1206 South Sixth Street, Champaign, IL, 61820, United States, aruns2@illinois.edu, Saravana Jaikumar, Shantanu Dutta, Madhu Viswanathan

How does entrepreneurial experience impact income and consumption in low-income households? This research provides a unique marketing perspective to understand the impact of entrepreneurship on poverty alleviation, and how this effect is moderated by literacy and social capital. Whereas economics literature has used an umbrella notion of poverty, marketing literature with its unique customer and marketplace-level focus is ideally suited to unpack poverty into a variety of dimensions. The subsistence marketplaces stream that originated in the marketing discipline has examined the combined effects of low income and the highly correlated aspect of low literacy in terms of cognitive predilections, emotional elements and decision making. Moreover, the duality and interplay between consumption and entrepreneurship highlighted in marketing literature on poverty is also a central focus here. Our research uses a large household panel dataset from India (India Human Development Survey, 2004 and 2011) to examine how entrepreneurship impacts consumption and entrepreneurial income, as well as how social capital and literacy moderate these relationships. Our findings suggest that levels of literacy can act as a lever through which entrepreneurial experience may lead to improved outcomes. Similarly, households may leverage social capital in their entrepreneurial activities toward improved economic outcomes. Our findings have significant marketing and policy implications.

2 - The Influence of Entrepreneurs' Buddhism Upon the Customer Awareness of Corporate

Zuhui Xu, Shanghai University of Finance and Economics, Shanghai, China, xuzuhui1990@163.com, Zhuo Zhang

While there is extant research about the relationship between entrepreneurs' characteristics and corporate decision making, little is actually known about how entrepreneurs' Buddhism impacts the customer awareness of corporate. Based on the Upper Echelon Theory and Institutional Theory, the authors intend to examine the relationship between entrepreneurs' Buddhism and the customer awareness of corporate, especially the moderating role of awareness of corporate intellectual property protection. Based on the survey data from a large sample of Chinese entrepreneurs, the authors find that (1) Entrepreneurs' Buddhism is positively related to the customer awareness of corporate, as is measured through proxy variable by advertising expenditures. (2) The awareness of corporate intellectual property protection measured by the number of corporate trademark weakens the relationship between entrepreneurs' Buddhism and the customer awareness of corporate. Empirical results manifest that karma in Buddhism, as entrepreneurs' innate value outlook, urges them to pay attention to those with whom the interest of corporate is closely linked, like its customers. Moreover, awareness of corporate intellectual property protection, as a formal institution, weakens the positive effect of entrepreneurs' Buddhism on corporate customer awareness. These results offer important theoretical and practical implications about religion and corporate decision making.

■ SC18

Fertitta Hall, 417, 4th Floor

Consumer Behavior to Price & Product

Contributed Session

Chair: Hanyong Park, University of Texas-San Antonio, 9319 Durham Trace, San Antonio, TX, 78254, United States, Hanyong.Park@utsa.edu

1 - Cost Transparency: Is it Too Much?

Huseyin Sami Karaca, Bogazici University, Bebek, Istanbul, 34342, Turkey, huseyin.karaca@boun.edu.tr, Ozlem Hesapci, N. Alican Mecit

A growing body of academic literature and increased public demand have made transparency an important issue and liability for companies. This paper postulates that it is not whether a company is transparent or not but it is the way companies become transparent that can satisfy this liability. Although the process of getting transparent can enhance the company's ability to inspire trust in consumers, to the extent that this practice is novel, consumers are likely to remain skeptical about the intentions of the company. Previous research showed that if consumers think of a certain action as a persuasion tactic, they are likely to perceive the action off-putting as it detaches consumers from the interaction. Transparency in general is defined as the degree to which information elements are made available to consumers. Accordingly, a company can make its pricing strategy more transparent and justify its process either by disclosing its high costs (direct) or providing cues that imply high costs (implied), such as fair trade marks. We hypothesize that (1) consumers are likely to perceive the direct approach less trustful than the implied approach, and that (2) consumers tend perceive the former approach as a persuasion tactic. The first-run of experiments confirm our main hypothesis that to the degree that transparency practices are direct and confrontational, consumers are skeptical about the intentions of companies.

2 - How Does Resource Scarcity Influence Consumers' Price-quality Judgments?

Hanyong Park, University of Texas-San Antonio, 9319 Durham Trace, San Antonio, TX, 78254, United States, Hanyong.Park@utsa.edu, David Silvera, Ashok Lalwani

While consumers routinely encounter situations in which they perceive resources as limited, little is known about how this general sense of resource scarcity influences consumers' use of price when making purchase decisions. This research seeks to fill this gap by examining the link between resource scarcity and consumers' use of price to judge product quality, namely price-quality judgment. Price-quality judgment has been considered as one of the "marketing universals." Hence, understanding the relation is fundamental both to consumer researchers who investigate the psychology of scarcity and to practitioners seeking to manage quality perceptions. Five studies provide converging evidence that resource scarcity decreases price-quality judgments. We show that resource scarcity decreases consumers' general tendency to categorize objects, whereby objects that might normally be categorized are mentally reconfigured as individuated entities. This, in turn, hinders consumers from viewing objects as dispersed across different price-tier groups, and thus lowers the tendency to judge the quality of given brands on the basis of their prices. In line with this proposed mechanism, we further show that increasing tendency to categorize via experimental manipulation (e.g., categorization task) attenuates the effect, and that product purchases for others (vs. for oneself) reverse the effect. The current work not only advances our theoretical understanding of how seemingly-unrelated environmental factors (e.g., cues that signal the limited nature of general resources) may exert their influences on consumers' product evaluations, but also identifies a novel mechanism by which such an effect can occur. The results of this study may also help to guide a variety of managerial decisions including pricing strategies, branding strategies, and retail environment management.

3 - Consumer Preference for Opaque Products

Lucas Stich, University of Munich, Munich, Germany, stich@lmu.de, Martin Spann, Gerald Haeubl

Selling opaque products is a strategy that was pioneered by Priceline and Hotwire which sell travel services (e.g., hotel rooms) via the Internet. In this strategy, the seller conceals some product attributes from the buyers (e.g., exact location and brand of a hotel) and reveals them only after a non-refundable purchase has been made. From a seller's perspective, the benefits of selling opaque products have been studied using mainly analytical modeling. However, prior research has not studied consumers' motivations and preferences to choose opaque products. In particular, consumers do not necessarily require a discount to choose an opaque product. We predict and experimentally examine two behavioral pathways that contribute to understanding consumer choice of opaque products. More specifically, the first pathway predicts that opaque products offer buyers an easy way out of a difficult choice situation. Thus, buyers choose opaque products and do so more frequently in situations that require a choice but seem difficult to them. The second pathway predicts that buyer preference for an opaque product is driven by a desire to explore. Thus, consumers' curiosity and motivation to learn is driving the choice of opaque products. We test our predictions in a series of experiments and discuss theoretical and practical implications.

4 - The Effect of Temporary Product Unavailability on Consumer Variety Seeking

Hanyong Park, University of Texas-San Antonio, 9319 Durham Trace, San Antonio, TX, 78254, United States, Hanyong.Park@utsa.edu, David Silvera, Dengfeng Yan

Temporary product unavailability has been considered as an important topic in the marketing literature, as it has a direct impact on consumer satisfaction and choice decisions, and thereby influences financial outcomes of both retailers and manufacturers. Yet, the extant literature provides an incomplete picture of consumer choice in response to product unavailability. While past research has examined how product unavailability influences purchase likelihood (i.e., whether to buy an item) and choice of a particular item (i.e., which item to buy), little is known about the effect of product unavailability on purchase of multiple items from a product class. To examine this, we focus on consumers' variety-seeking behavior (i.e., how varied item choice to make). In a set of experiments and a field study, we show that the effect of product unavailability on variety chosen is a function of preference certainty. When consumers have certain product or brand preferences, product unavailability facilitates a preference-focused inferential process (e.g., "my preferred items might become unavailable"), leading them to narrow item selection to ones they highly prefer (decreased variety chosen). Conversely, when consumers have uncertain product or brand preferences, product unavailability facilitates a choice option-focused inferential process (e.g., "my choice options might become limited"), which leads them to react against the restricted feeling of decision freedom by diversifying item selection (increased variety chosen). The results suggest that product unavailability, particularly when consumers have uncertain preferences, might create potential benefits such as balanced sales and inventory cost reduction. The results may also help to improve managerial assortment decisions based on product class or category.

Saturday, 3:30PM - 5:00PM

■ SD01

Fertitta Hall, 101, Lower Level

Retailing: Assortment

Contributed Session

Chair: Kris Johnson Ferreira, Harvard Business School, Harvard Business School, Boston, MA, 02163, United States, kferreira@hbs.edu

1 - Heterogeneity in Consumer Response to a Conflict Delisting

Els Breugelmans, KU Leuven, Korte Nieuwstraat 13, Antwerp, 2000, Belgium, els.breugelmans@kuleuven.be, Sara Van der Maelen, Kathleen Cleeren, Kusum L Ailawadi, Scott Andrew Neslin

Conflict delistings (CDs), where the manufacturer's brands get removed from the retailer's shelves after a dispute, are common in today's (grocery) retailing landscape. We investigate a CD where a top retailer delisted all of a top manufacturer's brands due to failed price negotiations. First, we want to discover whether a consumer's pre-conflict behavioral store and brand loyalties serve as buffers for the involved retailer and manufacturer. We use difference-in-difference models to examine the impact of the CD on consumer spending for the involved retailer and manufacturer. Preliminary results show that a consumer's pre-conflict brand loyalty positively affects spending for the manufacturer following a CD. Interestingly, initial loyalty towards the retailer negatively affects spending for the involved retailer following a CD. This suggests that a consumer's initial brand loyalty serves as a buffer for the manufacturer, whereas initial store loyalty does not serve as a buffer for the retailer in a CD. This calls for further investigation. Therefore, secondly, we study which consumer characteristics, that drive brand and store loyalty, determine a consumer's reaction to a CD. These drivers could be convenience-related (such as promotion sensitivity and distance to the store, respectively) or preference-related (such as brand familiarity, and private label buying, respectively). Preliminary results suggest that convenience-related consumer characteristics, such as distance to the nearest involved store, negatively offset the preference-related characteristics regarding store loyalty.

2 - Market Basket Analysis Insights to Support Category Management

Luis Aburto, University of Chile, Beauchef 851, Santiago, Santiago, Chile, laburto@dii.uchile.cl, Andres I Musalem, Maximo Bosch

Category management is a popular approach for making decisions for large numbers of products in retailing. This approach simplifies the decision process by grouping thousands of products into strategic business units, each of them managed with substantial independence from the rest. This approach, however, ignores the interrelationships among these different business units. This work uses scanner data to uncover these interdependencies. The number of possible relationships among product categories can be very large. As a consequence we introduce an approach that generates a simple and intuitive graphical representation of these interrelationships. For the retail store under study, this analysis reveals four groups of products categories that are often jointly purchased. Furthermore, the study of each of these groups allowed us to conceive the retail store as a set of four quasi-independent businesses. These conclusions reinforce the strategic need for proactive coordination of marketing activities across interrelated product categories.

3 - What Are the Welfare Effects of Consumer Brand Deletions?

Rafael Becerril Arreola, Assistant Professor, USC Darla Moore School of Business, 1014 Greene Street, Moore School of Business, Columbia, SC, 29208, United States, rafael.becerril@moore.sc.edu, Randolph E. Bucklin

This research explores the effects of brand deletion on consumer behavior and consumer welfare in consumer packaged goods. In particular, the authors seek to gauge the nature and extent of the welfare losses incurred by individual consumer panelists when previously available brands are no longer offered in their trading areas. To estimate compensating variation, the authors develop a non-homothetic expenditure system using data from the yogurt category in two major metropolitan areas. Model-free analyses reveal that the deletion of a low-end brand leads a significant proportion of buyers to exit the category. Those who switch brands in response to the deletion trade up to more expensive brands, paying higher prices but reducing their category spending (lower purchase quantity and frequency) and variety (number of distinct UPCs and brands purchased). The deletion of a high-end brand leads some consumers to trade down, paying lower prices but also spending less (due to smaller purchase quantities), and reducing variety (number of brands and distinct UPCs purchased). Calibrating the expenditure system at the individual level permits the welfare losses incurred by panelists to be estimated by compensating variation. These findings can be matched to panelists' demographic characteristics, including income levels, education, and employment, enabling the distributional impacts of brand deletions to be assessed.

4 - Assortment Rotation and the Value of Concealment

Kris Johnson Ferreira, Assistant Professor, Harvard Business School, Morgan Hall 413, Boston, MA, 02163, United States, kferreira@hbs.edu, Joel Goh

Assortment rotation - the retailing practice of changing the assortment of products offered to customers - has recently been used as a competitive advantage by many retailers. Fast-fashion retailers have differentiated themselves by rotating their assortment multiple times throughout a selling season. The online flash sales industry was created using this idea as a cornerstone of its business strategy. We identify and investigate a new reason why frequent assortment rotations can be valuable to a retailer, particularly for products where consumers tend to purchase multiple products in a given category during a season. Namely, by distributing its seasonal catalog of products over multiple assortments rotated throughout the season - as opposed to selling all products in a single assortment - the retailer effectively conceals a portion of its full product catalog from consumers. This injects uncertainty into the consumer's relative product valuations since she is unable to observe the entire catalog of products that the retailer will sell that season. Rationally acting consumers may respond to this additional uncertainty by purchasing more products, thereby generating additional sales for the retailer. We refer to this phenomenon as the value of concealment. A negative value of concealment is possible and represents the event that rationally acting consumers respond to the additional uncertainty by purchasing fewer products. We develop a consumer choice model and finite-horizon stochastic dynamic program to study when the value of concealment is positive or negative. We present insights and discuss intuition regarding which product categories likely lead to positive vs. negative values of concealment.

■ SD02

Fertitta Hall, 102, Lower Level

Platform-based Marketing

General Session

Chair: Jinzhao Du, Fuqua Business School, Fuqua Business School, Durham, NC, 27705, United States, jinzhao.du@duke.edu

1 - Media Platforms' Content Provision Strategy and Source of Profits

Jinzhao Du, Fuqua Business School, Apt 506, 910 Constitution Dr., Durham, NC, 27705, United States, jinzhao.du@duke.edu, Wilfred Amaldoss, Woochoel Shin

We see media platforms earning their profits from consumers and advertisers (e.g., the New York Times), advertisers only (e.g., the Huffington Post), or consumers only (e.g., Netflix). This paper theoretically investigates two important strategic issues confronting a media platform: What proportion of its limited bandwidth or space should a platform allocate for content (instead of advertising)? Relatedly, what should be the source of a platform's profits? To facilitate this analysis, we propose a model where a media platform interacts with three sides: content suppliers, consumers, and advertisers. When consumers' desire for content is high, one might expect a platform to offer paid content rather than free content. Our analysis, however, shows that competing platforms will adopt a free-content strategy even in circumstances where a monopoly platform adopts a paid-content-with-ads strategy if consumers' desire for content is sufficiently high. We observe a reversal in the pattern of results when consumers' desire for content is sufficiently low. Counter to conventional wisdom, inter-platform competition helps a platform to earn more profits. Next, though competing platforms never shun advertisers if the content supplier is a monopolist, they may avoid advertising and earn their entire profits from consumers when there is sufficient competition between content suppliers. Finally, compared to a monopoly content supplier, a duopoly content supplier can raise the price for content and yet not decrease the total channel profits.

2 - Auctioneers as Market Makers: Managing Momentum in Chittagong Tea Auctions

Tanjim Hossain, 105 St George Street, Toronto, ON, M5S 3E6, Canada, tanjim.hossain@utoronto.ca, Fahad Khalil, Matthew Shum

In an auction market, the auctioneer exerts significant influence in choosing and administering a selling strategy. Using a unique data set, where the auctioneer has ownership stake on a fraction of the lots he sells (affiliated lots), we study how auctioneers manage a large auction market and show that their actions can be explained by the market structure and their incentives to maximize revenues from the entire market. Specifically, we find that a high realized price or withdrawal of a lot (presumably based on a high reserve price) exert a positive price externality on subsequent lots in a dynamic auction. As different lots are (imperfect) substitutes, high prices indicate higher potential competition in the future, which reduces continuation values and triggers more aggressive bidding. However, by reducing the probability of sale, this can be costly to an individual seller if she does not internalize the price externality on subsequent lots. Hence, to manage the momentum of market prices while maintaining his relation with sellers, the auctioneer chooses higher reserve prices for affiliated lots, which sell less frequently creating a short run cost to the auctioneer but an overall positive impact on market prices. Consistent with the role of a market maker, a desire to appear non-opportunistic, rather than opportunism, seems to better explain the auctioneer's actions.

3 - Watching People Watch TV

Matt McGranaghan, Cornell University, Ithaca, NY, United States, mfm88@cornell.edu, Jurate Liaukonyte, Kenneth Wilbur, Geoffrey Fisher

Rapid proliferation of smartphones and media multitasking make it important to update our understanding how much attention TV advertising receives. Traditional television audience measurements do not measure moment-by-moment changes in viewers' presence or attention. We describe proprietary data collected by state-of-the-art facial recognition technology from a panel of several hundred households. We construct measures to capture actual "eyes on screen" and in-room presence to quantify how viewer attention varies with TV programming, advertising breaks and advertising content. Our results indicate that the first 30 seconds of the commercial break retains viewer attention rather well. However, attention starts to ebb after the first 30 seconds. 83% of viewers remain in the room at the 120-second mark of the break, and 75% of viewers continue watching the screen during advertisements. These figures are dramatically higher than consumers' self-reported ad-avoidance behaviors. We have found a number of important moderating factors. Attention to advertisements depends on the social context: 81% of solo viewers continue watching at the 120-second mark, but only 69% of viewers in three-person groups do so. Ad content matters: ads categorized as "funny" and movie ads receive more attention than other ads. Program content matters also: attention to the screen is greater during basketball games when the score is close.

