

How to Navigate the Technical Sessions

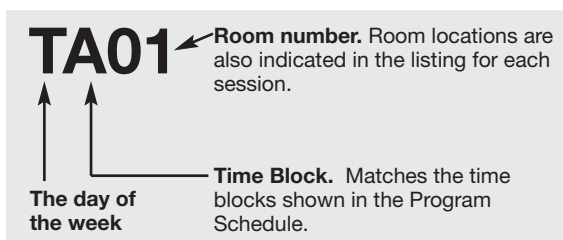
There are four primary resources to help you understand and navigate the Technical Sessions:

- This Conference 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 90-96).
- The “Master Track Schedule” is on the back cover. This is an overview of the tracks (general topic areas) and where/when they are scheduled.

Quickest Way to Find Your Own Session

Use the Author Index (page 90-94) — 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.

The Session Codes



Time Blocks

Thursday

- A — 8:30am - 10:00am
- B — 10:30am - 12:00pm
- C — 1:30pm - 3:00pm
- D — 3:30pm - 5:00pm
- E — 5:15pm - 6:00pm

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

Thursday, 8:30am - 10:00am

■ TA01

01-Third Floor, GB 1

Advertising I

Contributed Session

Chair: Anna Dubiel, Assistant Professor, WHU, Burgplatz 2, Vallendar, 56179, Germany, anna.dubiel@whu.edu

1 - Is there a Relationship between Executive's LinkedIn Connections and Stock Prices?

Faria Badhan, Undergraduate Student, College of Business, University of Central Oklahoma, 100 N. University Drive, Edmond, OK, 73034, United States of America, fbadhan@uco.edu, Manoshi Samaraweera

LinkedIn is by far considered to be the most popular networking site for professionals. However, whether employee's LinkedIn connections are related to the financial performance of the company is yet to be substantiated. By monitoring the LinkedIn connections of a sample of top sales executives working at large public companies, this study empirically tests whether the number of LinkedIn connections of top sales executives is related to the profitability (ROA and ROE) of the company. Results will be available to be presented at the conference.

2 - Within and Cross-Channel Effects of Brand Advertising on Word-of-Mouth

Linli Xu, University of Minnesota, 321 19th Ave. S., Suite 3-150, Minneapolis, MN, 55455, United States of America, linlixu@umn.edu, Mitchell Lovett, Renana Peres

Word-of-mouth (WOM) and advertising are two of the most central concepts in marketing. WOM has lately been viewed as more influential sources of information and trustworthy than advertising. However, advertising has been suggested to have an indirect role in stimulating word of mouth - sparking 20% of WOM conversations (Keller and Fay 2012). The central theme of this paper is to examine the relationship between advertising and WOM. In particular, we study the influence of advertising on word-of-mouth within channel (online advertising on online word-of-mouth or TV advertising on offline word-of-mouth) and across channels (e.g., TV advertising on online word-of-mouth). This study adds to the field's understanding of the role of traditional and digital media in shaping consumers word-of-mouth. We provide evidence from a large scale database of advertising and word-of-mouth that covers 600 brands across 16 categories over 6.5 years. To our knowledge no such large-scale study has been conducted on this relationship. Preliminary evidence suggests significant relationships both within and cross-channels. For example, both TV and Internet display advertising appear to be significantly related to offline word-of-mouth with TV having a stronger direct effect than Internet, whereas Internet advertising is stronger online than TV.

3 - The Impact of Institutions on Product Positioning: Evidence from a Historical Study in East and West

Anna Dubiel, Assistant Professor, WHU, Burgplatz 2, Vallendar, 56179, Germany, anna.dubiel@whu.edu, Jaideep Prabhu, Sourindra Banerjee

Do marketers in distinctly different institutional settings (i.e., socialist vs capitalist; developing versus developed) position products differently? Existing research has largely studied product positioning in a single institutional setting, namely the capitalist, developed economies of the United States or Western Europe. Researchers have mostly ignored how products are positioned in developing economies, limiting the generalizability of marketing theories. We address this gap in the literature by conducting a historical study over a period of 47 years (from 1949-1995) across 20 brands in East Berlin (in erstwhile East Germany, which was under socialist rule from 1949 to 1990), in West Berlin (in erstwhile West Germany, which was capitalist from 1949) and in unified Berlin (in Unified Germany, which was capitalist from 1990 onwards). We use a uniquely compiled database of newspaper advertisements from four leading dailies of East and West Berlin over the 47 year period. Our findings show that in developed, capitalist economies (i.e., in West Berlin) expensive products have a more symbolic (relative to functional) positioning whereas in developing, socialist economies (like East Germany) cheap products have a more symbolic (relative to functional) positioning. These findings have implications for product positioning in emerging markets because emerging markets are typically transitioning from socialist, developing institutions to capitalist, developed institutions.