4 - The Impact of Loyalty Shipping Programs on Multichannel Purchase Behavior

Qi Yu, University of Pennsylvania, Philadelphia, PA, United States, qiyu@wharton.upenn.edu, Raghuram Iyengar, Young-Hoon Park

The Impact of Loyalty Shipping Programs on Multichannel Purchase Behavior Launched in 2005, Prime membership, free two-day shipping for $99 per year, gives Amazon a tremendous edge in generating sales. With such loyalty shipping programs becoming popular among customers, multi-channel firms are launching such programs as well, e.g., Sephora Flash and Barnes and Noble Membership. For multi-channel firms, however, the impact of such programs on customer behavior and firm revenues remains unclear. For instance, such programs may generate higher online sales but at the expense of offline sales. In this research, we investigate the causal impact of the loyalty shipping program on customer purchases for both online and offline channels. We leverage individual-level purchase data at a company that launched a loyalty shipping program enabling its members to benefit from free shipping. Using a difference-in-differences propensity score matching estimator and controlling for selection effects, we find that consumers significantly increase their purchases after becoming members. Our results also show that online channel is a substitute to brick-and-mortar channels.

■ SD04

Fertitta Hall, 125, Lower Level

Social Media Referrals

Contributed Session

Chair: Pedro M Ferreira, Carnegie Mellon University, Heinz College, 5000 Forbes Avenue, Pittsburgh, PA, 15213, United States, pedrof@cmu.edu

1 - How Customer Referral Programs Harness the Power of Your Customers' Friendships

Iris Roelens, PhD Researcher, Ghent University, Tweekerkenstraat 2, Gent, 9000, Belgium, iris.roelens@vlerick.com, Philippe Baecke, Dries Benoit, Christophe Van den Bulte

In this study, we investigate the importance of social connections between existing customers and potential prospects for the success of customer referral programs. Our study adds to the growing literature on customer referral programs by taking into account the social network of referrers. A growing body of research observed that referred customers are more valuable to a firm than non-referred customers (Schmitt et al., 2001; Villanueva et al., 2008; Armelini et al., 2015). In particular, referred customers exhibit a higher contribution margin and have a longer customer lifetime than customers acquired in other ways. However, the underlying reasons for this difference in value are still largely unknown. This study addresses this gap and investigates the extent to which characteristics of social connections can explain the value of referred customers. Van den Bulte et al. (working paper) empirically show that two theoretical phenomena are at play, namely better matching between the referrer and the firm, and social enrichment through the presence of the referrer. Thus, the characteristics of the relationship between the referrer and the firm explain (part of) the variability in the profitability of referred customers and non-referred customers. Our study investigates whether these previously found effects also hold in a different industry (telecom instead of banking). Secondly, based on call data records from a European telecom operator, our study explores the impact of the relationship between the referrer and the referred customer on the value of the latter to the firm. Using multiple approaches to model customer value (lifetime, revenue, cost-to-serve), we provide a fine-grained analysis of social effects in referral success. This study provides new insights into the underlying social phenomena of customer referral behavior by analyzing dynamic effects of social connections and referred customer value.

2 - Matching Does Not Fully Explain How Referrals Propagate

Constant Pieters, Tilburg University, Tilburg, Netherlands, c.pieters@tilburguniversity.edu, Aurelie Lemmens, Rik Pieters

Academics and practitioners alike have long recognized the benefits of referrals. Conventional wisdom dictates that referring customers know their friends' preferences better than firms do and are therefore better at providing personalized recommendations that lead to satisfying consumption experiences. Customers who make referrals are essentially good matchmakers. However, the question remains whether the benefits of referrals might actually go beyond the pure matchmaking value of personalized recommendations. In particular, do referred customers further propagate recommendations, independent of whether the experience was satisfying or not? In three studies, we find that referred customers (compared to customers who were not referred) show a higher tendency to refer in turn, independently of whether they were satisfied with the recommended product. Overall, the results provide preliminary evidence that personalized referrals have beneficial effects on subsequent referral behavior beyond the matchmaking role they fulfill. These findings suggest that referrals are not only good at creating more satisfied customers, but that the simple act of being referred also makes customers more willing to spread the good word.

3 - Who Will Become the Next Hub? An Early Prediction Framework for Influential Users During Urgent Events

Bill Rand, Assistant Professor, North Carolina State University, Poole College of Management, Box 7229, North Carolina State University, Raleigh, NC, 27695-7229, United States, wmrand@ncsu.edu, Hechao Sun, Shawn Mankad

For urgent events, brand crises, disasters, or other breaking news, Twitter has become a powerful medium that propagates news globally at a high rate. For these urgent events or crises, it would be useful to be able to identify important sources of information early. Such an endeavor could have significant potential operational and marketing implications, since it would allow managers to make appropriate plans for deployment of resources, and give marketers the ability reach out to potential influential users at an early stage. Our main research question then is: how can we identify in an online, near-realtime context which users will be most influential in spreading information during an urgent event? In this paper we use the diffusion of urgent events on Twitter as a case study, aiming to give practical implications, and to develop reasonable decisions or strategies. In this paper, we develop methods to make predictions at the early stage of the diffusion process about users' future influence. We can use these methods to identify individuals who will be important sources of information during the event, using the aggregate size of the retweet cascades of the user as a measure of influence. We highlight the use of new features that we extracted from the users' recent historical retweets. Given limited information, we show that we can use these features to perform and "online", i.e., during the event, prediction, about users' future cascade sizes using state-of-the-art machine learning methods, including deep learning. We provide a guideline for the practical implementation of these methods that is compatible with the freely available Twitter streaming API.

4 - The Welfare Properties of Recommender Systems

Pedro M. Ferreira, Carnegie Mellon University, Heinz College, 5000 Forbes Avenue, Pittsburgh, PA, 15213, United States, pedrof@cmu.edu, Xiaochen Zhang, Rodrigo Belo, Miguel Godinho de Matos

Recommender systems assign products to slots in ways that improve consumers' experience. They usually lead to more sales, which increases both consumer surplus and profit. However, firms may also choose which recommender system to use to maximize profit. Furthermore, consumers tend to exhibit a lower price elasticity of demand towards products placed in salient slots. We show that a firm using this knowledge may increase its profit hurting both consumer surplus and total welfare. We use data from a large scale field experiment ran using the video-on- demand system of a large telecommunications provider to measure the price elasticity of demand for movies placed in salient and non-salient slots on the TV screen. During this experiment, the firm randomized the slots in which movies were recommended to consumers as well as their prices. This readily allows for identifying the effects of price and slot on demand and thus compute consumer surplus. We find empirical evidence that indeed consumers are less price elastic towards movies placed in salient slots. Using the outcomes of this experiment we simulate how consumer surplus and welfare change when the firm implements the recommender system that maximizes profit. We also show that, at least in our setting, this system still yields higher consumer surplus than some recommender systems often used in practice, such as lists of most sold, most rated and highest rated products. Our results question whether recommender systems embed mechanisms that extract excessive surplus from consumers, which may need to be better scrutinized.

■ SD05

Fertitta Hall, 233, 2nd Floor

User Generated Content General

Contributed Session

Chair: Chun-Yao Huang, National Taiwan University, Department of Business Administration, 1, Sec. 4, Roosevelt Road, Taipei, 106, Taiwan, chunyaohuang@ntu.edu.tw

1 - Dynamics of Customer Reviews Over the Product Lifecycle

Ning Zhong, Emory University, 1300 Clifton Rd, Atlanta, GA, 30322, United States, nzhong@emory.edu, David A Schweidel

Although user-generated content (UGC) is recognized as an instant showcase of customers' behaviors and thoughts, research on the dynamics of UGC has been limited to metrics such as volume, ratings and valence, leaving the textual content overlooked. As an example, customer preferences and concerns relating to a product may evolve over the product lifecycle and are reflected in the content of online customer reviews. In this research, we develop a coupled hidden Markov model (CHMM) based on latent Dirichlet allocation (LDA) to capture the dynamics in the volume of text and the topics extracted from text collection by allowing the prevalence of topics to shift over multiple latent states. We apply the modeling framework to online customer reviews on tablet computers from 2012 to 2015 and show that the model with multiple changepoints provides superior predictive performance than the counterpart with no changepoints. Moreover, we find that both the volume and the content of reviews change over the product lifecycle. Specifically, innovators and early adopters are inclined to focus on the technological features of the products, while majority and laggards typically focus on personal experiences of purchase and usage.

2 - Sentiment Mining of Regional Languages: Devising Marketing Strategy using a Novel Intelligence Approach

Prabin Kumar Panigrahi, Indian Institute of Management Indore, Rau-Pithampur Road, Indore, India, prabin@iimidr.ac.in, Nishikant Bele, Shashi Kant Srivastava

For marketing intelligence, sentiment mining in the English language is common. Although, for regional languages, opinion mining technique offers unlimited opportunities for marketing professionals to know the characteristics of customers because of large digital text data available in these language. However, in the marketing context, there is scant literature on the Hindi sentiment mining. Hindi is one of the largest regional languages of India. Due to the characteristics of Hindi; tools, techniques and resources available for sentiment mining in the English language cannot be applied straight to Hindi. The objective of this paper is to mine marketing related sentiments about any product from Hindi blogs reviews. We derived opinion about one of the India's very famous brand. We prepared the data sets from Hindi Blogs Reviews. We proposed lexicon and machine learning technique to organize the sentiment. Our suggested method used four steps (1) Crawling and pre-processing the blog reviews (2) Vector Space Model (VSM) were used to pull out reports relevant to the query (3) Identify opinion at document level using Lexicon method (4) Machine learning technique used to measure the result. The main contribution of our paper is recommending the most appropriate procedure for the Hindi language in marketing milieu that outshines the rest of the five common sentiment mining procedures. Experimental result demonstrates the effectiveness of our algorithms. We found true positive from our research as 73.5%, false positive 32.4%, precision rate as 73% and recall rate of 73.5%.

3 - Better Understanding Customer Needs: Integrating Online Product Reviews and Offline Sample Surveys

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Understanding consumers' potential needs is a major source of success for new product development and optimization. However, traditional new products concept generating and testing can not always ensure the success because the consumers' needs predictions are based only by small sample surveys of potential customers. On the other hand, the online product reviews contain rich but underexplored information about customers' experiences and opinions towards products, which can definitely shed light on the new product development. This paper establishes a systematical framework of how to optimize the new product development by integrating the customer needs information generated from online customer reviews and results of small sample surveys. Employing the methodology of mapping knowledge graph and big data mining, we first build up a model to generate detailed classification of customer needs and dynamic changing description of customer profiles from online product reviews, then design a systematical process to retest the results through small sample surveys. The results provide theoretical implications and practical guidance on tapping into customer needs for products and on developing new products.

4 - A Holistic Exploration of Service Quality and Customer Satisfaction by Text-analyzing the Thoughts of Both the Demand and the Supply Sides

Chun-Yao Huang, Professor, National Taiwan Univerisyt, 1, Sec. 4, Roosevelt Rd., Taipei, 106, Taiwan, chunyaohuang@ntu.edu.tw, Ping-Yu Liu

Academics and practitioners alike have been measuring service quality and customer satisfaction by customers' self-disclosed perceptions for decades. As online reviews nowadays provide rich information on such perceptions, this study analyzes dimensions of service quality and customer satisfaction in service-related online reviews. Focusing on airline services, this study text-analyzes both airline passenger reviews and annual reports. Through a systematic approach that combines airline service ontological analysis and dictionary-based semantic mapping, we aim to: (1) Propose a framework of measuring service quality and customer satisfaction through text-mining online reviews. (2) Establish a measure of service providers' attentiveness to service quality based on the description in the Management Discussion and Analysis (MD&A) component of their annual reports. (3) Based on the former two foundations, explore the relationship between consumers' service perceptions and service providers' attentiveness to service quality. As such, this study complements the existing service quality and customer satisfaction literature, and showcases the feasibility of exploring both the demand and the supply sides of service exchanges through text-analyzing publicly available secondary data sources.

■ SD06

Fertitta Hall, 236, 2nd Floor

Innovation III

Contributed Session

Chair: Jinghui Qian, Rotman School of Management, 105 St George Street, Toronto, ON, M5S 3E6, Canada, jinghui.qian12@rotman.utoronto.ca

1 - Exploration or Exploitation: The Impact of Innovation Practices on Firm Performances in a Post-trips Emerging Economy

Satheesh Seenivasan, Senior Lecturer, Monash University, Level 7, Building S, Department of Marketing, Caulfield, 3145, Australia, satheesh.seenivasan@monash.edu, Samir Gupta, Elliot N Maltz

The aim of this study is to investigate how different innovation practices of firms affect their performance under a strong Intellectual Property (IP) regime in an emerging economy. Specifically, we quantify the differential effects of investments on internally created new knowledge (exploratory R&D investments) and externally acquired existing knowledge (exploitative R&D investments) on firm performance, in the context of Indian pharmaceutical industry during the post-Trade Related Intellectual Property Rights (TRIPs) regime. We employ Vector auto-regressive models and use a longitudinal panel data covering all major pharmaceutical firms in India over a 10 year period from Center for Monitoring Indian Economy database for this study. We also account for the moderating roles of firm characteristics and industry sub-sectors in our analysis. Our study contributes to the limited literature on innovation practices in emerging markets during the post-TRIPS regime and offers novel managerial insights on the differential effects of exploratory and exploitative R & D investments on firm performances.

2 - R&D Competition on Network Features and Vertical Features

Jinghui Qian, Rotman School of Management, 105 St George Street, # 563, Toronto, ON, M5S 3E6, Canada, jinghui.qian12@rotman.utoronto.ca

Recently, an increasing number of network feature innovations have been developed by companies, especially in digital and IT industries, to attain competitive advantages. How should a firm make R&D decision on investing in network feature versus in vertical feature? This paper examines R&D choice and competition of firms in a duopoly market setting where the firms have asymmetric number of loyal consumers. Both firms can choose between a network feature innovation and a vertical feature innovation and decide the extent of R&D investment when they develop new-generation products. We derive two key results: First, we demonstrate that the firms may conduct different types of R&D even if they have the same R&D technology and cost. Second, we show that the firm with fewer loyal consumers (i.e., the market follower) may invest more on network feature R&D than the firm with more loyal consumers (i.e., the market leader) if the baseline product utility turns out to be sufficiently high. Our findings only provide insights on R&D decision making but also give out new explanations for some seemingly puzzling phenomena. For instance, the insights derived from this research can explain the slagged network feature innovations (e.g., Apple fell behind Samsung in S Beam-like technology;) and lower R&D expenditure of a market leader as compared to the follower firms (e.g., Samsung's R&D expenditure doubled Apple's in 2014) in industries exhibiting consumer loyalty and intensive innovations, such as smart phone, software and game industry.

■ SD08

Fertitta Hall, 240, 2nd Floor

Game Theory Models of Information, Online and Offline Economy

General Session

Chair: Monic Sun, Boston University, Boston University, Boston, MA, 02215, United States, monic@bu.edu

1 - Managing Word of Mouth

Aniko Oery, PhD, Yale School of Management, New Haven, CT, 06520, United States, aniko.oery@yale.edu, Joyee Deb

We develop a model of positive and negative word of mouth (WOM) and analyze how a firm can manage the type of WOM through pricing of the product. Agents are only willing to talk positively (negatively), if they believe their positive (negative) message will affect the receiver's purchasing decision positively (negatively). Thus, high prices result in positive WOM equilibria while low prices result in negative WOM equilibria. In a negative WOM equilibrium, only negative messages are being transmitted, so ``no news is good news". If the product is new a negative WOM can, thus, be very attractive as many people receive no news. Whether the seller wants to induce positive or negative WOM is also affected by the heterogeneity in beliefs about the product in the population.

2 - Sourcing Co-created Products: Should your Suppliers Collaborate?

Dinah Vernik, Rice University, 6400 Main St, Ms 531, Houston, TX, 77005, United States, Dinah.Vernik@rice.edu, Oksana Loginova, Niladri Syam

We investigate the phenomenon of sourcing co-created products. Specifically, we study how a multi-product downstream firm should source from the upstream market, that is single-source versus multi-source, in a situation where the products are co-created with the suppliers. In business-to-business markets it is increasingly common for downstream firms to co-create the products with the help of their suppliers, and we contribute to the literature on sourcing strategies by incorporating product co-creation. We also model whether the downstream firm should establish a collaborative environment for it suppliers, and this is novel to the literature. Finally, we compare the sourcing strategies for co-created products with the case when the downstream firm makes a straight purchase. We find that the downstream firm may be worse off when the upstream suppliers collaborate, unless the cross-effect of its and its suppliers' investments is very large. Importantly, we derive this result for a completely general cost function. We have considered a very rich strategy space for the firm's sourcing strategy, which includes, (a) co-creation or straight purchase, (b) single-sourcing or multi-sourcing, and (c) collaboration or no collaboration in the case of multi-source co-creation. We find that for an additively separable cost function, the downstream firm's optimal strategy is multi-source co-creation without collaboration.

3 - A Model of Smart Products

Monic Sun, Boston University School of Management, 595 Commonwealth Ave, Boston, MA, 02215, United States, monic@bu.edu, Yuxin Chen, Xinxin Li

Smart product/service that utilizes Artificial Intelligence (AI) has emerged and is gaining popularity in market. In this research, we explore the optimal design and pricing of smart product/service by modeling its dynamic interactions with the users. The seller of a smart product has to balance the motivation of learning buyer's preference and consumption pattern through encouraging product use with low marginal price of usage and the motivation of extracting more consumer surplus with high marginal price of usage when the product becomes "smarter". Consequently, the level of "smartness" of a product in terms of learning speed and accuracy has to be chosen strategically even if the costs of AI technology is not a concern.

4 - Formats, Channel Interactions and Product Variety in Emerging Markets

Abhinav Uppal, University of Pennsylvania - Wharton School, 3730 Walnut Street, 727.6 JMHH, Philadelphia, PA, 19104, United States, auppal@wharton.upenn.edu, Kinshuk Jerath, Jagmohan Raju

In emerging markets, unorganized retailers, typically characterized by small neighborhood stores, stock products inside the stores away from direct access of customers to be presented to them on demand. This allows them the ability to push the demand for certain products within a category by selectively recommending them to their customers. We build a game theoretic model to study the implications of this ability on profit sharing within the channel and how it affects the strategies of a manufacturer that has the ability to offer multiple horizontally differentiated products. We find that the unorganized retailer's ability to push products selectively allows it to appropriate the full surplus in the channel. If this ability is high enough, the manufacturer in fact offers reduced product variety to handicap the retailer. In certain cases, the retailer will, all else equal, commit to handicapping itself by switching to the organized retailer format of presenting products directly accessible to customers.

■ SD09

Fertitta Hall, 241, 2nd Floor

Method: Bayesian Models III

Contributed Session

Chair: David M Harman, University of St. Thomas, Opus College of Business, Mail # MCH 316, 2115 Summit Avenue, St. Paul, MN, 55105, United States, david.harman@stthomas.edu

1 - Bayesian Analysis of Heterogeneous Mediation

Tatiana Dyachenko, Georgetown Univeristy, 37th and O Street NW, Hariri 581, Washigton, DC, 20057, United States, tld40@georgetown.edu, Greg M Allenby

Mediation analysis is used to study the relationship between stimulus and response in the presence of intermediate, generative variables. The traditional approach to mediation analysis is based on statistical significance of coefficients in aggregate regression models that assume homogeneity of response. We show that the results from this model are neither necessary nor sufficient to claim the presence of mediation for specific individuals, and propose a Bayesian mixture model for mediation analysis that incorporates heterogeneity in mediating behavior. The Bayesian nature of our model allows us to compute the probability that specific respondents follow a mediated relationship between stimulus and response. We find support for our proposed mixture model in multiple empirical applications and demonstrate additional insights that can enhance the understanding of the mediating mechanism.

2 - Incorporating Model Uncertainty in the Presence of Multiple Endogenous Variables in Generalized Linear Models by Bayesian Model Averaging

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We develop a method to incorporate model uncertainty in the presence of multiple endogenous variables in Generalized Linear Models by Bayesian model averaging. Our method builds on a Gibbs sampler for the instrumental variable framework subject to endogeneity and instrumentation that incorporates model uncertainty in both outcome and instrumentation stages. Direct evaluation of model probabilities is intractable in this setting. However, we show that by nesting model moves inside the Gibbs sampler, model comparison can be performed via conditional Bayes factors, leading to straightforward calculations. This new Gibbs sampler is only slightly more involved than the original algorithm and exhibits no evidence of mixing difficulties. We further show how this same principle may be employed to evaluate the validity of instrumentation choices. We conclude with a study of three different modeling challenges relevant to marketing: (i) estimating a demand function with single endogenous variable, retail price, (ii) estimating the effect of two endogenous variables, prerelease advertising and number of opening screens, on opening box office performance, and (iii) for a Poisson link, estimating the effect of pharmaceutical company's direct and salesforce-based promotional spending on the number of prescriptions at the hospital level.

3 - Dynamic Heterogeneity: A Bayesian Nonparametric Approach

Ryan Dew, Columbia University, 521 W 112th Street, Apt 62, New York, NY, 10025, United States, RDew18@gsb.columbia.edu, Yang Li, Asim Ansari

Consumers' preferences and sensitivities to marketing variables change over time, often in tandem with population trends, but frequently exhibiting individual-specific idiosyncrasies. While much of the empirical marketing literature has focused on capturing cross-sectional heterogeneity in models of consumer behavior, little research has been done on modeling the temporal evolution of heterogeneity. In this work, we develop a Bayesian nonparametric framework based on hierarchical Gaussian processes (HGP) for modeling dynamic heterogeneity, which flexibly captures both the evolution of population trends and individual-level departures from those trends over time. This novel specification allows for sharing of statistical information across individuals, and within individuals over time, to provide rich individual-level insights and efficient inferences regarding dynamics. We showcase our HGP specification in a choice modeling context, using both simulations and an application to consumer packaged goods data. Our simulation studies show that restricted heterogeneity specifications, as have been employed previously in the literature, can lead to significant biases in the presence of dynamic heterogeneity, even in estimating population-level trends. Moreover, these restricted specifications cannot capture managerially-relevant patterns of individual-level variation around population trends. In our application, we show robust evidence of dynamic heterogeneity across CPG categories during the Great Recession, and illustrate the clear gains that arise from capturing dynamic heterogeneity through our HGP specification. We again find that traditional approaches to capturing parametric evolution can lead to biased inferences for important managerial quantities, such as price elasticities. Furthermore, we uncover important individual-specific trends that can be used for targeting, including variability in consumer responses to the recession, and show that price optimizations using dynamic heterogeneity can lead to higher retailer profits.

4 - A Zero-inflated Latent Attrition Model

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Latent attrition models produce biased estimates when they are fitted to data that contain an excess number of customers with no repeat transactions. This bias is inherent to the structure of latent attrition models similar in structure to the Pareto/NBD. We propose a hierarchical Bayesian model with a zero-inflation specification (Morrison 1969) to correct for this bias. We demonstrate with simulated data improved estimation of the latent attrition process.

■ SD10

Fertitta Hall, 313, 3rd Floor

International Consumer Behavior

Contributed Session

Chair: Arun Sreekumar, University of Illinois, Urbana-Champaign, Unit #105, 908 South Locust Street, Champaign, IL, 61820, United States, aruns2@illinois.edu

1 - Buying Behavior of Active Aging Consumer in Japan

Akira Shimizu, Professor, Keio University, 2-15-45 Mita, Minato-ku, Tokyo, Japan, ashimizu@fbc.keio.ac.jp

Depending on the progress of medical techniques, many advanced nations faces aging population. For a long time, we treated aging customer is just one segment, but now aging consumer accelerate, and it becomes big market. Especially in Japan, the rate of aging (over 65 years old) becomes 25 of total population, so the aging market becomes very important. Following this situation, I researched the behavior of the aging consumer and try to find the active aging consumer (AAC), as they becomes the key person for the aging market. Data are gathered using internet research, and sample size is 2000. The questionnaires includes demographic factors, lifestyle factors, and real buying behavior. To compare with AAC and other aging consumer, I found interesting differences. For about demographic factors, AAC is richer and more educated consumer than that of normal aging consumer. For about lifestyle factors, AAC is very sensitive for their physical and psychological health condition, and prepare for their aging. Otherwise, ordinary aging consumer should not understand their health condition, and they do not change their eating behavior and drinking behavior. For buying behavior, AAC is very sensitive for the information about new products, and they aggressively try to buy these new products. These behavior looks like younger generation, and their buying power is very big. So AAC is good target for the manufacturer and retailer.

2 - Empirical Analysis on Distinctive Consumer Behavior of Rural Villages of Cambodia

Chan Mi Kim, KAIST College of Business, Seoul, Korea, Republic of, cm.kim@kaist.ac.kr, Gloria JinaKim

While cross-sector partnerships are expected to serve as an effective mode for market development in developing and under-developed countries, there is significant room for improvement. The major difficulty lies in running business in the Base of the Pyramid (BOP) market which is substantially different from conventional market. When dealing with BOP markets, many previous studies have focused on conceptual research on external factors such as corruption, laws, and policies. However, little study has been done concerning the characteristics of the market itself. Thus, the purpose of this research is to provide a snapshot of the consumer characteristics in BOP market. In the paper, first-hand consumer choice data on potable water products and services have been collected through field survey in three different villages in Cambodia. The data have been analyzed using contingent valuation method and one way ANOVA to identify their willingness-to-pay and its correlation with socio-economic factors. Interviews were also conducted to complement our understanding of target communities. The results show that there are significant differences among the villages. While consumers' previous experience of using purified water is found to be a significant factor, other socio-economic factors such as income level, vocation, or education level were found to be insignificant. How people from each village perceived quality of their drinking water also affected the willingness-to-pay. Interviews also showed that villages have clear preferences on who they want as a business operator. The abovementioned results imply that detailed understanding and tailored business model is necessary in these markets. And while identifying the consumer traits for each site may be too costly for the private sector, they can be easily done by the counterparts in other sectors—other social incumbents like government and NGOs. These findings provide hints of cross-sector partnership model and possible areas of cooperation among the entities of each sector.

3 - How License Plate Lotteries Affect Car Purchase Decisions: Evidence from China's Automobile Market and the Lab

Mantian Hu, CUHK Business School, Hong Kong, Hong Kong, mandyhu@baf.cuhk.edu.hk, Luxi Shen, Junji Xiao

Lotteries are one of the most commonly-adopted rationing mechanisms. For example, the Traffic Management Bureau in Beijing conducts lotteries to grant license plates. Previous research focuses on the effects of license lotteries on a society level. The present research focuses on the individual decision level: Would license lotteries influence post-license purchases? For example, how much would one spend on a car after winning the license plate lottery? Intuitively, lotteries should not influence car purchases. First, although license plates are a scarce resource, cars are not, so one doesn't automatically need to pay a higher price for a car when a license is granted. Second, unlike auctions, lotteries award a random selection of people, so the lottery winners should be representative of the population of all car buyers, rich or poor. However, what we found is rather counterintuitive. Our findings suggest that individual car buyers in a lottery city (e.g., Beijing) choose more expensive cars than those in no-lottery cities, and that within Beijing, the preference for expensive cars suddenly increased after the lotteries started in January 2011. We employ different possible alternative explanations, such as income effects and forward purchasing. In general, we take a two-step approach: we first let data speak, and then conduct experiments to examine causality. Theoretically, we show a counterintuitive effect in China's automobile market and reveal the delicate but powerful influence of the lottery-based rationing mechanism on post-license purchases. Meanwhile, we adopt a combination of empirical analysis and experimental design to explore the underlying explanations for the effect.

4 - Effect of Demonetization in Subsistence Marketplaces: Understanding Consumer and Entrepreneurial Behavior

Madhu Viswanathan, Diane and Steven N. Miller Professor in Business, University of Illinois, Urbana-Champaign, Champaign, IL, 61820, United States, mviswana@illinois.edu, Shantanu Dutta, Arun Sreekumar, Saravana Jaikumar

In the subsistence marketplaces, cash plays an essential role in facilitating transactions, especially for individuals who own small businesses, farms and petty trades. As a result of their entrepreneurial experience, these entrepreneurs in the subsistence marketplaces are likely to be equipped with risk-coping strategies, especially in managing liquidity issues. Hence their behavior is likely to be different than normal consumers, in the face of an income / liquidity shock. Demonetization of an overwhelming majority of currency notes in terms of value (86%) in India represents a natural and powerful experiment to study these differences in consumer and entrepreneurial behaviors in poverty contexts.We employ a survey based approach in urban and rural South India to study a variety of strategies that individuals employed in the face of demonetization. Our approach examined behaviors and outcomes a week before and after demonetization as well as a month before and the month of demonetization. Conceptually, we examined strategies employed by consumers and entrepreneurs in the face of demonetization and outcomes achieved. In doing so, we examined the moderating effects of entrepreneurial experience, human capital, and social capital, operationalized as running an enterprise, marketplace literacy education and membership in self-help groups, respectively. We focus on risk-coping consumption behaviors as a key dependent variable. Our findings present and explain the differential impact of demonetization on consumers and entrepreneurs, especially on consumption behaviors.

■ SD11

Fertitta Hall, 316, 3rd Floor

New Products General

Contributed Session

Chair: Rouven Seifert, University of Hamburg, Oberstr.18a, Hamburg, 20144, Germany, rouven.seifert@uni-hamburg.de

1 - Marketing Science in Japanese Manufactures: 10 Years Trend

Yutaka Hamaoka, Professor, Keio University, 2-15-45 Mita, Minato-ku, Oiso-machi, Tokyo, 103-8345, Japan, hamaoka@fbc.keio.ac.jp

This research aims to understand how marketing science approach affect firm-level and new product level performance. A set of hypotheses was developed that relate performance measure with marketing strategy, new product development process, organizational characteristics, capability, and utilized marketing research. Since 2007, questionnaire survey on new product development has been conducted for Japanese manufactures. Through trend analysis, we found that (1) For marketing research tools, percentage of firms that conduct concept test and test marketing significantly decreased. On the contrary, monitoring online community is significantly increased. (2) For development process, collaboration with user gets popularity. Market performance of improved product was positive and significantly associated with information from sales reps, bench marking of competitors, and test marketing. That of innovative product was positive and significantly associated with bench marking of competitors and concept test. Based on these findings, marketing science contributes improvement performance of new products.

2 - Idea Generation in the Fuzzy Front End: The Role of Strength of Associations

Laura Kornish, Associate Professor, University of Colorado-Boulder, Leeds School of Business, UCB 419, Boulder, CO, 80309-0419, United States, kornish@colorado.edu

Idea generation is an exercise is forming combinations. The combinations in an idea can be conceptual, like analogies. Or they can be literal, like novel collections of features or like proposals of how a product can be used to meet a new need. The existing literature, across varied disciplines, provides conflicting results about the how the strength of the combinations within an idea predicts the evaluation of the idea. On the one hand, some studies show that novel combinations of elements in an idea predict appeal. This account is the far-is-better story. On the other hand, different studies show that it is balance in the strength of combinations that predicts appeal. This account is the moderation-is-better story. In this work, we show evidence for the third possibility: that combinations between tightly linked elements can also predict appeal: the close-is-better story. We explain how all three of these stories can co-exist.

3 - The Effect of Cultural Subsidies on Product Quality and Market Performance

Rouven Seifert, University of Hamburg, Moorweidenstraße 18, Hamburg, 20148, Germany, rouven.seifert@uni-hamburg.de, Michel Clement, Alexa B. Burmester, Thorsten Hennig-Thurau, Marco Caliendo

The high cultural, social, and economic relevance of the cultural industry has resulted in substantial subsidies of cultural products (e.g., movies or operas). Despite a long tradition of empirical research in the field of subsidies, substantive questions of the impact of subsidies on market performance remain unstudied. Most studies focus on the direct effect of subsidies on performance (e.g. box office performance of subsidized movies), ignoring the indirect effects of subsidies via marketing activities. We study the impact of subsidies in the German movie market on box office performance and account for the impact of subsidies on the movies' quality. Furthermore, we shed light on the mediation of subsidies through product supply (screen allocation) and product advertising. We propose a flexible non-linear model and control for selection effects. We apply our modeling framework to 1898 movie projects that have been released in Germany between 2008 and 2012. For each project, we observe production and marketing subsidies (in EUR), quality and demand, as well as project supply, marketing activities, and project-specific attributes. Our results show that subsidies for innovations fail to stimulate product quality in two of our dimensions. The direct effect of subsidies on demand becomes insignificant, when public agent behavior as well as the mediation effects of product supply and marketing are considered. Specifically, movie supply and advertising efforts rise with more public support, fully mediating the link between subsidies and demand. Furthermore, our analysis suggests that funding is highly driven by selection.

■ SD12

Fertitta Hall, 322, 3rd Floor

Not for Profit

Contributed Session

Chair: Kyoung Nam Ha, University of Washington, 24003 SE 12th Place, Sammamish, WA, 98075, United States, k.cathy.ha@gmail.com

1 - How Should One Allocate Charitable Dollars

Wei Zhang, Iowa State University, 3123 Gerdin Business Building, Ames, IA, 50011, United States, wtzhang@iastate.edu, Ajay Kalra

Extant literature has observed that altruistic behavior is positively associated with happiness. While prior research has examined the decision to contribute and the amount donated, we investigate how allocation of an individual's charity budget is associated with perceived life-satisfaction. To the best of our knowledge, this is the first article that investigates this link. We conceptualize that the well-being from philanthropy is derived from two components - the warm-glow from giving and perceived impact of the contribution. We propose that the level of utility derived from these two components is based on the total amount being donated. Our empirical findings indicate that besides the amount donated, life-satisfaction is linked to the dispersion of the allocation as measured by the Herfindahl index, and the interaction between the Herfindahl Index and amount donated. We use PSID data to investigate these relationships.

2 - Political Determinants of the Commercialization of Buddhist Temples in China

Botao Yang, University of Southern California, Marshall School of Business, 3660 Trousdale Parkway, Los Angeles, CA, 90089-0443, United States, botao.yang@marshall.usc.edu, Qingyuan Yue, Jue Wang

The market's expansion into traditional non-market spheres often provokes fierce opposition. However, while past research has studied the way in which cultural barriers serve as a bar to market expansion, we consider the role of political forces in shaping the boundaries of markets. The state plays an important role in defining what kinds of goods can be traded and what kinds of organizations can be legitimate players in markets. But the state does not do so randomly; it uses markets in state-building. Studying the commercialization of Buddhist temples in modern China, we found that economic performance is an important means for a state, especially one with an authoritarian regime, to obtain political legitimacy. The pursuit of utilitarian legitimacy has led the Chinese government to include economic performance in the criteria of its political promotion system, turning local government officials into "public entrepreneurs" and creating a tournament-like competition among them. Those local government officials who face stronger pressure to develop the economy press temples to commercialize. In addition, Buddhist temples are more likely to abandon commercial practices when they are located in areas where the local government officials face less pressure to develop the economy.

3 - Long-term Dynamic Interactions Between Marketing Expense and Revenue in a Nonprofit Art and Cultural Organization

Kyoungnam C Ha, Assistant Professor, Pacific Lutheran University, 24003 SE 12th PL, Sammamish, WA, 98075, United States, kha@plu.edu, Hyunjung Lee

This paper investigates long-term effects of unexpected increases in marketing expense on a nonprofit art and cultural organization's financial performance as marketing effects in the long run has been a crucial factor for such an organization in deciding whether to make an investment in marketing activities or not. The authors conduct orthogonalized impulse response analyses for not only aggregate level but also disaggregate level of revenue resource (i.e. commercial revenue and donation revenue) and marketing purpose (i.e. marketing expense for fundraising and marketing expense for developing program), and find that unexpected increases in marketing expense positively influence a nonprofit art and cultural organization's total, commercial, and donation revenue in the long run as well as in the short run. Analyses for disaggregate level of revenue source show that the short-term effect of marketing expense on commercial revenue is about three times higher than that on revenue from donation. Wear-in and wear-out analyses demonstrate that the positive impact of marketing expense shock on revenue from donation reaches its peak immediately and diminishes quickly whereas the positive effect of an unexpected change in marketing expense on commercial revenue reaches its peak slowly but is sustained for a longer time. The findings also imply that there exists a virtuous cycle where marketing expense increases a nonprofit organization revenue which triggers more investment in marketing activities, and as a result, will lead to the organization's greater revenue. Analyses for disaggregate level of marketing purpose show that an unexpected increase in revenue from donation will trigger more investments in marketing for developing programs than for fundraising in the long run whereas an unexpected increase in commercial revenue leads to more investments in marketing for fundraising in the long run. The findings provide marketing strategies for resource allocation when a nonprofit art and cultural organization has unexpected revenues from donation or commercial activities.