■ TA02

02-Third Floor, GB 2

Channel I

Contributed Session

Chair: Pamela Morrison, Professor, Australian National University, Research School of Management, Level 1, LF CrispBld 26, #26 Kingsley Rd, Canberra, 2601, Australia, pam.morrison@anu.edu.au

1 - Linking Acquisition Channel Characteristics to Customer Value and Behavior

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Customers differ greatly in their value and behavior, depending on the acquisition channel. As consumers spend more time and money online, new types of channels emerge. As the number of available channels increases, marketing managers seeking to acquire valuable customers must look beyond individual acquisition channels. In our research, we seek to identify the underlying characteristics of customer acquisition channels, and investigate how these characteristics influence the value of acquired customers. In our empirical study, we analyze the value (revenue, profit) and behavior (number of orders) of more than 60,000 customers of an online retailer, acquired through 13 different channels. Our study contributes to the literature on acquisition channels by (1) broadening insights into the link between acquisition channels and firm value, (2) introducing a new kind of acquisition channel, (3) providing a structure for integrating previous studies of acquisition channels, and (4) resolving conflicting findings in previous literature regarding the effect of promotions on customers' future orders.

2 - The Effect of Store Brand Competition on Product Quality Decisions

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It has been conventionally known that the introduction of a store brand can be used as a tool for customer segmentation or store profitability. More recent studies show that a retailer who offers a store brand product positions itself close to the national brands in terms of product characteristics (i.e., quality) due to its strategic relationship with the national brand or its own store loyalty. However, previous studies have ignored the retailers' competitive behaviors. This paper investigates how retailers design store brand products under different market characteristics, such as the intensity of competition, consumer heterogeneity, and the manufacturer's strategic decisions. Interestingly, I find that symmetric retailers have an incentive to decrease the product quality of their store brands as the competition among them gets more intense, while a monopolistic retailer positions its store brand product relatively close to the national brand.

3 - Channel Alignment: Contrasting B2B and B2C Valuation and Updating Rules

Pamela Morrison, Professor, Australian National University, Research School of Management, Level 1, LF CrispBld 26, #26 Kingsley Rd, Canberra, 2601, Australia, pam.morrison@anu.edu.au, Lina Tan, John Roberts

Urban (2005) proposes that aligning push and pull channel strategies can make a company more responsive to changing customer demands. A pull strategy is directed at addressing consumer demands directly (B2C), while a push strategy utilizes the network of channel intermediaries to influence and reach end consumers (Grewal & Lilien, 2012). While much academic effort has been directed towards B2C marketing, there have been a more limited number of studies looking at B2B markets, and still fewer examining alignment between the two. In order to formulate effective alignment between B2C and B2B strategies, an understanding of differences in belief formation and updating between B2C and B2B markets is required. While the literature suggests that channel alignment is necessary, a prerequisite to such alignment is an understanding of the degree to which decision rules differ between the two groups, and whether they respond to incoming information in the same or different ways. This paper investigates variation in beliefs, effect on evaluation, and differential updating with new information between 356 trade distributors and 781 consumers in the travel market regarding a well-known global airline. Our aim is to shed light on the variation between B2C and B2B beliefs, attitude formation, and updating; and their effect on reference and choice. Such an understanding can assist managers segment relevant communications in order to provide consistent, yet salient, messages to both groups. The results from multi-group SEM analyses conclude that the focal airline lives in almost the best of all worlds to ensure channel alignment of its communications.

■ TA03

03-Third Floor, GB 3

Consumer Behavior I

Contributed Session

Chair: Xi Chen, Associate Professor, China University of Political Science and Law, 29 Fuxue Road, Changping District, Beijing, China, chenxi@cupl.edu.cn

1 - Understanding the Effect of Last Name on Acquisition Timing in China

Xi Chen, Associate Professor, China University of Political Science and Law, 29 Fuxue Road, Changping District, Beijing, China, chenxi@cupl.edu.cn, Guoli Yang

This research examines the effect of last name on acquisition timing for Chinese. Previous research suggests that there is a significant negative correlation between the depth of the first letter of surname in the alphabet and response time to acquisition opportunities in Western culture. This research illustrates whether this finding holds in Chinese culture over three studies. We find an opposite conclusion that the earlier in the pinyin alphabet the first letter of surname is, the faster the person responds to acquisition opportunities. We suppose that it lies in the difference between Chinese culture and western. For example, in China where interdependent culture is main stream, to keep relationship harmonious, students are generally shy and avoid showing off, teachers hence tend to initiate class interaction and assign tasks or duties by calling student names. Therefore, students with last name locating earlier in the register sheet are more likely and more frequently to be assigned duties and challenges, this in the long run acts as a priming or inertia effect and shapes the students with last name earlier more aggressive and active, always keep alert and ready to take challenges, this in turn makes them respond quicker to acquisition opportunities in restricted time period. Additionally, this research also expands the concept of 'last name' from depth into the alphabet the first letter of one's last name (pinyin in Chinese system), to number of strokes of first letter of one's last name and student ID for Chinese subjects, as the stroke is a feature of Chinese name and the student ID is related to the class registers. Findings suggest that there is no significant correlation between number of strokes and response time, and there is a partial significant positive correlation between student ID and response time, indicating the earlier the ID locates in register sheet, students respond quicker.

2 - Less is More, Until it Isn't: Feature-Richness in Experiential Purchases

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Previous research has differentiated between products and experiences in many ways (Van Boven and Gilovich 2003) and even though experiences are generally regarded as a better purchase than their material counterparts, researchers have primarily focused on studying the heuristics consumers use with material purchases. For instance, prior work finds that consumers prefer feature-rich relative to feature-poor products before consumption but that this preference flips after consumption (Thompson, Hamilton, and Rust 2005). However, research has yet to investigate how consumers react to the number of features included in an experiential purchase and how the feature-richness of an experience impacts before and after consumption preferences. In five studies, we investigate the impact of feature-richness on consumers' preferences for multi-feature experiences and the underlying mechanism. In Study 1 and 2, we demonstrate the basic effect that before consumption, consumers prefer feature-poor rather than feature-rich experiences – but after consumption, they prefer feature-rich rather than feature-poor experiences – the opposite of products. In Study 3, we show the moderating effect of temporal distance on consumers' preferences, such that consumers match their pre- and post-consumption preferences. In Study 4, we replicate our basic effect in a study where consumers are allowed to choose the feature-richness of their experience; we also show that Locus of Control (LOC) acts as a post-consumption moderator. Finally, in Study 5, we replicate our LOC findings from Study 4, and we show that social signaling moderates post-consumption experiential evaluations.

3 - Deal or No Deal? The Role of Competition in the Effect of Online Deals on Online Review

Jorge Mejia, University of Maryland, 7621 Mowatt Lane, College Park, MD, 20740, United States of America, jmejia@rhsmith.umd.edu, Anand Gopal, Michael Trusov

Consumers today are using online reviews to inform their purchasing decisions about many products and services. Moreover, online deals such as Groupon have become an important part of the marketing mix for merchants. One area that is understudied in the eWOM literature is how the competitive environment affects online reviews, which is the objective of this study. We combine data from a leading provider of online reviews for restaurants with a dataset of online deals covering over 95% of the deals in a major metropolitan area in the U.S. We model the weekly arrival and valence of reviews for over 5 years using a hierarchical Bayesian longitudinal model. Consistent with prior work, we find that online deals have a significant negative effect on the valence of reviews and that this effect is moderated by merchant characteristics, such as restaurant price

and age. However, we also find that the valence of reviews decreases in the face of increased competition in the form of nearby deals. Surprisingly, we find this effect extends to merchants that do not offer deals. Building on these empirical results, we conduct two lab studies using subjects from Amazon's MTurk. We confirm a negative main effect of deals on consumer quality perceptions and validate the price category of the restaurant as moderator. In regards to competition, we find that consumer quality perceptions are significantly affected by increased competition in terms of nearby deals, even if the focal merchant does not engage in a deal offer.