■ SD13

Fertitta Hall, 327, 3rd Floor

Eye Tracking in Retail

Contributed Session

Chair: Ana Martinovici, Tilburg University, Warandelaan 2, Tilburg, 5037AB, Netherlands, a.martinovici@uvt.nl

1 - The Dynamics of Shopper Engagement and Purchase Conversion at Retail Checkout

Yoonju Han, Kelley School of Business, Indiana University, 1309 E. 10th Street, Hodge Hall 2100, Bloomington, IN, 47405, United States, yjhan@indiana.edu, Shibo Li, Raymond R Burke, Alex Leykin

The checkout area or "front end" of a supermarket sells an ever expanding assortment of products, and is one of the most productive areas of the store. It is also the shopper's last impression of the retailer, and an important driver of trip satisfaction and future store loyalty. Prior research on retail checkout has focused on how waiting time affects customer satisfaction and the implications for queue management. Little is known, however, about how shoppers attend to, engage with, and shop products dynamically while waiting in line. We propose a simultaneous equations model with structural shifts in a hierarchical Bayes framework to capture shoppers' attention, engagement and purchase at both product category and waiting line position levels. The duration of customers' eye fixations, their interaction with products (e.g., product touch), and likelihood of purchase are dependent on their motivation, abilities and contextual factors that change dynamically as they move through the lane. We estimate the model using a unique dataset of eye-tracking and survey data collected from a field experiment at a large U.S. grocery chain. The research reveals that product engagement and "impulse purchases" are the predictable outcome of a complex set of interactions between personal, contextual and marketing factors. This study provides both marketing researchers and store managers with important and novel implications for product organization, merchandising, and line management at retail checkout.

2 - Shelf Location Based Effects on Product Search in Crowded Scenes

Ana Scekic, PhD Student, HEC Paris, 1, Rue de la Liberation, Jouy en Josas, 78350, France, ana.scekic@hec.edu, A. Selin Atalay

Crowded scenes make visual perception and differentiation of otherwise distinct objects more difficult. We investigate consumers' search processes in crowded scenes and study how the positions of products on the vertical range of the visual field affect consumers' search experience in a retail context. We provide initial evidence for shelf location based effects on consumer search in crowded scenes. Extant literature has discussed the impact of assortment size on choice, while the impact on consumers' search has not been amply addressed. We explore the effects of assortment size on consumers' search as there are many situations in which consumers have already made a choice, and need to find the chosen product among the brands present at the point of purchase. Drawing from the visual crowding literature, we predict that the ability to find a product will be diminished as assortment size (i.e., crowding) increases, and will be related to the product's vertical location. We conducted online and lab studies and collected eye-tracking data to explore the consumers' search processes in crowded scenes. Our preliminary results provide evidence that in a retail context the vertical location of a product on a crowded shelf may have an impact on its identification. According to the eye-tracking data collected, when the target product is on the top shelf, the time to first fixation on the target is shorter than when the product is on the bottom shelf. However, the total number of fixations on the target product, and the time from first to last fixation on the target product are lower when the target product is on the bottom shelf. This suggests that the target product is recognised and responded to more quickly when it is in the lower visual field. Our results provide a different take on the "quality" of shelf location. In general, in a retailing context, the lower visual field is regarded as a position of disadvantage. However, extant research has focused on choice, and our results invite further focus on shelf location and product search, as it is an important question for brand managers, retailers and consumers.

3 - Utility Accumulation During Brand Choice on Comparison Websites

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Consumers use comparison websites to rapidly acquire information on multiple brands and attributes and make their choice. We develop a generalized attentional drift diffusion model to understand how utility for each of the brands in the display builds up and the final brand is chosen. It is calibrated on eye-tracking data collected in a controlled experiment (n = 214) on choice between four cameras from a comparison website. The model simultaneously estimates latent growth in utility for each of the brands, and final brand choice from these, using MCMC techniques. The model generalizes earlier attentional drift-diffusion models (aDDMs) and sequential sampling models in cognitive psychology, and recent work in economics and marketing. It treats eye-movements as manifest indicators of latent information acquisition and utility accumulation processes, identifies decision confidence, and can identify early signs of the final brand choice from these. The results show that moment-to-moment changes in attention that capture brand comparisons and in-depth brand focus reflect brand competition for attention. We find that descriptors of the latent information acquisition strategies are predictive of future brand choice early on, even when only information about the beginning of the attention and decision process is available. This has implications for decision theory, online retailing, and potentially for dynamic recommender systems.

■ SD14

Fertitta Hall, 328, 3rd Floor

Corporate Social Responsibility

Contributed Session

Chair: Dionne Nickerson, Georgia Institute of Technology (Scheller), 1001 McGill Park Ave NE, Atlanta, GA, 30312-1289, United States, dionne.nickerson@scheller.gatech.edu

1 - When and How is Corporate Social Responsibility Profitable?

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Firms in various markets such as health care, financial services, etc. spend significant amount of money on corporate social responsibility activities. The literature suggests that consumers take into consideration firms' CSR activities when making purchase decisions and this leads to either an increase in willingness to pay or an increase in purchase intention. Unfortunately, notwithstanding its strategic benefits, the empirical findings regarding the impact of CSR on firms' financials are mixed. In this paper we explore when and why investing in CSR can have positive/negative impact on firm's profitability. In doing so we model two types of CSR, i.e., company ability relevant CSR and company ability irrelevant CSR and allow firms to choose which one to pursue if they decide to invest in CSR, and incorporate the indirect effect of CSR on consumers' utility using the expectancy disconfirmation model, testing the model assumptions with a multi-study, behavioral experiment on MTurk.

2 - Corporate Social Responsibility and Financial Performance: Does the Chief Marketing Officer Matter?

Dionne A. Nickerson, Doctoral Candidate, Georgia Institute of Technology (Scheller College of Business), 800 West Peachtree NW, Atlanta, GA, 30308, United States, dionne.nickerson@scheller.gatech.edu, Atanas Nikolov, Phi Hoang

In recent years, stakeholder pressure calling for the improved performance of firms on a host of environmental and social issues has intensified. Yet prior research suggests that firms may not necessarily do well by "doing good". Thus, strategically responding to corporate social responsibility (CSR) trends is potentially an important source of firm competitive advantage. At the same time, firms, as well as academic researchers, are increasingly recognizing the performance implications of chief marketing officers (CMOs). Within the top management team (TMT), CMOs are in a unique position to tap into the advantages associated with CSR. CMOs have a multifaceted role within the TMT with responsibilities that include: gathering and interpreting market information about stakeholders and competitors, developing and managing relationships with customers and other stakeholders, and identifying investment opportunities in a firm's market environment. We argue that CMOs play a critical role in incorporating stakeholders' perspectives on CSR into firm strategy and, thereby, helping firms reap financial returns from CSR. Drawing from stakeholder theory and using panel data for a sample of over 700 firms for the period 2000-2011, this study investigates the impact of CMOs on firm financial performance through their influence on a variety of firm CSR outcomes. Results indicate that firms with a CMO role in the TMT, and contingent on a set of individual characteristics, have a positive impact on CSR evaluations and ultimately firm financial performance.

3 - Product Recall as a Way of Responsible Behavior of a Firm: The Roles of CSR Repertoires and Board Characteristics

Hannah Oh, Assistant Professor of Marketing, University of Nebraska at Omaha, 1010 N. 192nd Ct. Apt #201, Apt 1, Elkhorn, NE, 68022, United States, hoh@unomaha.edu, John Bae, Ji-Hung Choi, Sang-Joon Kim

This paper employs a new perspective to view product recall as a way of responsible behavior of the firm whose reputation has been built upon its past cumulative socially responsible behaviors. In the product-harm crisis, firms known for CSR performance assume responsibility to voluntarily recall defective products. We call this past cumulative socially responsible behavior as CSR repertoire and examine whether the CSR repertoire increases likelihood of engaging in product recall, which can be viewed as another way of responsible behavior. In addition, this study examines moderating effect of board characteristics, which consists of ownership structure, power structure, and voting power, on the relationship between CSR repertoire and product recall. Based on agency theory, the authors posit that if the characteristics of board of directors are close to those of agents who are naturally risk-averse, they will be likely to avoid engaging in voluntary product recall, which inherently entails risk. In contrast, if the characteristic of board of directors are close to those of principals who try to take full responsibility for their own sake, they will be likely to voluntarily recall products. The hypotheses are tested using sample of 592 public firms in the U.S. between 2001 and 2014.

■ SD16

Fertitta Hall, 414, 4th Floor

Advertising: General

Contributed Session

Chair: Yanwen Wang, University of Colorado Boulder, Leeds School of Business, 995 Regent Drive, Boulder, CO, 80309, United States, yanwen.wang@colorado.edu

1 - Do Advertisement Expenditure and Familiarity Influence the Ambiguity of Perceived Quality

Serdar Yayla, Phd Candidate, Rutgers University, 1 Washington Park 10th floor P.O. Box:23, Newark, NJ, 07102, United States, serdar.yayla@rutgers.edu, Omer Cem Kutlubay, Sengun Yeniyurt

Marketing scholars have been trying to flesh out the drivers of perceived quality. Perceived quality is defined as how a consumer evaluates a product or "the customer's perception of the overall quality or superiority of a product or service with respect to its intended purpose relative to alternatives" (Aaker, 1991). The phenomenon has been extensively studied in the marketing literature (e.g., Rust, et al. 2002. Mitra and Golder, 2006). Studies on perceived quality highlighted that perceived quality is an important factor that stimulates satisfaction, loyalty and profitability (e.g., Aaker and Jacobson 1994, Anderson and Sullivan 1993, Bolton and Drew 1991, Zeithaml 1988). Similarly, the factors that shape perceived quality are well-established in the marketing literature (Rao and Monroe, 1989). Familiarity, advertising and promotion activities are some of major factors that form quality evaluations of consumers. Although considerable progress has been made in the dimensions of the perceived quality, consensus of the consumers' in terms of their quality evaluations has not been examined by marketing scholars. We call the lack of consensus in consumers' quality evaluations as ambiguity in perceived quality. This consensus is important since the consumers make purchases not only by relying their individual quality evaluations, but also considering the social influencers. Thus, ambiguity in perceived quality might be an important factor of purchase decision; this might be especially true for joint consumer buying process. In our research we focused on whether and how familiarity affect consensus on quality evaluations of the consumers for different product and service categories. Our initial findings suggest that familiarity has a negative impact on ambiguity in perceived quality by conducting a longitudinal study between 2004 and 2008 by exploiting Harris Poll database. Similarly, advertisement expenditure decreases the ambiguity in perceived quality.

2 - Competition and Specificity in Market Design: Evidence from Geotargeted Advertising

Bo Cowgill, Columbia University, New York, NY, United States, bo.cowgill@gmail.com

How much targeting should ad platforms permit? Greater specificity may be valuable to advertisers, but may come at the expense of competition between advertisers (liquidity) for each consumer segment. This paper studies a natural experiment in the release of a new ad targeting feature onto an online advertising platform. The experiment affects the specificity of advertising assets in certain geographic ad markets, while leaving other (control) markets untouched. The paper finds evidence that the additional specificity negatively affects auction participation in the treated areas, an effect that has not been anticipated by the incumbent theoretical literature. The paper also finds evidence that despite negatively affecting auction participation, the additional specificity leads to higher revenue growth for the platform in the treated areas. By showing that for the online platform in the study, the additional specificity was profitable despite concerns about market thinness, partitioned demand, and bargaining power, the paper's results uncover a new angle on the trade-off between competition and specificity. Furthermore, the paper's results highlight the importance of considering entry and exit decisions in theoretical models of specificity choices by market designers.

3 - Advertising Strategy of the Day in Japan, Exploring from the Actual Situation of VOD Service Users

Chihiro Totsuka, A graduate student, Keio university, Felica Hiyoshi #202 3-5-12 Kohoku Yokohama, Kanagawa, 223-0061, Japan, c.t.1222@z5.keio.jp

In Japan, it is normal to watch movies via the Internet due to the drastic changes of the environment. I will explored what kind of media affect consumer behavior, and what kind of media companies should use to reach consumers. In this study, I classified consumers according to the Internet video service usage situation. For my research, I used single souse data provided by Nomura Research Institute. In analysis (1), I divided Internet video service into the following two types of services: SVOD (Subscription Video On Demand), and AVOD (Advertising Video On Demand). SVOD isa charged service, while AVOD can be used for free. Furthermore, I categorized the users into those who do not use Internet video service, people who use only AVOD and people who use SVOD. And analyzed characteristics of each consumer. As a result, it turns out that VOD users have high information sensitivity, and compare various items before purchasing. Among them, SVOD users are more sensitive to information and are more prone to comparison buying. And SVOD users are aggressive in consumption. Based on this result, I concluded that SVOD users are the most advanced consumers in the contemporary Japanese media environment. In

analysis (2), I analyzed what kind of media affect product recognition and purchase intentions of VOD users by using low involvement products and high involvement products. As a result, it turns out that "magazines" are important for users of SVOD, the most advanced layer, to recognize products and increase purchase intention. Television commercials that companies invest heavily are appealing to the people who use only AVOD for recognizing low involvement products. Elements other than television commercials can have more effect in other situations. Based on the results of this study, it turns out that modern Japanese advanced consumers consider "magazines" as their main information sources, and it is key to successfully use "magazines" as advertising media when companies introduce new products to the market.

4 - A Natural Experiment Based Analysis of Message Tone and Ad Source in Senatorial Campaigns

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Political advertising is controversial as there is widespread concern about negative advertising reducing turnout and money from Super PACs distorting the democratic process. Studying advertising effectiveness is, however, a challenging topic for several reasons including the endogenous nature of fundraising and ad spending rates. However, the extensive use of targeting based on designated marketing areas (DMAs) creates a natural experiment where neighboring counties with comparable demographics receive different levels of advertising exposure. In this paper we leverage these advertising discontinuities along DMA borders to study the relative impact of political advertising on vote shares and turnout rates in 2010 and 2012 senatorial elections. We find that negative advertising is much more effective than positive advertising in terms of influencing vote shares. In terms of advertising sponsorship, we find that negative advertising sponsored by PACs is significantly less effective than that sponsored by candidates.

■ SD18

Fertitta Hall, 417, 4th Floor

Consumer Behavior General

Contributed Session

Chair: Sohyun Bae, Hong Kong Baptist University, #1720, On Wu House, TsingYi, 00, Hong Kong, bae_sohyun@hkbu.edu.hk

1 - State of Marketing Education a Curriculum Review Template

Pravat Surya Kar, Assistant Professor, Goa Institute of Management, 305 Faculty Quarter, GIM, Goa, 4035005, India, pravat@gim.ac.in

Often curriculum reviews are long drawn exercises, and seldom an enjoyable chore for most academicians. In this backdrop, we conducted a selective review of marketing curricula. Scope was limited to leading 101 business schools according to The Financial Times. Data thus gathered was analysed through content and product mix analysis approach. Our primary motivation was to explore an efficient template for updating marketing curriculum. Theory and practice of marketing (TPM) has been evolving over past several decades. For example, definition of marketing has been revised four times, by the American Marketing Association. According to some authors, marketing orientation, has undergone at least five evolutions. Further, TPM would probably remain in a flux, at least in the near future, owing to evolving nature of the domain. The reasons cited above, makes the task of designing an appropriate marketing curriculum or updating the same a daunting task. This selective review process presents some interesting insights about the state of marketing education, as well as scope of improvements. Based on the findings we have drawn inferences and discussed the implications. Lastly, we have highlighted merits of this approach. We believe, this process could be a template for comprehensive yet quick curriculum review for not only marketing domain but also others.

2 - The Impact of Early Decision College Admissions on Decision Making Complexity and Students' Well Being

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One marked trend in the college application process is the increased use of early decision (ED) compared to regular decision (RD). Colleges can increase their yields by using ED (Avery and Levin 2010). Students requiring financial aid can be at a disadvantage with ED (Kim 2010), and ED can also reduce diversity (Antecol and Smith 2012). ED can also force students to make college decisions before they have adequate information regarding colleges' characteristics, or even know which characteristics they value most (Bruni 2016; Fallows 2001). However, there has been much less research on how ED affects the complexity of decision-making in the college application process, or how it affects the welfare of students applying to college. We examine these issues. We find that ED increases the complexity of the college application decision, and requires students to have information not needed for the RD process. ED also tends to magnify the consequences of inaccurate information, compared to RD. Thus, ED gives advantages to families who can afford to "purchase" more accurate information. In many situations, ED increases the role of luck in determining where a student attends college and in determining their college utility, and increases the latter's variance. We identify when students are better off with ED versus RD, and also examine the tradeoff between students' utility increase from ED, which allows them to signal high interest to a college, versus the utility decrease from higher cost of misinformation and the increase in utility variance.

3 - Role of Perceived Attributes in Understanding Consumer Purchase Intentions using the Theory of Planned Behavior: Case of an Economy Car Launch

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The purpose of this study is to investigate purchase intentions in terms of consumers' perceptions about attributes of a product and their attitude towards it. The industry chosen was the automobile economy car industry and the product was pre-launch of Toyota Yaris (Vitz) in Pakistan. In the first stage, an exploratory study through 2 in-depth interviews and focus groups was conducted to determine perceived product-specific attributes. 11 attributes specific to economy cars were extracted which were then plugged into the model of Theory of Planned Behavior to determine consumer purchase intentions through a confirmatory survey. A total of 227 respondents participated in the study. Regression analysis showed that attitude and perceived unique product-specific attributes influence purchase intentions of Pakistani consumers in the economy car market and also that attributes have a positive impact on consumers' attitude towards economy cars. A noticeable point was that adding perceived attributes in the model raised the explanatory power of the model with a visible improvement in R^2 which proved the significance of adding the construct of perceived attributes in the proposed model for determining purchase intentions. The research hints that the automobile companies should first focus on consumers' perceptions about the attributes of the car and then design their positioning strategies while launching a car. Additionally, comparative analysis between Toyota Yaris and its closest competitor, Suzuki Swift, showed preference for Yaris for 9 out of 11 attributes, namely: brand name, size, price, resale value, fuel efficiency, interior, entertainment features, safety, and comfort, whereas there was no significant difference between the two for variety of colors and serviceability.