4 - Evaluating the Link between Type of Segmentation Base and Actual Consumer Brand Choice Behavior

Stefan Scheuffelen, RWTH Aachen University, Kackertstr. 7, Aachen, 52072, Germany, scheuffelen@time.rwth-aachen.de, Jan Kemper, Malte Brettel

Understanding which brands consumers choose to buy is extremely important for retail companies. Furthermore, understanding this behavior for different customer segments is crucial to be able to serve a varied customer base. Consumer segmentation is the fundamental tool for this, but so far segmentations have had mixed results in predicting consumer brand choice behavior. Choosing the appropriate segmentation base is a key prerequisite for an insightful segmentation. Following several calls for evaluation of segmentation bases towards predictive validity, we examine which base produces segments that have a more differentiated brand choice behavior and thus result in higher predictive validity. We draw from social psychology and apply the Value-Attitude-Behavior Hierarchy to segmentation research, hypothesizing that segmentation based on attitudes will produce more differentiated segment behavior than segmentation based on personal values. To do so, we work on a dataset of over 35 million customer transactions from a leading European online apparel retailer of which so far approximately 14,500 real transactions for 3,219 customers were selected to test our hypotheses. Using Exploratory and Confirmatory Factor Analysis, two-step Cluster Analysis with Ward's method and k-means clustering we calculate three separate segmentations based on personal values, fashion attitudes and online shopping attitudes and link them to real brand choice behavior using ANOVA and Duncan's test. We contribute by advancing our knowledge on the connection between segmentation bases and predictive validity towards consumer brand choice behavior using data directly obtained from real consumer behavior.

TA04

04-Third Floor, GB 4

New Product I

Contributed Session

Chair: Martin Meissner, Associate Professor, University of Southern Denmark, Niels Bohs Vej 9-10, Esbjerg, Denmark, meissner@sam.sdu.dk

1 - The Role of Information Presentation in Monetization of Intellectual Property

Joseph Derby, Assistant Professor, Marketing, James Madison University, College of Business, MSC 0205, Harrisonburg, VA, 22807, United States of America, derbyjm@jmu.edu, Mayukh Dass, Yi Qian, Josh Lerner

With the increasing importance of Intellectual Property (IP) as one of the fundamental drivers of overall success of a firm, it is vital to understand how IP are valued and sold in the market. Given that various marketing aspects of the IP transaction process may affect their final price, in this paper we predominantly focus on the effects of information presentation during the IP monetization process and attempt to answer two research questions: (1) does better information presentation increase IP value? And (2) does better information presentation moderate the effects of value drivers for IP? To answer these questions, we considered transaction data of 1,743 intellectual properties sold by an IP auction house over a period of three year in a natural field experiment setup. Grounded in auction and behavior decision theories, our analysis explores the varying information presentation on IP auction outcomes across a variety of industries. Prior academic research on the role and importance of IP has primarily focused on competition, strategy, legal and accounting literatures, with research mainly in the areas of managing and valuing IP, and their importance to business strategy. Our study is an initial attempt to understand the role of marketing, in terms of information presentation, on IP value.

2 - Optimal Introductory Product Design and Upgrade Strategies

Mahmood Pedram, Assistant Professor of Marketing, Grenoble School of Management, 12 rue Pierre Semard, Grenoble, 38000, France, mpedram@aud.edu, Subramanian Balachander

In this analysis, we show that a seller may strategically withhold product features from earlier generations of the product in order to induce subsequent replacement purchases, thus implementing sequentially increasing quality as a planned obsolescence strategy. A planned obsolescence strategy may also offer indirect product discrimination when there are low-valuation buyers in a secondary market. Interestingly, the planned obsolescence strategy may be superior to direct product discrimination with secondary market buyers. Finally, we show how sequentially increasing quality may result from both planned obsolescence and direct product discrimination.

3 - Is Consumer Empowerment Always Better? An Investigation of High- and Low- Status Technology Brands

Martin Meissner, Associate Professor, University of Southern Denmark, Niels Bohs Vej 9-10, Esbjerg, Denmark, meissner@sam.sdu.dk, Michelle Haurand, Christian Stummer

Labeling product innovations as being designed and selected by consumers has been shown to have positive effects on non-participating consumers' self-stated behavioral intentions (to prefer, recommend and buy these products). Recent findings, however, raise the question to which product categories these benefits are generalizable. Negative outcomes of consumer-design might especially hold for products which are bought in order to signal status. Previous research has demonstrated that for items with high status relevance, like expensive fashion, consumer-design backfires in terms of decreasing consumers' self-stated behavioral intentions. In our empirical study, we investigate two popular technology brands, Nokia and Apple, which have a different potential for signaling status. We test the benefits of labeling their products as consumer-designed for three different empowerment strategies (empowerment to select, empowerment to create and full empowerment). The empirical results show that, firstly, labeling products as selected by users has a total positive effect on consumers' self-stated behavioral intentions for Nokia, but not for Apple. The empowerment to create and full empowerment strategies did neither have positive nor negative total effects for either brand. Secondly, the results of a mediation analysis reveal that the effect on behavioral intention is mediated by perceived innovation ability. Thirdly, we find a competitive mediation effect for all investigated empowerment strategies, i.e. a negative direct effect of consumer empowerment on behavioral intentions. These first empirical results point to the possible existence of a second mediator which should be pursued in future research.

4 - Antecedents and Consequences of Customer Involvement across Different New Product Development Phases

Bradley Allen, PhD Student, University of Texas at San Antonio, 13710 York Woods, San Antonio, TX, 78249, United States of America, bradley.allen@utsa.edu, Suman Basuroy, Deepa Chandrasekaran

A growing body of literature indicates that the process of jointly creating new products with customers, often coined as crowdsourcing, co-creation, or open innovation, can be a powerful strategic tool for marketers. While the extant research touts the benefits of crowdsourcing, little is known about how effective crowdsourcing is across the various stages of the new product development (NPD) process. In this paper, the authors address two important, yet under-studied issues: One, firms may, and do choose whether or not to involve customers in one or more phases of NPD. Second, there is a need to understand in which stage(s) of NPD is involving customers most beneficial to the firm. Given these research gaps, the key questions examined in this study are: One, what characteristics of the new product concept impact managerial decisions regarding which NPD phase(s) to crowdsource? Second, when in the NPD process is it most valuable to involve consumers? We test these questions empirically using data from a popular site selling user-generated products, where we observe both the different NPD phases in which the firm decided to crowdsource as well as various product outcomes. We augment the dataset with product ratings obtained from consumer surveys created by the authors. Results from the empirical analysis isolate distinct product concept-related factors that influence the decision to crowdsource in the different NPD phases. The results also demonstrate the relative value of such crowd sourcing phases on several indicators of product success in the actual marketplace.

TA05

05-Third Floor, GB 7

Working Paper I

Contributed Session

Chair: Neha Purushottam, Associate Professor, University of South Africa, Cnr Janadel and Alexandra Avenues, Midrand, Johannesburg, 1686, South Africa, purusn@unisa.ac.za

1 - Sustainability Marketing Curriculum: Developing Countries Perspective

Neha Purushottam, Associate Professor, University of South Africa, Cnr. Janadel and Alexandra Avenues, Midrand, Johannesburg, 1686, South Africa, purusn@unisa.ac.za

Business schools are attempting to integrate sustainability in their curriculum. In this paper, the sustainable marketing curriculum is examined from the perspective of developing country context. This paper is an initial concept paper which is based on the review of related literature. It explores various attempts by marketing educators to incorporate sustainability issues in marketing curriculum. It also establishes the importance of integrating contextual sustainability concerns in the curriculum to make it relevant. It discusses the ways in which current frameworks of sustainability marketing curriculum can be adapted in the context of developing countries.

2 - Information Sharing, Advice Provision or Delegation: What Leads to Higher Trust?

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Ozalp Ozer

Retailers often solicit assistance from manufacturers in the form of information report about market conditions or advice about retail decisions, or even by requesting manufacturers to make decisions on their behalf. Often such assistance is not governed by formal contracts, causing concerns about manufacturer opportunism. We investigate whether and how the form of manufacturer assistance (information sharing, advice provision or delegation) affects retailer trust and coordination of channel decisions. Standard theory predicts equivalent outcomes complete lack of trust and coordination under all three arrangements. However, in laboratory experiments, we find that some arrangements lead to higher trust and coordination than others. We propose that the three forms of manufacturer assistance produce different outcomes due to the differences in manufacturer's decision domain (information vs. action domain) and decision sequence (whether retailer or manufacturer decides first). We also find that, despite the presence of manufacturer opportunism, retailers that are trusting make higher profits than retailers lacking in trust. In contrast, trustworthy manufacturers do not fare well. Our results offer some insights into how to effectively manage distribution channels and why some channel arrangements lead to more successful outcomes than others.