4 - The Role of Implicit Theories in Evaluating Products with Recycled Content

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Although previous research suggests that not all consumers are willing to purchase products with recycled content, few studies have examined which consumers are less likely to do so and why. In this research, we propose that since people use implicit theories to understand not only themselves but also others, including marketing entities (e.g., brands and products), consumers' implicit theories influence their evaluation of products with recycled content. With the idea that recycling is the process of making reusable material from waste (e.g., used materials), we suppose that entity theorists, who believe that traits are fixed and cannot be developed through effort (e.g., belief that unfriendly people cannot become friendly despite their efforts), might also believe that waste—that is, material deemed unusable and useless because its value has been already used up—cannot be converted to usable and useful material despite companies' recycling efforts. Accordingly, such a belief about immutable traits will make entity theorists more likely to underestimate the quality of products made with recycled materials. By contrast, since incremental theorists believe that attributes are malleable with effort, they may additionally believe that waste can be changed by companies' recycling efforts into usable and useful material. Therefore, they will be less likely to underestimate the quality of products made with recycled materials. In three studies, we found that entity theorists prefer products made from new versus recycled materials more than incremental theorists do (Study 1 and 2) and show more negative attitudes toward products made from recycled materials because they are more likely to perceive products made from recycled materials to be of low quality (Study 3). This research contributes to existing literature by extending current understandings of implicit theories to include knowledge of products with recycled content in marketing contexts.

Session Chair Index

A

Adhikari, Atanu SB18
Aguzzoli, Roberta SC10
Albuquerque, Paulo TA02
Aribarg, Anocha SC13
Ascarza, Eva FD08

B

Bae, Giwoong FC04
Bae, Sohyun SD18
Baek, JaeEun SA18
Bart, Yakov FD04
Bashirzadeh, Yashar TB15
Bhan, Hyung Sup FB15
Bleier, Alexander FB02
Borkovsky, Ron FB07
Bucheli, Herbert FA11

C

Chan, Eugene SC16
Chen, Xiaomeng SA02
Chen, Yu-Hung FC08
Ching, Andrew FB09

D

Darani, Milad SC15
Darvasi, Gabor FC03
Das, Gopal TA17
De Bruyn, Arnaud FA17
Deng, Yiting FD03
Dhar, Tirtha FB16
Diehl, Kristin TD07
Dong, Songting FD18
Dubiel, Anna TD10
Dutta, Shantanu FD19
Dzyabura, Daria TA09

E

Eckles, Dean SA07
Eggers, Felix SC12
Eiting, Alexander TD16
Elshiewy, Ossama TA13
Ertekin, Larisa FA14

F

Farahat, Ayman FC13
Fazli Salehi, Amirreza TC08
Ferreira, Pedro SD04
Fujimura, Mayu FC18

G

Gielens, Katrijn TB01
Go, Kanoko FB11
Godes, David TB05
Gopalakrishnan, Arun FA12
Guhl, Daniel SA13
Guler, Umut TB13

H

Ha, Kyoung Nam SD12
Han, Kyuhong FB14
Han, Youngjee TB18
Harman, David SD09
Hars, Roelof TA15
Haruvy, Ernan FD02
He, Jiaxiu SB05
Henderson, Ty SC09
Hoban, Paul TB02
Hollenbeck, Brett SA09
Hong, Jihoon FA06
Hong, Sungtak TB10
Hoornaert, Steven TB16
Horiguchi, Tetsuo TC14
Hsu, Liwu SA16
Hu, Shengli TD05
Huang, Chun-Yao SD05
Huang, Wanqi FD14
Hui, Xiang TC10
Huppertz, Juliana FB04
Jalali, Nima SC02
Jang, Sungha TC05

K

Kaimann, Daniel SB06
Kamran-Disfani, Omid FD13
Kanetkar, Vinay TA10
Kanuri, Vamsi Krishna FD10
Ke, T. Tony TD08
Khwaja, Ahmed SB08
Kim, Dong Soo TD13
Kim, Jeeyeon TC01
Kim, Ji Yoon SB16
Kim, Jong Yeob SA14
Kim, Sunghoon FD09
Kim, Taewan TC11
Korfiatis, Nikolaos SC05
Koschmann, Anthony TB17
Koslow, Scott FA16
Krijestorac, Haris SB04
Kuennen, Andrea SB13

L

Landry, Peter TD15
Le, Nhat Quang TC15
Lee, Youseok SA11
Li, Chunyu FA05
Lim, Yeji FD05
Lin, Chen TA11
Liu, Xiao SB07
Lobschat, Lara TC16
Lu, Michelle TA08
Lu, Qiang TD18
Lu, Shijie TD02
Luo, Xueming TB03
Luo, Xueming SC03
Luo, Xueming SB03
Luo, Xueming TC03
Lv, Jinchi TC09

M

Ma, Minghui TD14
Ma, Qilin SB12
Martinovici, Ana SD13
McGraw, Peter TD11
Menon, Vishnu SA04
Misra, Sanjog TD09
Moorman, Christine SB17
Moradi, Masoud SA06
Muir, David FC05
Mukherjee, Prithwiraj TC12
Mummalaneni, Simha TC02
Musalem, Andres FB09

N

Nandkumar, Anand TD17
Nelson, Russel SC04
Newaz, Tarique TB04
Nezami, Mehdi TB14
Nickerson, Dionne SD14
Ning, Eddie FB13
Nurullayev, Namig SB15

P

Paas, Leonard SA15
Pagani, Margherita TD04
Papatla, Purushottam FB17
Park, Hanyong SC18
Pedada, Kiran SB10
Pedram, Mahmood SB11
Pierce, Meghan SA03
Popkowski Leszczyc, Peter FB06
Pupovac, Ljubomir FC14

Q

Qian, Jinghui SD06
Qian, Liping FD01

R

Rajavi, Koushyar FB12
Rao, Raghunath FC02
Reeder, James FC10
Ro, Joon SA05
Rodgers, Mark FA03
Rosenzweig, Stav SC14

S

Sa Vinhas, Alberto FC01
Salman, Faryal FB18
Schaer, Oliver FC11
Schulze, Christian FC06
Schwartz, Eric TA09
Seifert, Rouven SD11
Sengo Furtado, Filipe FA15
Shen, Luxi FC15
Singh, Siddharth FB10
Singh, Sonika SA12
Smit, Willem FA04
Song, Reo TC13
Sreekumar, Arun SD10
Subramanian, Upender TB06
Sun, Li SC11
Sun, Monic SD08
Sunder, Sarang TC04
Swaminathan, Vanitha FC17

T

Toubia, Olivier TB19
Toubia, Olivier TA19
Tsao, Chu-Hsuan TC18
Tucker, Catherine FD12

U

Uetake, Kosuke FA09

V

Valenti, Albert FD15
Voleti, Sudhir SC06
von Graevenitz, Georg SB02
Vriens, Marco FB05

W

Wang, Helen Si FA10
Wang, Yanwen SD16
Wathieu, Luc FA08
Webb, Ryan TA12

X

Xu, Kaiquan FB03
Xu, Zuhui SC17

Y

Yamada, Masataka FD11
Yang, Liangbin TA16
Yang, Yupin TC17
Yang, Zhiguo TD12
Yegoryan, Narine TB12
Yildirim, P?nar SC08
Yoo, Boonghee FD16
Yu, Haojun FA13

Z

Zhang, Lingling FB01
Zhang, Shunyuan TC06
Zhou, Chen SA17
Zhu, Qingyuan TD01
Zou, Tianxin FB08

Author Index

A

Abbring, Jaap FA09
Abernethy, Jacob TA09
Abhishek, Vibhanshu TB06
Abou Nabout, Nadia TB02, TC16, FA16
Aburto, Luis SD01
Ada, Sila TB02
Adamopoulos, Panagiotis SA05
Adhikari, Atanu SB18
Aggarwal, Ashita SB01
Agrawal, Ajay TC08
Aguzzoli, Roberta SC10
Ahearne, Michael SB17
Ahrholdt, Dennis FC02
Ailawadi, Kusum SD01
Akamatsu, Naoki FB01
Akchurina, Dinara TA11
Akdevelioglu, Duygu SC11
Albers, Sonke TC13
Albuquerque, Paulo TA11, TA02
Algesheimer, Rene TD15, FA11
Allenby, Greg TA09, TD13, SD09
Allender, William SC02
Amaldoss, Wilfred TD17, SD02
Amano, Tomomichi SB09
Amaral, Christopher SC15
Ameri, Mina FB07
Amir, Huma SD18
Anand, Ankit TD14
Anand, Piyush FB17
Ananthakrishnan, Uttara TA06
Anderson, Eric FC19
Anderson, Stephen SB17
Anderson, Zachery TA15
Andrews, Michelle FC15, SB02
Anokhin, Alexander SA15
Ansari, Asim SD09
Antia, Kersi FB12, FD01
Appel, Gil TB07
Aribarg, Anocha SC13
Arnett, Dennis SA06
Arora, Karun FB05
Arora, Neeraj TC16
Ascarza, Eva TA15, FD08
Astvansh, Vivek FB12
Atalay, A. Selin SD13
Ataman, Berk TC10, TC17, FC16
Avagyan, Vardan TD06
Azevedo, Eduardo SA07

B

Babic Rosario, Ana TB07
Babin, Jessica SA02
Bachmann, Patrick TD15
Backhaus, Klaus FB11
Backhaus, Max TB17, FB11
Bae, Giwoong FC04
Bae, John SD14
Bae, Sohyun SD18
Baecke, Philippe SD04
Baek, JaeEun SA18
Bagheri, Saeed SA16
Bahadir, Cem TA14
Baker, Tom TD02
Balachander, Subramanian FB10, SB06
Balagu,, Christine FC06, SB11
Banerjee, Bibek TB18
Banerjee, Ranjan SB01
Banerjee, Somnath TB02
Banerjee, Sourindra TD10, FA10, SB04
Banerjee, Shrabastee FD05
Banerjee, Sumitro SC14
Banker, Sachin FA18
Bao, Weining FA08, FD06
Bao, Ying FB10, SA14
Bart, Yakov FD04
Bashirzadeh, Yashar TB15
Basu, Atasi SC01
Basu, Amiya SC01
Basu, Meheli TC03
Basuroy, Suman SB10
Batra, Rishtee FB18
Bauer, Carlos SB10
Bax, Eric TB02
Bayer, Emanuel TA14
Bayon, Tomas TA11, FC15
Beattie, Graham SB07
Becerril Arreola, Rafael SD01
Beck, Joshua FA14
Becker, Maren FC16
Bei, Zhiling TC01
Bele, Nishikant SD05
Belk, Russell FB18
Bell, David FC02
Bell, Joseph TA12
Belo, Rodrigo TA13, TA16, TB15, SD04
Bender, Mark SC08
Benkard, Lanier FC09
Benoit, Dries SD04
Bentley, Taylor TC02
Bhagwat, Yashoda FA14
Bharadwaj, Sundar TA16
Bhardwaj, Pradeep TB02
Bhargava, Hemant FA13, FB10
Bhargava, Neha TD09
Bhattacharya, Abhi SC06
Bhide, Manoj FB17
Biraglia, Alessandro FC13
Blaseg, Daniel FC06
Bleier, Alexander FB02, FC07, SC02
Boampong, Richard FD02
Bogaert, Matthias SA11
Boldt, Lin TC16
Bommaraju, Raghu SB17
Bonfrer, Andre SA01
Borah, Abhishek TA14, FC17, SB04
Borkovsky, Ron FC09
Borle, Sharad FB10
Bosch, Maximo SD01
Botner, Keith SA13
Boughanmi, Khaled FA12
Bowman, Douglas SC05
Boya, šnal TB18
Bradlow, Eric TA16, TB17
Brandes, Leif TB05
Braun, Michael SC09
Braxton, Dominique SA01
Breugelmans, Els TD01, SD01
Briers, Barbara TC15
Briesch, Richard SC01
Bronnenberg, Bart SA09
Brooks, Roger FB05
Brown, Aysha SC14
Bruce, Norris TC16, FC16
Bucheli, Herbert FA11
Bucklin, Randolph TD03, SD01
Buldeo Rai, Heleen TB01
Bumbaca, Federico FA15
Burke, Raymond SD13
Burmester, Alexa SD11
Butt, Moeen FD01
Byun, Kyung-Ah FC05

C

Cai, Cexun (Jeff) FC01
Calantone, Roger TC14
Caldieraro, Fabio FB13
Caliendo, Marco SD11
Camacho, Nuno TD06
Campbell, James TA11
Cao, Jingcun FD03
Cao, Jisu SD05
Carrasco, Graciela TB18
Carson, Stephen TC14
Cen, Hui FA05
Cénophat, Sadrac FC15
Cha, Jacob Do-Hyung FB14
Cha, Kyoung Cheon SA11
Chae, Inyoung TB07
Chae, Myoung-Jin TA16
Chakravarti, Dipankar FA18
Chakravarty, Anindita SA02, SB02, SB10
Chan, Tat TC02, FD11, FD14, SA06
Chandler, Jennifer FA04
Chandrasekaran, Deepa FB11
Chandukala, Sandeep TD02, TD16
Chandy, Rajesh TD10, SB17
Chang, Chun-Tuan SB16
Chang, Hannah FD18
Chang, Sue Ryung TC01
Chao, Yong FA08
Chapsky, Dan TD09
Chatterjee, Prabirendra SD14
Chen, Chien-Ming FD10
Chen, Celine FA05
Chen, Chaoqun FD17
Chen, Cuicui FD04
Chen, Chyi-Mei TB11
Chen, Frank TD14
Chen, Pei-yu FD07
Chen, Song FB05
Chen, Xi FB03, SC11
Chen, Xingyu TD04
Chen, Xiyu SC13
Chen, Xiaomeng SA02
Cheng, Ye FC14
Chen, Yijun SA06
Chen, Yu-Hung FC08
Chen, Yupeng FA15
Chen, Yubo FA03
Chen, Yuxin FA13, SD08
Chiang, Jeongwen TA11, TD11
Chilet, Jorge FD04
Ching, Andrew FA17, FB09
Chintagunta, Pradeep TA02, FA07, FC19, FD03, FD13, SA01, SD09
Chiu, I-Hsuan TA12, TA18
Cho, Yung-Jan TB10
Choi, Angela SB03
Choi, Hana FA09
Choi, JeeWon TD11
Choi, Jeonghye TC01, TC04 FD14
Choi, Ji-Hung (Ryan) TC11, FA13
Choi, Ji-Hung SD14
Choi, Kangjun FA18
Choi, W. Jason TC08
Choi, Yongbum TA01
Chou, Felicia SB18
Chou, Shan-Yu TB11
Christodoulopoulou, Angeliki TC15
Christopher, Ranjit FD07
Chu, Junhong SB01
Chu, Kyounghee SB16
Chu, Maggie Y. SC14
Chu, Xing-Yu SB16
Chung, Doug FB01, FD10
Chung, Yuho FA06
Cillo, Paola TD10
Cisternas Vera, Francisco FB13
Cleeren, Kathleen TB12, TC15, TD01, SD01
Clement, Michel TC13, FC18, SD11
Cohen-Vernik, Dinah SA13
Colicev, Anatoli FA17, FD04
Corkingdale, David SA01
Cosguner, Koray FB11
Cowgill, Bo SD16
Crecelius, Andrew FA10, FC10
Cui, Geng FA05
Cui, Ruomeng TA06
Culotta, Aron TC07
Cutler, Jennifer TC07
Cyr, Dianne SB04

D

D'alfonso, Tiziana SC15
Dacko, Scott SC06
Dahl, Darren FD19
Daljord, Oeystein FA09
Danaher, Peter SA16
Dang, Chu (Ivy) FD13
Dannewald, Till TB13
Danziger, Shai FA06
Darani, Milad SC15
Darvasi, Gabor FC03
Das, Gopal TA17
Dasgupta, Srabana SB04
Dass, Mayukh TB04, SA06, SB10
De Bruyn, Arnaud FA17

De Valck, Kristine TB07
Deb, Joyee SD08
Dellaert, Benedict G C TD02, FD04
Dellarocas, Chrysanthos FD05
Deng, Alex SA07
Deng, Weiyi SC11
Deng, Yiting FD03
Depecik, Baris TC10
Derdenger, Tim FC09
Desai, Preyas TB13
DeSarbo, Wayne FC12, FD09
Devezer, Berna SA11
Dew, Ryan SD09
Dhaoui, Chedia TB04
Dhar, Tirtha FB08
Di, Chenchen SB11
Diehl, Kristin TD07
Dillon, William SC01
Ding, Ding FD05
Ding, Min FA16, FD19
Dogan, Volkan SA15
Dolnicar, Sara SA15
Dommer, Sara Loughran SA02
Dong, Maggie FC01
Dong, Songting FD18
Dong, Xiaojing TC11
Donkers, Bas TA15
Dost, Florian FC04
Dover, Yaniv TA05, TB05
Draganska, Michaela FA07
Du, Jinzhao SD02
Du, Shaoyin TC07
Duan, Jun FD03
Duan, Wenjing TC05
Dube, Jean-Pierre TD09
Dubiel, Anna TD10
Dukes, Anthony SC08
Dunfield, Derek FA18
Durante, Ruben SB07
Dutta, Shantanu TB08, TB14, TD17, SA14, SC17, SD10
Duvvuri, Sri Devi TD13
Dyachenko, Tatiana SD09
Dzyabura, Daria TA09, TB09

E

Ebbes, Peter FD08
Eckles, Dean SA07
Eggers, Felix SC09, SC12
Eisenbeiss, Maik FC07
Eisend, Martin TA11, FC15
Eisingerich, Andreas SB04
Eiting, Alexander TD16
Eliashberg, Jehoshua FC04
Ellickson, Paul FD17, SA09, SB09
Elmoukhliss, Mehdi FC06
Elshiewy, Ossama TA13
Emrich, Oliver FC07
Epstein, Leonardo SB13
Erdem, T. Lin SA13
Ertekin, Larisa FA14
Ertekin, Necati TC11
Erzurumlu, Ismail TB14
Eslami, Hossein FA11
Essegaier, Skander TC11