TA07

07-Third Floor, GB 9

Game Theory I

Contributed Session

Chair: Sumitro Banerjee, Associate Professor of Marketing, ESMT, Schlossplatz 1, Berlin, Ch, 10178, Germany, sumitro.banerjee@esmt.org

1 - The Legend of Patent Trolls

Sumitro Banerjee, Associate Professor of Marketing, ESMT,
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sumitro.banerjee@esmt.org, David Soberman

We examine the interaction between two firms: the first is a patent troll that owns a set of patents. The second is a technology seller that has introduced a new product to the market. Sometimes a patent owned by the troll becomes valuable because the technology seller introduces a product that ostensibly infringes on the patent. Both firms play a probabilistic game in which the patent troll hopes that one of its patents becomes valuable and the technology seller hopes that its products are either covered by its own patents (or that they do not infringe on patents owned by others). We focus on the interesting case where the seller introduces a product that potentially infringes on a patent held by the troll. We examine the decisions of the firms to either settle the conflict amicably through licensing or contentiously through litigation. Our model builds on two important attributes of the market. The first is that the patent troll needs to make a decision about how aggressively to pursue the technology seller in court if the dispute cannot be settled amicably. The second is that the technology seller is active in the market and thus has firsthand knowledge regarding the performance and value of the technology. To examine this issue, we consider the expected outcome when there is no asymmetric information i.e. both firms adopt strategies based on the expected likelihood of the technology's value. Given positive costs for litigation and uncertain court decisions, we show that both the patent troll and the marketing firm choose litigation when the value of the innovation is high. When the value of patent is low, on the other hand, both firms settle the dispute amicably. We then we examine how the strategies of the firms are affected when only the technology seller acquires an informative signal about the technology's value. Here, we show that the technology seller may adopt market postures (always litigate or always license) as a form of signal jamming. The primary risk for the technology seller is that her decision to settle amicably or fight becomes an informative signal about the value of the patent to the troll.

2 - Estimating the Heterogeneity of Fairness Preferences on Bargaining Behavior

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Other-regard considerations in bargaining behavior have been well captured by social utility models such as the Equity-Reciprocity-Competition (ERC) model (Bolton and Ockenfels 2000) and the Fehr-Schmidt model (Fehr and Schmidt 1999). De Bruyn and Bolton (2008) econometrically estimate the fairness preferences in bargaining games and show their stability across experiments, subject populations and game parameters. However, most research has overlooked the question of heterogeneity of such considerations. This research aims at filling that gap. We revisit the Roth et al. (1991) dataset, and fit a Bayesian version of the equity-reciprocity-competition (ERC) model, where rationality, experience and fairness parameters are allowed to vary at the individual level. We show that social preferences vary greatly across individuals, and are stable enough to improve game predictions significantly.

3 - Willpower Depletion and Price Promotion Timing

Richard Schaefer, University of Texas at Austin, Marketing
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Raghunath Rao, Vijay Mahajan

Research in consumer behavior conceptualizes willpower as a finite resource, depleted as the decision maker exercises self-control and replenished as he rests. Accordingly, we propose a consumer utility model in which the decision maker possesses a finite budget of willpower: each consumer, where he faces repeated temptation, must strategically decide when to succumb to temptation and when to exert self-control. Using this framework, we investigate the strategic implications of willpower depletion. We examine how a firm times its price promotions when marketing a tempting product, determining the conditions in which the firm holds sales during periods of depleted (vs. replenished) consumer willpower.

TA08

08-Third Floor, GB 10

Customer Relationship Management I

Contributed Session

Chair: Jihwan Moon, Doctoral Student, University of Florida,
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1 - CSV: Creating and Sharing a Bigger Value Pie

HyeonMi Yoo, PhD Candidate, Korea University Business School,
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Value creation without value capturing is meaningless. Considering that the partner's willing cooperation is crucial to create and share a bigger value pie, the issue 'How can we derive better outcome with the same amount of investment' should be very important. Adopting and operating value sharing system, as a kind of relationship investment, an investment company can expect at least two different effects. "detering something negative" promoting something positive. In this paper we investigated three below. 1) Does value sharing system really create better value for the investing firm? 2) If so, how can we maximize the effectiveness of the investment in relationships? What causes these similar (in terms of positive effect side on relationship sustaining) but distinct different (the differentiated effect with the same amount of input) results? 3) Do effect of the symbiotic collaboration efforts on deterring effect outcomes versus promoting effect outcomes vary across context? On the basis of an empirical study of 278 benefit firms, the authors show that the implications of value sharing system for better outcome are complex and differ by the level of trust and explain that with a dual process model. When the level of trust is average or higher, both economic and social value sharing system acts on positive outcome. But when there is no trust between two, certain form of investment doesn't work and affects outcome through a different path. The authors discuss important managerial and academic implications of these findings.

2 - How Consumer Expectations on Economy Impact Customer Satisfaction

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Customer satisfaction is of paramount importance to marketing strategies, yet it is difficult to predict customer satisfaction because firms can hardly control the quality expectations of their customers that are influenced by contextual factors. We find that consumer expectations on the economy, which reflect economic conditions, have a significant impact on customer satisfaction. Specifically, customer satisfaction decreases when economic expectation increases because the promising economic outlook leads to higher quality expectation and disconfirmation with quality perception. However, the disconfirmation effect diminishes as the economic expectation shows a time-trend because customers adapt to the trend. Moreover, we find that the disconfirmation and adaptation effect is likely to exist in a market for infrequently-purchased goods or service goods. Using a Markov-switching model, more than 50% of the variation in the four-quarters-ahead aggregate customer satisfaction is explained.

3 - How to Create Customers Delight and Does it Really Drive

Loyalty? An Examination of Customer Delight in a B2B Context

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Chi Kin Bennett Yim, Kimmy Wa Chan

Managers increasingly find that customer satisfaction does not universally translate into loyalty. Rather, practitioners and researchers alike are now arguing that firms should go beyond customer satisfaction to achieve customer delight. However, the underlying process leading to customer delight and whether customer delight can indeed perform better than customer satisfaction in driving customer loyalty are unclear. This study examines the drivers and effects of customer delight through a field study of a loyalty program for B2B customers implemented by a global commercial bank in Hong Kong. Results show that perceived surprise and exclusivity drive customer delight through an increase of self-enhancement. Unpredictability of the loyalty program further moderates the

effects of surprise and exclusivity on customer delight differently. Specifically, the effect of surprise (exclusivity) is strengthened (weakened) by unpredictability. Moreover, customer delight is found to have an enduring positive and stronger effect than customer satisfaction on customer loyalty (measured by customers' post-program [6 months after the completion of the program] account balance increment). This paper contributes to the customer delight and loyalty literature by making an initial attempt to examine the effect of customer delight on customer loyalty in a B2B context with longer-term behavioral loyalty data collected from a real world loyalty program. Our research also reconciles the inconsistent findings regarding the determinants of customer delight by identifying its underlying process with boundary condition.

■ TA09

09-Third Floor, Dover AB

Analyzing Advertising Content

Cluster: Special Session

Invited Session

Chair: Elisabeth Honka, University of Texas at Dallas, Naveen Jindal School of Management, Dallas, TX, United States of America, elisabeth.honka@utdallas.edu

1 - Native Advertising: Evidence from Mobile Ad Experiments

Harikesh Nair, Stanford University, Stanford, CA, United States of America, harikesh.nair@stanford.edu, Navdeep Sahni

Native advertising is a strategy in which advertising is merged with the media content. Advancements in new technology provide the flexibility of making the advertising "native" in a variety of formats including mobile, search, display as well as other content. This ability has led to questions about how consumers respond to the distinction between ads and content in the short and the long term, leading to issues about whether consumers are hurt from "nativity" and concerns about separation of sponsored versus un-sponsored content in media. We address these questions by conducting a large-scale randomized control trial implemented on a restaurant search and review platform's mobile app. The experiment design allows us to identify consumers' response to nativity separately from other brand, content, prominence and position related effects and to explore whether native ad exposure affects subsequent search and choices. We are also able to assess the heterogeneity in these affects across consumers and to examine the value of "native" strategies from both the search platform's and the advertisers' perspectives.

2 - Advertising Tailoring: The Persuasive Effect of Ad Content

Navdeep Sahni, Assistant Professor, Stanford University, 655 Knight Way, Stanford, CA, United States of America, navdeep.sahni@stanford.edu, Christian Wheeler, Pradeep Chintagunta

A significant portion of the advertising content is not informative about the advertised product. We study the impact of such non-informative components of advertising on consumer decisions. Using large-scale randomized field experiments with email advertising we find that tailoring the ad message, matching its peripheral content with the characteristics of the targeted population, can significantly benefit the advertiser. Analysis shows that the role of such content is beyond just drawing attention towards the ad, it can enhance the processing of the message which has implications for the firms. The analysis also shows that advertisers can incorporate the information they have about their target population to improve the effectiveness of advertising.