F

Fader, Peter TA15, TA16
Fagerstrøm, Asle SA04
Fan, Tingting FB06
Fan, Yingying TC09
Fang, Limin TC10
Fang, Xing TC18
Fang, Zheng TB03, FD05
Fantapi, Altobelli, Claudia FA17
Farahat, Ayman FC13
Farooqi, Rahela SC10
Farronato, Chiara TB06, SB07
Faure, Corinne TB15
Fay, Bradley FD07
Fay, Scott FB14
Fazli, Amir TA08
Fazli Salehi, Amirreza TC08
Feinberg, Fred TC13
Feit, Elea TA04, TB17
Feng, Cong FB14
Feng, Shanfei SC11
Feng, Xiangnan FA05
Fernbach, Philip TA02
Ferrari, Alessandro TD04
Ferreira, Kris SD01
Ferreira, Mauricio SC12
Ferreira, Pedro TA13, TA16, TB15, TB16, FC04, SD04
Finnegan, Julia TD18
Fisher, Geoffrey SD02
Foersch, Steffen FC07
Fogg, Andrew SA11
Fong, Duncan K. H. FC12
Fong, Nathan FC07
Fossen, Beth TB07
Foubert, Bram TC15
Fox, Craig TA02
Foxall, Gordon SA04
Fradkin, Andrey TB06
Frazier, Gary FD01
Frennea, Carly FB14
Frentz, Florentine FA01
Frick, Bernd SA05
Friedmann, Enav TB18
Fueller, Johann SA06
Fujimura, Mayu FC18
Füller, Johann TD06

G

Gabel, Sebastian TC05, SA13
Gahler, Markus SA15
Gal, David TB04, TD07
Gal-Or, Esther SC08
Galande, Ashish SC06
Gallino, Santiago TB01
Gangwar, Manish FA13
Gans, Joshua TC08
Gao, Haibing TC04
Gao, Weihe SC04
Garbarino, Ellen SA12
Garber, Lawrence TB18
Gardete, Pedro SC08
Garg, Nitika FD18
Garg, Rajiv SB03
Gauri, Dinesh TD02, FC06
George, Morris SC05
Germann, Frank SB17
Geylani, Tansev SC08
Geyskens, Inge TB01
Geyskens, Kelly TB12
Ghassany, M. Mohamad SB11
Ghose, Anindya TA03, TD03, SA05, SC03
Ghosh, Dipanjan TB11
Ghosh, Mrinal SA17
Ghoshal, Tanuka FB18
Gielens, Katrijn TB01, TC01
Gijsbrechts, Els TA19, TB01, FD13
Glady, Nicolas TA01
Go, Kanoko FB11
Godes, David TB05
Godinho De Matos, Miguel TA13, TA16, TB15,TB16, FC04, SD04
Goh, Joel SD01
Goic, Marcel FA15
Golden, Joseph FD07
Goldenberg, Jacob TA05
Golder, Peter FD19
Goldfarb, Avi TA11, TC08, FB04
Golmohammadi, Alireza FC06
Gomes, Maria FB02
Gonzalez, Carlos FC12
Gopalakrishna, Srinath FA10, FC10
Gopalakrishnan, Arun FA12
Gordon, Brett TD09
Gourvennec, Bernard TA17
Govind, Rahul FD13
Greenleaf, Eric SD18
Gretz, Richard SB10
Greve, Goetz FA17
Grewal, Rajdeep TA14, FC02, FC05, FC19, SA17
Gruber, Kathrin FA02
Gruca, Thomas TA12, SD09
Gu, Jane SA04
Gu, Naiqing FA06
Gu, Tianyu SB05
Gu, Xian FA07
Guajardo, Jose TB06
Guan, Chong FD05
Guda, Harish TB06
Guha, Sreyaa SC04
Guhl, Daniel TB12, SA13
Guitart, Ivan TB15
Guler, Umut TB13
Guo, Boshuo SA02
Guo, Liang TA18
Gupta, Alok FD02
Gupta, Debjit FA18, FD06
Gupta, Samir SD06
Gupta, Sunil TA15
Gür, Nükhet TD10
Guyt, Jonne FD13

H

Ha, Kyoungnam SD12
Haeubl, Gerald SC18
Hahn, Minhi FA12
Hale, James FB05
Ham, Sung FB08
Hamaoka, Yutaka FB11, SD11
Hammerschmidt, Maik TA04
Han, Jung Ah TA04
Han, Kyuhong FB14
Han, Sang-Pil TC03, FD07
Han, Yoonju SD13
Han, Youngjee TB18
Han, Zhe FC15
Hannssens, Dominique TD03
Hao, Xinying SB06
Hardie, Bruce TA15
Harman, David SD09
Harmancioglu, Nukhet TB14
Harmeling, Colleen FB02
Hars, Roelof TA15
Haruvy, Ernan FA03, FB06, FD02
Hauser, John TB19, TB09, SC12
Havakhor, Taha FC06
Haviv, Avery FC09, SA09
He, Jiaxiu SB05
Heiman, Amir TD17
Hein, Sebastian SC12
Heise, Marc FC07
Heitmann, Mark FB04
Heldt, Rodrigo FD15
Helmers, Christian SB02
Henderson, Ty SC09
Hennig-Thurau, Thorsten SD11
Hesapci, Ozlem SC18
Hibshoosh, Aharon TB10, SA15
Hill, Shawndra FC17
Himme, Alexander TB17
Hitsch, Günter TD09
Hjortsholm, Anne SC10
Ho, Jason SA11
Hoang, Phi Cong SB02
Hoang, Phi SD14
Hoban, Paul TB02
Hoeck, Lena TB16
Hoffman, Donna SA12
Hofmann-Stölting, Christina TC15
Hollenbeck, Brett SA09
Holtrop, Niels TB12, TC16
Hong, Jiewen FD18
Hong, Jihoon FA06
Hong, Sungtak TB10
Honka, Elisabeth TA02, FB07
Hooker, Giles TA01
Hoornaert, Steven TB16
Horiguchi, Tetsuo TC14
Horton, John TA06
Hosanagar, Kartik FD07
Hossain, Tanjim SD02
Hotz-Behofsits, Christian FA16
Houston, Mark FA14
Houtz, Malcolm FB12
Howell, John FD08
Hristakeva, Sylvia FC07
Hsu, Liwu SA16
Hu, Mantian (Mandy) FD13, SD10
Hu, Shengli TD05
Hu, Yansong SC06
Hu, Yuheng TB04, TD07
Hu, Yu Jeffrey SA02
Hu, Yuheng TD07
Huang, Alex FA18
Huang, Chun-Yao SD05
Huang, Dongling TA09
Huang, Jian TD14

Huang, Jesheng FA04
Huang, Ming-Hui SC06
Huang, Ni FD07
Huang, Wanqi FD14
Huang, Yufeng SA09
Huang, Yunhui FD18
Huh, David FB08
Hui, Xiang TC10
Hulland, John FA02, SA02
Hunneman, Auke SB13
Huppertz, Juliana FB04
Hutter, Katja TD06
Hyatt, Eva TB18

I

Ingene, Charles SC01
Inman, Jeff TC03
Inoue, Akihiro SB18
Iranikermani, Roozbeh TD12
Ishihara, Masakazu FB06, FD09, SA13, SA14
Israeli, Ayelet TC07
Iyengar, Raghuram TA15, TD12, FA12, FA15, FD08, SD02

J

Jaenicke, Edward TD12, SA14
Jagasia, Jyoti TC16
Jaikumar, Saravana SA14, SC17, SD10
Jain, Mudit FB05
Jain, Prateek FB05
Jain, Sahil FB05
Jain, Tinu TD01
Jalali, Nima SC02
Jamal, Zainab FB05
James, Gareth FB11
Janakiraman, Ramkumar TB01, FA02, SA03
Jang, JungMin SA18
Jang, Sungha TC05
Jayarajan, Dinakar FA01
Jeon, Sua TD18
Jerath, Kinshuk TC08
Jerath, Kinshuk TA08, SD08
Jeziorski, Przemyslaw FC09
Jha, Ashish Kumar SA05
Jia, Jia SC13
Jia, Jianmin FA06
Jia, Jianmin FA05
Jian, Jie SC02
Jiang, Baojun TA10, TB08, FB08, FC08
Jiang, Changmin SC15
Jiang, Juncai FD06
Jiang, Pingjun SA03
Jiang, Yushi SC13
Jiang, Zhenling FD14
Jiao, Wenyu TA01
JinaKim, Gloria SD10
Jindal, Pranav FB13
Jiwani, Kuldeep FB05
Jo, Wooyong TC04
John, George FA01
John, Leslie TD07
Johnson, Eric TD02
Johnson, Garrett TC07
Johnson, Joseph TC05
Joo, Mingyu TA09, TD13
Joshi, Yogesh FC17
Jun, Mina TC03

K

Kaimann, Daniel SA05, SB06
Kaldewei, Maria SA12
Kalra, Ajay SD12
Kalyanam, Kirthi FB07, SA03
Kamada, Yuichiro TD08
Kamai, Tomohito TD01
Kamran-Disfani, Omid FD13
Kanazawa, Yuichiro TD01
Kandori, Michihiro TD08
Kanetkar, Vinay TA10
Kang, Ji Hye TC05
Kang, Taeghyun FC05
Kani, Amirali FC12
Kannan, P. K. FA07, FC17
Kanuri, Vamsi FD10, FD13
Kao, Ping-Jen SC06
Kapadia, Shipra FB05
Kar, Pravat Surya SD18
Kar, Wreetabrata FC10
Kara, Selcan SC11
Karaca, Huseyin SC18
Karaman, Hulya FD05
Karlinsky, Yael FD08
Karlson, Logi SA15
Karniouchina, Ekaterina TC14
Karray, Salma FB01
Kashyap, Vishal FD01
Kataoka, Megumi TA01
Katsumata, Sotaro TD05, FA03
Kaur, Guneet FC02, FC05
Kawaguchi, Kohei FB09
Ke, T. Tony TB08, TD08
Ke, T. TA08
Keith, David FD11, SC11
Kent, Robert TA16
Ketter, Wolfgang FD02
Khalil, Fahad SD02
Khimina, Svetlana TB11, TD10
Khwaja, Ahmed SB08
Kim, Baek Jung FB06
Kim, Byeongkyu FA18
Kim, Chan Mi SD10
Kim, Chung Koo TC03
Kim, Dau Young TB07
Kim, Dong Soo TD13
Kim, Ho TC13
Kim, Hye-jin FC04
Kim, Jeeyeon TC01
Kim, Ji Yoon SB16
Kim, Jikyung FD14
Kim, Jong Yeob SA14
Kim, Jongmin TC03
Kim, Jun TA16, SA02
Kim, Junghan TB11
Kim, Keunwoo FA18
Kim, Kevin FC05
Kim, Kihyun Hannah SB05
Kim, Sang-Hoon SA11
Kim, Sang-Joon SD14
Kim, Suh Yeon TD11
Kim, Sunghoon TC03, FD09
Kim, Taewan TC11, FA13
Kim, Youngsoo TC13
Kim, Yuwon FC04
Kirmani, Amna FD19
Kiygi Calli, Meltem FD04
Klapper, Daniel TB12, TB13, TC05, FA07, SA15
Klein, Jan SA15
Knight, Brian SB07
Knox, George FA07
Knuth, Tobias FC02
Ko, Eun Hee SC05
Kohli, Rajeev FA12
Kolay, Sreya FD01
Kolsarici, Ceren FC16, SC15
Kondo, Fumiyo TA01, TC01
Kong, Deyong TD05, FD18
Kong, Pianpian FD17, SB09
Konus, Umut FB03
Korfiatis, Nikolaos SC05
Kornish, Laura SD11
Koschmann, Anthony TB17
Koslow, Scott FA16
Kosyakova, Tetyana SC09
Koulaei, Afra FA16
Kozuka, Haruka SA01
Krafft, Manfred SC01
Kreis, Yvonne TD18
Krider, Robert SA11
Krijestorac, Haris SB03, SB04
Krishna, Aradhna FB08
Krishnamurthi, Lakshman FC03
Krueger, Thomas TD14
Kuennen, Andrea SB13
Kuksov, Dmitri TC11
Kumakura, Hiroshi SB11
Kumar, Ashish SA01
Kumar, Subodha TB01
Kumar, V. TC15, TD11, TD14
Kumar, Vineet FC09, FD06
Kung, Ming-Tsung SB16
Kurz, Peter TD12
Kushwaha, Tarun FB12
Kutlubay, Omer Cem SD16
Kwak, Kyuseop TA12, TD13
Kwon, Hyeokkoo TA03
Kwon, Jun Bum FB04
Kwon, Minjung SA13

L

Lakshmanan, Arun TB11
Lalwani, Ashok SC18
Lam, Tom TC06
Lambert-Pandraud, Raphaëlle TA17
Lambrecht, Anja FD12
Lan, Xing FD03
Landry, Peter TA12, TD15
Landsman, Vardit TB17
Landwehr, Jan FD16
Langerak, Fred FB03
Langmaack, Ann-Christin FC18
Lanz, Andreas TA05, TA06
Laurent, Gilles TA17
Lawrence, Benjamin SA16
Le, Nhat Quang TC15
Lee, Dokyun TC06, SB07
Lee, Dongwon TA03
Lee, Dokyun FD07
Lee, Esther FB14
Lee, Eunkyu TA01
Lee, Hyeong-Tak FB13
Lee, Hyunhwan TC05
Lee, Hyunjung SD12
Lee, Jaeyoung FA18
Lee, Jonathan SD09
Lee, Mi Hyun TC03
Lee, Pui Mun FD05
Lee, Ruby FC02
Lee, Youseok SA11
Leeflang, P.S.H. TD17
Lei, Ying TD16
Lemmens, Aurelie TA15, SD04
Lemmink, Jos FA17
Lengler, Jorge SC10
Lenk, Peter TB13
Lenkoski, Alex SD09
Leo, Ezekiel TC05
Leong, Wai Yan SB13
Leszkiewicz, Agata TC15
Lewis, Kemper TB11
Lewis, Mike TD11, FC15, SD16
Leykin, Alex SD13
Li, Bin TA03
Li, Chunyu FA05
Li, Hongshuang (Alice) SC02
Li, Hui TA06
Li, Jia FB10
Li, Jing FB03
Li, Jun TA06
Li, Junzhu SC13
Li, Kathleen FC02
Li, Ke FA04
Li, Shibo FD03, SD13
Li, Ting SB02
Li, Xi TC06
Li, Xinxin SA04, SD08
Li, Xitong SA02
Li, Yang SD09
Li, Yiwei FA05, FA06, FB06
Lianos, Gerasimos TD15
Liao, Chenxi TC11
Liaukonyte, Jurate SD02
Liaukonyte, Jura SA07
Libai, Barak TA15, TB07
Liberali, Gui FD04
Lie, David FD13
Liechty, John FD08
Lim, Boram FA03
Lim, Joon Ho TB01, SA03
Lim, Jooyoung FA12
Lim, Leon Gim FC14
Lim, Yeji FD05
Lin, Chen TA11, TD11
Lin, Song TB08, TD08
Lin, Yuting SB04
Lin, Yu-San FD04
Ling, Peng FA05
Liu, Chang FC08
Liu, Hongju FB12
Liu, Jessie SC08
Liu, Lu TB12
Liu, Lin TD02, FA08, FA13
Liu, Liu TA09, TB09
Liu, Mengze TC06
Liu, Peng TC04
Liu, Ping-Yu SD05
Liu, Qiang TC09

Liu, Qing SC09
Liu, Raymond TB04
Liu, Tian TC05
Liu, Wen-Ling FA03
Liu, Xinyan FC10, FD01
Liu, Xiao SB05, SB07
Liu, Xinyan SD05
Liu, Xiao FD14
Liu, Yong SB05
Liu, Yunchuan SB11
Liu, Yong FB12
Liu, Yongdong FD03
Liu, Yunchuan TD01
Liu, Zhuping FB03, FC02
Liu-Thompkins, Yuping FC10
Lo, Desmond SA17
Loane, Susan FA04
Lobschat, Lara TC16
Loewenberg, Margot FA11
Loginova, Oksana SD08
Lohrmann, Miriam TA11
Long, Fei TA08
Louati, Amine FC06
Lovett, Mitchell FD17 SA09, SB09
Lowengart, Oded TD04
Lu, Michelle (Yi) TC08
Lu, Michelle TA08, TD08
Lu, Qiang TD18
Lu, Shijie TD02, TD04, FA05
Lu, Shasha FA16
Lu, Tong TC04
Lu, Yixin FD02
Luce, Fernando FD15
Luo, Lan TA09
Luo, Xueming TA04, TB03, TD03, FC07, SB03, SC03
Lv, Jinchi TC09
Lynch, John TA18

M

Ma, Liye FA07, SC02
Ma, Minghui TD14, FC05
MacDonald, Emma FB03
Macharis, Cathy TB01
Mahajan, Vijay FB03
Maheshwari, Harsh SB16
Mahmood, Ammara FB06, SA02
Makov, Tamar SC14
Malshe, Ashwin FD04
Malthouse, Edward TB16, FC03
Maltz, Elliot SD06
Mamadehussene, Samir TA13
Manchanda, Puneet SB01, SB08
Mankad, Shawn TD05, SD04
Mantrala, Murali FD05, FD13, FD19, SC01
Marques, Catarina SC10
Marteinsdottir, Helena SA04
Martin-Herran, Guiomar FB01
Martinovici, Ana SD13
Maslowska, Ewa TB16
Mayzlin, Dina TB05
Mazar, Nina FC18
McAlister, Leigh TA14
McCarthy, Daniel TA19
McCartney, W. Benedict TD04
McGranaghan, Matthew SA07, SD02
McGraw, A. Peter TD11
McMahon, Veronica FD16
McNaught, Angela SB16
Mecit, N. Alican SC18
Meierer, Markus TD15, FA11
Mela, Carl FA09
Melessa, Sean TD16
Menon, Vishnu SA04
Merage, Paul SB03
Meyer, Robert FA12
Miller, Klaus TC16, FA02, SA12
Millot, Valentine SB02
Mirahmad, Hooman TC14
Mishra, Abhishek TD15
Mishra, Arul SA13
Mishra, Himanshu SA13
Mishra, Prashant TD01
Misra, Kanishka TB10, TB13, SB08
Misra, Sanjog TD09
Misra, Shekhar SC06
Mitra, Debanjan FA14
Mittal, Vikas FB14
Mizik, Natalie TB09, FB02
Mizuno, Makoto FD09
Mizuta, Yasuyuki TA01
Moe, Wendy TA04
Mohammed, Rezgar FC13
Mojir, Navid TA19
Montaguti, Elisa SA04
Montgomery, Alan FD14
Montiel Olea, Jos, Luis SA07
Montoya, Ricardo FA15, FC12
Moon, Jihwan TA10
Moon, Jae Yun TC03
Moon, Jae SB03
Moon, Myounghee SB06
Moon, Sungkyun FB14
Moore, William TC14
Moorman, Christine TD06, SB17
Moorthy, Sridhar FB08
Moradi, Masoud SA06
Moreno-Garcia, Antonio TB01
Moriguchi, Takeshi SC03
Morioka, Shinji TA17
Morrison, Pamela SC14
Mosley, Buffy TA16
Mueller-Funk, Ulrich FB11
Muir, David FC05
Mukherjee, Anirban SA06, FB14
Mukherjee, Indrajit FA18
Muller, Eitan TB07
Mummalaneni, Simha TC02
Murtha, Brian FD01
Murti, Ayu Widya FC13
Musalem, Andres SD01, FB09

N

Nagai, Ryunosuke SB18
Nagaoka, Toshihiko FD11
Naik, Prasad FC16, SC13
Nair, Harikesh TD09
Nakagawa, Hiromichi TC18
Nakano, Satoshi TC01
Nam, Hyoryung FC17
Nam, Myungwoo TB18
Nandkumar, Anand TD17
Nanni, Anastasia FD05
Narang, Unnati TA03
Narasimhan, Om SA14, SB17
Narasimhan, Sridhar FD03
Narayanan, Sridhar TD03, FB07
Narayandas, Das FD10
Narita, Yusuke FA09
Nastasoiu, Alina SB01
Nattamai Kannan, Karthik Babu FD03
Natter, Martin TD13
Nayak, Abhishek SA16
Neal, David TA15
Neeman, Zvika TD08
Neil, Bendle SB01
Nelson, Russ SC04
Neslin, Scott TA15, SD01
Netzer, Oded TA05, TA15, FA15, FB17, FD08
Neumann, Nico TC07
Nevskaya, Yulia FA07
Newaz, Tarique TB04
Newman, George SC14
Nezami, Mehdi TB14
Ng, Sharon SD18
Nguyen, Hang TC14
Ni, Jian FA08, FD06
Nickerson, Dionne SD14
Nikolov, Atanas SD14
Ning, Eddie FB13
Nishida, Satoshi TA17
Nishimoto, Akihiro TD05
Nitzan, Irit FC04
Njuguna, Reuben FD15
Norman, Toby FA10
Novak, Tom SA12

O

O'Connor, Huw FA16
Oery, Aniko SD08, TD08
Oh, Eugene SC12
Oh, Hannah SD14
Oh, Wonseok TA03, TC03, SB03
Olewnik, Andrew TB11
Olivola, Christopher FD14
Omwenga, Jane TC17
Onrust, Arjen TA15
Ordanini, Andrea FD05
Orhun, A. Yesim SC01
Osborne, Matthew SA14
Osinga, Ernst TD16, TD17
Osugi, Takumi TA01
Otten, Cord TC13
Otter, Thomas TD12, SC09

P

Paas, Leo SB16
Paas, Leonard SA15
Pachali, Max TD12
Pagani, Margherita TD04
Paley, Anna FB04
Palmatier, Robert FB02
Pan, Yang TD12
Pancras, Joseph TA03, FB12, SC01
Panigrahi, Prabin SD05
Papatla, Purushottam FB17, FD05, SB02, SC02
Papies, Dominik SB13
Parida, Biswajita TC18
Park, Eunho FA02, SA03
Park, Hanyong SC18
Park, Heemok SC01
Park, Kyuhong SA14
Park, Minjung SC11
Park, Sungho TC03, FD07
Park, Sungsik SC05
Park, Young-Hoon TA01, TC02, FA15, FD08, SD02
Patil, Ashutosh FC10
Paul, Michael SA15
Pauwels, Koen TC17, FC16, FD04
Pavlov, Eugene FB02
Pazgal, Amit SA13
Pedada, Kiran SB10
Pedram, Mahmood SB11
Pei, Amy TB05
Peleg, Gil TD04
Peres, Renana FD17
Pescher, Christian SA06
Peters, Kay FC16
Petrova, Maria SA07
Peysakhovich, Alex SA07
Phan, Tung TB17
Phang, Cheewei TB03
Phieler, Ulrike FC04
Pierce, Meghan SA03
Pieters, Constant SD04
Pieters, Rik SD04, SD13
Pleshcheva, Vlada TB13
Pomerance, Justin TD11
Popkowski Leszczyc, Peter FB06, FD02
Pott, Eliza K. FD16
Prabhu, Jaideep TD10, FA10
Prelec, Drazen FA18
Pretnar, Nicholas FD14
Provost, Foster TA15
Pupovac, Ljubomir FC14

Q

Qian, Jinghui FA17, SD06
Qian, Liping FD01
Qiu, Chloe FB18, SA18
Qiu, Tianjiao SC10

R

Rafieian, Omid TB03
Raghunathan, Raj SB03
Rajan, Uday FB08
Rajavi, Koushyar FB12
Raju, Jagmohan SD08
Ramani, Nandini TD10
Rand, Bill SD04
Rand, William SC06
Rao, Justin TB19, SA07
Rao, Ram TC16
Rao, Raghunath FC02
Ratchford, Brian FC13, FD19
Ravula, Prashanth FB17
Reddy, Srinivas TD02, FA06
Reeder, James FC10
Reimann, Olivier TD18
Reinartz, Werner FC16

Reiner, Jochen TD13
Reis, Filipa TA16
Reisinger, Heribert TD18
Ren, Xingyao FC10, FD01, SD05
Reutterer, Thomas FA15
Rhim, Joong SA16
Riedl, Christopher TD06
Riedl, Edward TA14
Rishika, Rishika TB01, SA03
Risselada, Hans TA15
Rizvi, Wajid SD18
Ro, Joon SA05
Roberts, John FD18, SA01, SC14
Rodgers, Waymond FA03
Rodriguez-Vila, Omar TA16
Roelens, Iris SD04
Rooderkerk, Robert TB01
Rosenzweig, Stav SC14
Roussanov, Nikolai FA14
Roy, Subroto FB02
Roy, Sheila FA18
Ruan, Hongxun FA14
Rubel, Olivier FB10
Rubera, Gaia TB11, TD10
Rubin, Ofir SC14
Rudolph, Thomas FC07
Runge, Julian FA07
Russell, Gary TA12, TA18, TD12, TD13
Rust, Roland FC19, SC06
Ruyter, Ko FA17
Rymon, Talia FC04

S

Sa Vinhas, Alberto FC01
Saaksjarvi, Maria TB11
Sabnis, Gaurav FB05
Saboo, Alok TD14
Saeedi, Maryam TC10
Sagi, Rottem SC12
Sagiadinos, Vasileios SC05
Sahni, Navdeep TD09, FB07
Salman, Faryal FB18
Saraf, Nilesh SB04
Sardashti, Hanieh TC14
Sarin, Shikhar FD19
Sarvary, Miklos TC08
Sasser, Sheila FA16
Sassine, Jad SC11
Satomura, Takuya TD05
Saunders, Elaine FD18
Saure, Denis TB09
Sayedi, Amin TA08, TC08
Scekic, Ana SD13
Schikofsky, Jan TA13
Schlereth, Christian TC15, SC12
Schlüschen, Andrea FA17
Schmitt, Daniela TA15
Schoenmueller, Verena TA05, FB17
Scholderer, Joachim FA11
Schoutteet, Penelope TB01
Schrift, Rom TA15
Schubach, Sebastian SC02
Schulze, Christian FC06
Schumann, Jan H. SC02
Schwartz, Eric TB09, SC13
Schwartz, H. Andrew FC17
Schweidel, David TA16, TB07, FC17, SD05, SD16
Seah, Zhen Yi TD18
Seenivasan, Satheesh SD06
Seetharaman, Seethu FB11, FD11
Seifert, Rouven SD11
Seiler, Stephan SB09
Seim, Katja SB08
Seinhart, Yael FA06
Selnes, Fred SB13
Selove, Matthew TA13, SC12
Sen, Ananya SA07, SB07
Sen, Ravi FB10
Sengo Furtado, Filipe FA15
Septianto, Felix FD18
Sethuraman, Rajagopalan SC01
Sezen, Burcu TC17
Shachar, Ron TB07
Shaffer, Greg FD01
Shah, Avni TD04
Shahid, Shadma SC10
Shahrokhi Tehrani, Shervin FB09
Shang, Yan FB09
Shankar, Venkatesh TA03, TC14, FC01, SB10, SC15
Shao, Zhenhuan TD05, FD18
Shapira, Daniel TA05, TD04
Shapiro, Bradley FA09
Shapiro, Dmitry FB08
Sharma, Ashish SB10
Sharma, Eesha FB04
Shehu, Edlira SC13
Shen, Luxi FC15, SD10
Shi, Huanhuan TA14
Shi, Lanfei TB03
Shi, Mengze TA11, TC06, TD11, TD15, FB10, SB10
Shi, Wei SA03
Shi, Yang TA16
Shi, Zijun SB05
Shimizu, Akira SD10
Shin, Beomjoon SB08
Shin, Dongsoo FB13
Shin, Jiwoong TC08
Shin, Sangwoo FC10
Shin, Woochoel TD17, SC05, SD02
Shook, Steven SA11
Shriver, Scott TC07, FB07
Shugan, Steven TA10
Shulman, Jeffrey TA08, TC08
Shum, Matthew SD02
Siddarth, Sivaramakrishnan FA01
Sigue, Simon-Pierre FB01
Sigurdsson, Valdimar SA04
Sikdar, Sharmistha TA01
Silva-Risso, Jorge FA01
Silveira, Cleo FD15
Silvera, David SC18
Simonov, Andrey TB19
Singh, Gursimranjit FC05
Singh, Maninder FC05
Singh, Narendra FA01
Singh, Priyanka FC05
Singh, Param TC06, SC03
Singh, Shubhranshu FA08
Singh, Sonika SA12
Singh, Surendra FC18
Singh, Siddharth FB10
Singh, Vishal TB13, FB06
Sinha, Ashish FD13
Sinha, Shameek FB01, SA16, SC04
Sismeiro, Catarina FB06, SA02
Sisodiya, Sanjay SA11
Sivakumar, K TD13
Skiera, Bernd TA14, FC06, FC07, SA12
Sloev, Igor TD15
Smit, Willem TA17
Smith, Keith FA02
Snehal, Shah SA05
Soleymanian, Miremad SC03
Soman, Dilip FD14
Somasundaram, Jeeva FA08, FC18
Somraj, Shilpa TD02
Song, Hyojin FA04
Song, Jing-Sheng FB09
Song, Reo TC13
Sonmez, Fatma SC15
Sonnier, Garrett SB06
Sood, Ashish TD14
Sood, Neeraj SA14
Sørensen, Herborg SA04
Sorescu, Alina TD06, FA14, SB17
Sotgiu, Francesca TB07, SC01
Sousa, Carlos SC10
Spagnolo, Giancarlo TC10
Spann, Martin TB16, SC18, FC03
Spiess-Bru, Clarissa SA05
Sreekumar, Arun SC17, SD10
Sridhar, Shrihari TA14, FC02
Srinivasan, Kannan TA06, TC06, FD14, SB05, SB07
Srinivasan, Nimay TD17
Srinivasan, Raji TA14, TD10, FD05
Srinivasan, Shuba TA04, TA14, TD06, FC16, FD15
Sriram, Srinivasaraghavan SB08, SC01
Srivastava, Rajesh FB17, FD16
Srivastava, Shashi SD05
Stahl, Florian TA05, TA15, FB04, FB17
Stakhovych, Stanislav TB15
Stamolampros, Panagiotis SC05
Steenkamp, Jan-Benedict TA19, FB12
Steren, Aviv SC14
Sterman, John FD11
Stich, Lucas SC18
Stock, Ruth TD14
Stourm, Valeria TB02
Stremersch, Stefan TB17, TD06, FD04
Struben, Jeroen FD11
Stummer, Christian SA12
Stuppy, Anika TD11
Subramanian, Upender TB06
Sudharshan, D. TD12
Sudhir, K TA19, FB02, FC19
Sueptitz, Josephine TC15
Sun, Hechao SD04
Sun, Jiong TD01
Sun, Li SC11
Sun, Monic TB08, SD08
Sun, Qi FB12
Sun, Ruohao SB13
Sun, Tianshu TB03, FD03, FD07,
Sunder, Sarang TC04, FD09, SB05
Sung, Christine Eunyoung FB03
Suryandari, Retno TD18
Swaminathan, Vanitha FC17
Syam, Niladri SD08
Symitsi, Efthymia SC05
Szymanowski, Maciej SC11

T

Tadelis, Steve TC10
Tafti, Ali TB04
Tamaddoni, Ali TB15
Tan, Burcu SA05
Tan, LayPeng TB04
Tan, Yong Chin TD02
Tan, Yee Heng FA06
Tan, Yong FA03
Tavassoli, Nader SB17
Taylor, Terry TB06
Techachaicherdchoo, Teerawut FA17
Tellis, Gerard TA14, TB11, TC05, TD06, TD10, TD14, FA06, FB11, FC17, SA06
Ternofatada. Frenke SB03
Thompson, Michael TA09
Thompson, Scott FA02
Thottam, Michael SC12
Tian, Longxiu TC13
Tian, Lin TA10
Tillmans, Sebastian SC01
Timoshenko, Artem TB19
Timoumi, Ahmed FA01
Tipgomut, Pornchanoke SB16
Todri, Vilma SA05, SC03
Tong, Jack Siliang TB03
Totsuka, Chihiro SD16
Trivedi, Minakshi TC01, TC04
Troncoso, Isamar FA15
Tsai, Ming-Chih TC18
Tsai, Yi-Lin TA02
Tsao, Chu-Hsuan TC18
Tucker, Catherine TA17, TC18, FC07, FD04, FD12,
Tuli, Kapil TB14, FB14, FC14
Tully, Stephanie FB04
Tunuguntla, Srinivas TB02

U

Uetake, Kosuke FA09, SA09, SB07
Uhl, Christina TC16
Umesh, U SB10
Uppal, Abhinav SD08
Urban, Glen FD04
Ursu, Raluca TA02
Uslay, Can TC14

V

Vaid, Sash FA05
Valenti, Albert FC16, FD15
Valentini, Sara SA04
Van Crombrugge, Michiel TD01
Van den Bulte, Christophe SD04
Van den Poel, Dirk TB16
van der Lans, Ralf TB12, SD13
Van der Maelen, Sara SD01
Van der Stede, Wim TD06
Van Ewijk, Bernadette TA19
van Heck, Eric FD02
van Heerde, Harald SA16
van Oest, Rutger SA15
Vana, Prasad FD12
Vandenbosch, Mark SB01, SB05
Vanhaverbeke, Lieselot TB01
Vanhuele, Marc FC16
Varga, Marton TA02
Vashist, Nisha FB05
Vecchioni, Federica TB15, SA04
Venkatesan, Rajkumar TA03, TB13, FB13
Verhoef, Peter TA15, TB12
Verlinde, Sara TB01
Vernik, Dinah SD08
Vicuña, Maria-Ignacia SB13
Vielma, Juan Pablo TB09
Villas-Boas, J. Miguel FA08
Viswanathan, Madhu SB05, SC17, SD10
Viswanathan, Siva TB03
Viswanathan, Vijay TB16
Vitorino, Maria Ana SB08
Voleti, Sudhir SC06
von Graevenitz, Georg SB02
Vriens, Marco FB05
Vulkan, Nir FB06

W

Wagner, Udo TD18
Wakefield, Kirk TC03
Waller, David TA12
Walters, Daniel TA02
Wamsler, Julia TD13
Wan, Lisa C. FB18, SA18, SC14
Wang, Emily SA14
Wang, Hansheng TB12
Wang, Helen Si FA10
Wang, Jing TD10
Wang, Jue SD12
Wang, Jiana Fu TC18
Wang, Kitty TA11
Wang, Kangkang TD08
Wang, Luming SC15
Wang, Nian FB12
Wang, Pengyuan SB02
Wang, Paul TA12
Wang, Peng FB05
Wang, Qingliang TA02
Wang, Qian FB12
Wang, Qiong SA17
Wang, Rebecca Jen-Hui FC03
Wang, Rui FC14
Wang, Tianfu FC03
Wang, Wenche FD02
Wang, Wanxin FB06
Wang, Wenbo FC03
Wang, Xiaoyi FC07
Wang, Xin (Shane) TC06, FB12
Wang, X. H. FA13
Wang, Xin SB05
Wang, Xiaoyi TB03
Wang, Yu FB08
Wang, Yanwen TA18, SD16
Wang, Yue FC08
Wang, Zhiyong TD18
Warren, Nooshin TD06, FA14
Wathieu, Luc FA08, FC18
Watson, George FA14
Webb, Ryan TA12
Webster, Cynthia TB04, FA04
Wegner, Martha FC18
Wei, Edward SC14
Wei, Feiqiong FC08
Wei, Joicey FC08
Wei, Liyuan TC17
Wei, Yanhao FA14, FD07
Wei, Zaiyan SA04
Weiger, Welf TA04
Weinberg, Charles SC03
Weintraub, Gabriel FC09
Wenzel, Johannes FC16
Wetzel, Hauke TA04
Weyl, E. Glen SA07
Whitfield, Timothy TC07
Wieringa, Jaap TA15, TD17
Wies, Simone TD06
Wilbur, Kenneth SA07, SD02
Wilken, Robert FB11
Wilson, Hugh FB03
Wloemert, Nils FA16
Wu, Chi-cheng TB10
Wu, Chunhua SA06
Wu, Fang FB12
Wu, Jie TD01
Wu, Ruhai SC02
Wu, Shaohui FA03
Wu, Wenyi TB13

X

Xiao, Junji SD10
Xiao, Mo SA04
Xiao, Zuhui FA01
Xiao, Zhenxin FC01
Xie, Jinhong TC04, SC05
Xie, Ying FA03, FA05, FB07, FD06
Xiong, Guiyang SC03
Xu, Kaiquan FB03
Xue, Jiaqi FD01
Xu, Linli FD17
Xu, Nuo FC10
Xu, Zibin TB08
Xu, Zuhui SC17

Y

Yamada, Masataka FD11
Yamamoto, Hikaru TA17
Yan, Dengfeng SC18
Yang, Botao SD12
Yang, Baojiang FC04
Yang, Liangbin TA16, TC04
Yang, Nathan TC10, SB07
Yang, Nan SB13
Yang, Pianpian FD01
Yang, Sha FD06
Yang, Yupin TC17
Yang, Zhiguo TD12
Yao, Dai TD04
Yao, Song SB09
Yayla, Serdar SD16
Yegoryan, Narine TB12
Yeniyurt, Sengun SD16
Yeophantong, Tapanan FA17
Yi, Shannon FB18, SA18
Yildirim, Gokhan FC16, FD15
Yıldırım, Pınar SA07, SC08
Yim, Chi Kin FA10
Yim, Sean SB10
Yin, Bingqing FC18
Yoganarasimhan, Hema TB03, FB07
Yoo, Bosul FA03
Yoo, Boonghee FD16
Yoon, Yeohong FD14
Yorkston, Eric SB05
Yu, Haojun TD02, FA13
Yu, Jungju TC08, TD08
Yu, Junghwa SA14
Yu, Qi SD02
Yu, Shuyi FD12
Yu, Xiaoqian FD06
Yu, Yang TC05
Yue, Qingyuan SD12
Yun, Wonjoo TB14

Z

Zacharias, Christos FD10
Zanarone, Giorgio SA17
Zantedeschi, Daniel SC13
Zeithammer, Robert FD02
Zeng, Fue SB03
Zervas, Georgios FD05, SB07
Zettelmeyer, Florian TD09
Zhai, Muxin TA18
Zhan, Dongyuan FA08
Zhang, Dennis TA06, FD14
Zhang, Jurui TB04
Zhang, Jie SA16
Zhang, Jianqiang FC02
Zhang, John SC08
Zhang, Kunpeng TA04
Zhang, Lingling FB01
Zhang, Qiang SA02
Zhang, Shunyuan TC06
Zhang, Shuo FD11
Zhang, Thomas SB17
Zhang, Wenshu FB10
Zhang, Wei SD12
Zhang, Xiaochen SD04, TA13
Zhang, Xu SB01
Zhang, Yuchi TA04, FC07, SB03
Zhang, Zhuo SC04, SC17
Zhang, Zhe TB06
Zhang, Zelin FC08, FD02
Zhao, Huazhong TC04
Zhao, Yi FC10, FD06, FD09
Zhao, Ying TA16
Zheleva, Elena TB03
Zheng, Xin TD05, FC10, SA17, FD01, FD18, SD05
Zhong, Ning FC17, SD05
Zhong, Zachary TB19
Zhou, Bo TA10, FB08
Zhou, Chen SA17, SB10
Zhou, Jing TB12
Zhou, Mingyuan TC09
Zhu, Qingyuan TD01
Zhu, Ting SC03
Zhu, Xiaoxuan FC01
Zhu, Yi TB08, SC08
Zihagh, Fereshteh FC13
Zou, Tianxin TB08
Zou, Tianxin FB08
Zvilichovsky, David FA06

Thursday, 8:30am - 10:00am

TA01 Channels: MultiChannels I
TA02 Online Search & Advertising
TA03 Moble Apps for Marketing
TA04 Social Media & Negative Information I
TA05 User Generated Content: Uses
TA06 The Sharing Economy I
TA07 Big Data: Donig Research at Scale in Adobe
TA08 Game Theory Models in Advertising & Market Spillover
TA09 Machine Learning Applications in Marketing I
TA10 Competition: Competitive Strategy I
TA11 New Product: Design I
TA12 Choice Models I
TA13 Price Discrimination
TA14 Marketing & Finance I
TA15 Customer Churn: Advances, Challenges and New Directions
TA16 Advertising on TV
TA17 Brand Metrics
TA18 Consumer Behavior & Context Effects
TA19 ISMS Doctoral Dissertation Winners I

Thursday, 10:30am - 12:00pm

TB01 Channels: MultiChannels II
TB02 Online Auctions I
TB03 Mobile Marketing and Advertising
TB04 Social Media & Customer Service
TB05 UGC Bias, Incentives & Conformity
TB06 Sharing Economy II
TB07 Digital Marketing 1
TB08 Game Theory of Platforms
TB09 Machine Learning Applications in Marketing II
TB10 Competition: Competitive Strategy II
TB11 New Product: Design II
TB12 Choice Models II
TB13 Pricing: Automobiles
TB14 Marketing & Finance II
TB15 CRM: Customer Churn
TB16 TV Viewing
TB17 Brand Equity
TB18 Consumer Behavior & Gender
TB19 ISMS Doctoral Dissertation Winners II

Thursday, 1:30pm - 3:00pm

TC01 Channels: MultiChannels III
TC02 Online Auctions II
TC03 Digital and Mobile Learning
TC04 Social Media & Gaming
TC05 User Generated Content & Brand Maps
TC06 Sharing Economy III
TC07 Digital Marketing II
TC08 Game Theory in Marketing I
TC09 Statistical Learning for Big Data
TC10 Competition: Entry & Exit
TC11 New Product: Design III
TC12 Choice Models III
TC13 Pricing: Freemium
TC14 Marketing & Finance III
TC15 CRM: Customer Lifetime Value I
TC16 Advertising Display Ads I
TC17 Brand Performance
TC18 Consumer Behavior & Loyalty
TC19 JMR AE (3:30pm -4:30pm)

Thursday, 3:30pm - 5:00pm

TD01 Channels: Competition I
TD02 Online Retailing I
TD03 Panel on Digital Mobile Marketing Analytics
TD04 Social Media & Social Influence
TD05 User Generated Content & LDA
TD06 Innovation and Crowdsourcing
TD07 Sharing of Digital Photos in Social Media & Consumer's Lives
TD08 Game Theory in Marketing II
TD09 Experiments, Models and Marketing Science
TD10 Competition: Performance of Competitive Markets
TD11 New Product: Design Movies & Digital
TD12 Choice Models IV
TD13 Pricing: Reference Points
TD14 Marketing & Finance: IPOs I
TD15 CRM: Customer Lifetime Value II
TD16 Advertising Display Ads II
TD17 Branding: Generics
TD18 Consumer Behavior, Brand & Luxuries
TD19 JMR ERB (4:30pm-5:30pm)

Friday, 8:30am - 10:00am

FA01 Channels: Competition II
FA02 Online Communities & Newspapers
FA03 Mobile Marketing: Usage
FA04 Social Media Network Analysis
FA05 User Generated Content & Managerial Response
FA06 Crowdfunding I
FA07 Digital Marketing II: Content and Price Management
FA08 Game Theory in Marketing III
FA09 Structural Models and Online Marketplaces
FA10 Sales Force: General
FA11 New Product Diffusion Takeoff & Technology
FA12 Choice Models V
FA13 Pricing: Tariffs
FA14 Marketing & Finance: Advertising & Brands
FA15 CRM: Customer Loyalty I
FA16 Advertising Content Design
FA17 Brands & Social Media I
FA18 Consumer Behavior Anomalies

Friday, 10:30am - 12:00pm

FB01 Channels: Competition III
FB02 Online Design
FB03 Mobile Marketing & Advertising
FB04 Social Media Networks I
FB05 User Generated Content & Market Structure
FB06 Crowdfunding II
FB07 Digital Media Strategy
FB08 Game Theory in Marketing IV
FB09 Structural Learning Models
FB10 Sales Force: Incentives
FB11 New Product Diffusion: Bass Model
FB12 Product Recalls
FB13 Pricing: Warranties
FB14 Marketing & Finance: Advertising
FB15 CRM: Customer Loyalty II
FB16 Advertising Models
FB17 Brands & Social Media II
FB18 Consumer Behavior Culture

Friday, 1:30pm - 3:00pm

FC01 Channels: Governance
FC02 Online Retailing II
FC03 Mobile Marketing: Discounts
FC04 Social Media WOM
FC05 User Generated Content & Performance I
FC06 Crowdfunding & Crowdsourcing III
FC07 Digital Marketing: Field Experiments I
FC08 Game Theory in Marketing V
FC09 Dynamic Structural Models
FC10 Sales Force: Relationship
FC11 New Product Diffusion: Forecasting
FC12 Method: Markov Model
FC13 Promotion: Brand Switching
FC14 Marketing & Finance: IPOs II
FC15 CRM: Customer Retention
FC16 Advertising: Hierarchy of Effects
FC17 Branding & Social Media III
FC18 Consumer Behavior Donating & Health
FC19 Meet the Editors I

Friday, 3:30pm - 5:00pm

FD01 Channels: Strategy
FD02 Online Auctions III
FD03 Mobile Marketing: Technology
FD04 Advertising & Social Media
FD05 User Generated Content & Performance II
FD06 Crowdsourcing and Crowdfunding IV
FD07 Digital Marketing Field Experiments II
FD08 Customer Analytics
FD09 Method: Bayesian Models I
FD10 Sales Force: Scheduling
FD11 New Product Diffusion: Social Influence I
FD12 Feedback Loops, Marketing Communications & Inequality
FD13 Promotion: EDLP
FD14 Marketing & Finance 8: Loans, Lending, & Savings
FD15 CRM: Customer Satisfaction
FD16 Advertising & Consumer Behavior I
FD17 Brands, Retailing, and WOM
FD18 Consumer Behavior Emotion
FD19 Meet the Editors II

Saturday, 8:30am - 10:00am

SA01 Retailing: Technology
SA02 Online Search I
SA03 Mobile Marketing: Adoption
SA04 Social Media Sharing I
SA05 User Generated Content & Social Influuence
SA06 Crowdsourcing V
SA07 Digital Marketing Information and Media I
SA09 Advances in Structural Models
SA11 New Product Diffusion: Movies
SA12 Internet & Marketing
SA13 Promotion: Redemptions
SA14 Health & Insurance
SA15 Marketing Measurement
SA16 Advertising Optimization
SA17 Value Creation and Appropriation
SA18 Consumer Behavior Feedback & Momentum

Saturday, 10:30am - 12:00pm

SB01 Retailing: General
SB02 Online Search II
SB03 Mobile Marketing with Customer Psychology
SB04 Social Media Sharing II
SB05 User Generated Content Social Influence & Authenticity
SB06 Sharing Economy IV
SB07 Digital Marketing, Information and Media II
SB08 Market Frictions and Consumer Welfare: Multi-Market Contact, Liquidity Constraints and Entry Barriers
SB09 Structural Models V
SB10 Marketing Alliances
SB11 New Product Diffusion: Game Theory
SB12 Internet Consumer Behavior
SB13 Promotion: Retail
SB14 Healthcare in Marketing
SB15 Marketing Metrics
SB16 Advertising & Consumer Behavior II
SB17 Managing Human Capital in Marketing
SB18 Consumer Behavior Shopping

Saturday, 1:30pm - 3:00pm

SC01 Retailing: Store Choice
SC02 Online Search III
SC03 Darkside of Retargeting and Consumer Annoyance
SC04 Social Media Networks II
SC05 User Generated Content Negativity
SC06 Innovation II
SC08 Game Theory of Information and Online Economy I
SC09 Method: Bayesian Models II
SC10 International
SC11 New Product Diffusion: Social Influence II
SC12 Method - Conjoint Analysis
SC13 Eye Tracking in Advertising
SC14 Sustainability
SC15 Segmentation: General
SC16 Advertising & Consumer Behavior III
SC17 Entrepreneurship
SC18 Consumer Behavior to Price & Product

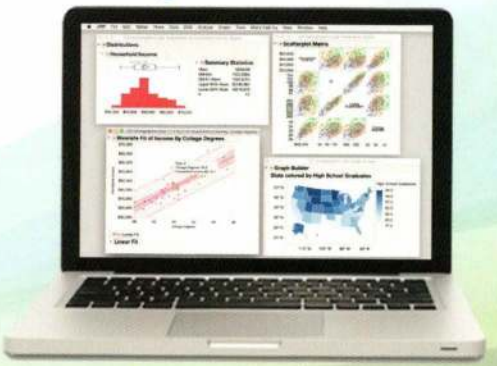
Saturday, 3:30pm - 5:00pm

SD01 Retailing: Assortment
SD02 Platform-based Marketing
SD04 Social Media Referrals
SD05 User Generated Content General
SD06 Innovation III
SD08 Game Theory Models of Information, Online and Offline Economy
SD09 Method: Bayesian Models III
SD10 International Consumer Behavior
SD11 New Products General
SD12 Not for Profit
SD13 Eye Tracking in Retail
SD14 Corporate Social Responsibility
SD16 Advertising: General
SD18 Consumer Behavior General

jmp

Statistics, Visualization,
Data Analysis, and Modeling

Regression
ANOVA and Mixed Models
Association Analysis
Text Mining
Categorical Data Analysis
Naïve Bayes
Factor Analysis
Discriminant Analysis
Clustering
Latent Class Analysis



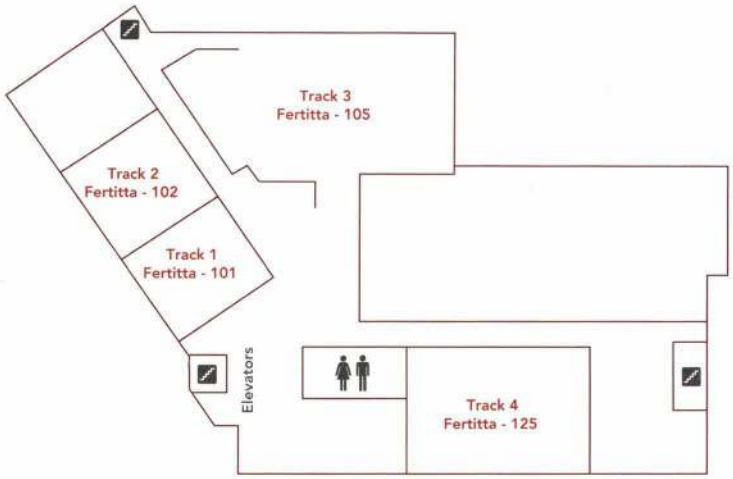
Conjoint Analysis and Design
Classification Trees
Regression Trees
Random Forest
Uplift Modeling
Survival Analysis
Time Series
Multidimensional Scaling
Integration with R, SAS, Matlab
Model Deployment to Python
and much more...

For Mac and Windows

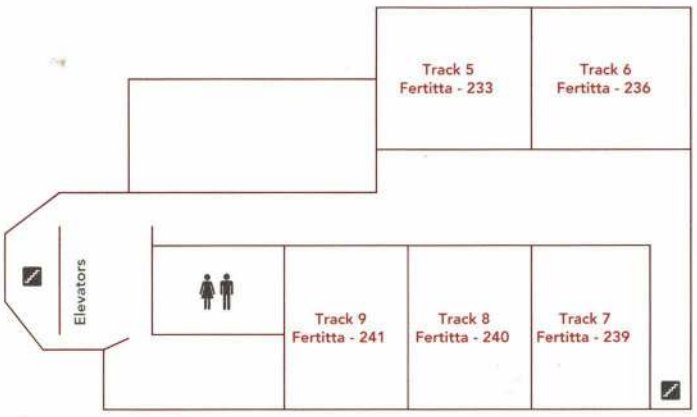
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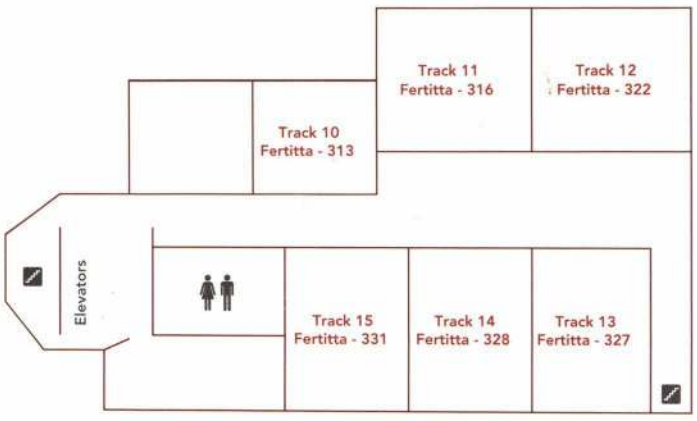
USC MARSHALL SCHOOL OF BUSINESS MAPS



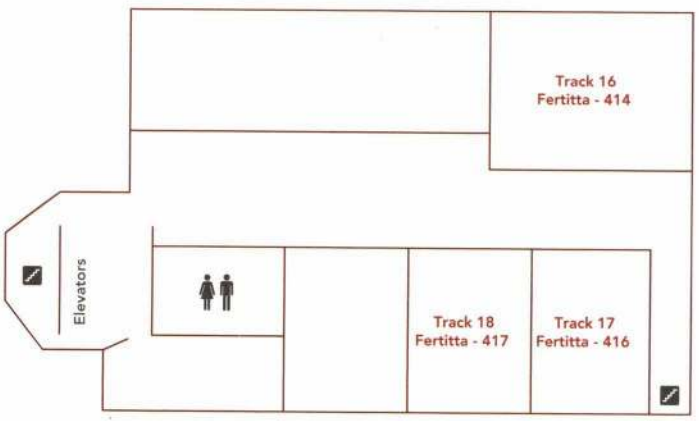
Lower Level



Second Level



Third Level



Fourth Level

***Track 19 - Popovich Hall, Room 300**