3 - Television Advertising Avoidance

Kenneth C. Wilbur, University of California-San Diego, Rady School of Management, La Jolla, CA, 92093, United States of America, kennethcwilbur@gmail.com

Television networks make money by selling eyeballs to advertisers. However, audiences choose whether to watch commercials. If advertisement avoidance varies across ads, then networks' optimal pricing and selection of commercials depend on viewers' reactions. This paper investigates the extent and drivers of television advertising avoidance in a novel, large-scale dataset. We propose a new measure of commercial avoidance called the 'Passive/Active Zap' (PAZ), which occurs when a set-top box has been tuned continuously to one channel for at least five minutes and then switches during a commercial. 25% of all eligible commercial breaks are interrupted by a PAZ. A proportional hazards model estimates how advertising avoidance responds to ad characteristics. Among many findings, the results show that movie ads are avoided less than average while auto insurance, website and women's clothing retailer ads are avoided more often. Advertisements that air after 10 P.M. are nearly twice as likely to be avoided as those that air before 9 P.M.

■ TA10

10-Third Floor, Dover C

Retailing I

Contributed Session

Chair: Manish Gangwar, Indian School of Business, Gachibowli, Hyderabad, India, manish_gangwar@isb.edu

1 - Developmental Paths of Retail Formats in Japan

Tomokazu Kubo, Associate Professor, Chuo University, Japan, tomokazu@tamacc.chuo-u.ac.jp

The purpose of this research is to examine the nature of retail formats innovation in Japan. Past literature has raised two issues: (1) positions which new retail formats take at their entry and (2) developmental paths which retail formats take over time. Wheel of retailing theory, which is a classical theory of retail formats innovation, suggested that innovators entered as a discounter and they increased their service quality and price so that the movement induced the entry of the other new discounter (McNair, 1958).

2 - Identifying Cross Category Influences through Store Category Loyalty

Manish Gangwar, Indian School of Business, Gachibowli, Hyderabad, India, manish_gangwar@isb.edu, Prakash Satyavageswaran

Extant literature largely views store loyalty as being a consumer trait towards a particular store for her overall grocery shopping needs. This perspective ignores the possibility of consumer being loyal to different stores for different categories. We take a more nuanced approach to understand the overall store loyalty; that is store loyalty at the category level to identify drivers of store choice. We leverage a recently available IRI Marketing Science dataset that has both panel level and store level information across 31 categories from Pittsfield area to answer two questions – a) whether store category level loyalty exists and does it explain store choice decisions better and b) which categories drive the store choice decision? Past research has shown that apart from marketing variables such as price, promotions, features and assortment, consumer past purchase behavior (habit persistence and inertia) strongly influence the brand choice decisions. We use the consumer past purchase behavior to resolve one of the challenges, curse of dimensionality, in studying the cross-category influence. We found asymmetric effect of category level store loyalty on store category choices. In nutshell, this paper not only ascertains the existence of store loyalty as a category level consumer trait but also provides a very parsimonious way to estimate the cross-category influence.

3 - Understanding the Impact of Consumer-Retailer Relationship and Information States for Store Display

Yoonju Han, Indiana University, 1309 E. 10th Street, Hodge Hall 2100, Bloomington, IN, 47405, United States of America, yjhan@indiana.edu, Shibo Li, Sandeep R. Chandukala

Past research on consumer in-store shopping behavior always assumes that consumers have full information about marketing stimuli in the store (i.e., seeing all displays), which may not be valid in many retail settings. In this research, we focus on in-store displays and propose that consumers' category purchase incidence depends on the consumer-retailer relationship and the consumer's information states (e.g., seeing displays and paying attention, seeing without paying attention, and not seeing displays) simultaneously. We build a hidden Markov model to capture the relationship states and extend it to account for the existence of different information states in a hierarchical Bayesian framework. We apply the model to account for six types of displays in different locations within the store (e.g. store front, store rear and secondary locations). We model the dynamic changes to the relationship state to be impacted by store-level marketing activities and consumers' past shopping behavior. While, the information states at each shopping trip are determined by category-level marketing activities, consumers' past shopping behavior and location of the displays. Our proposed framework accounts for endogeneity and individual heterogeneity and is estimated using a scanner panel data from a large U.S. grocery chain. Results demonstrate the existence of three relationship states (weak, medium, and strong relationship) and show that marketing mix variables (i.e., prices and displays) in different relationship and information states have differential impact on consumers' purchase incidence behavior. Managerial implications about managing the dynamics of the consumer-retailer relationship, information states and optimization of various displays from the retailer's perspective are explored.

4 - The Effect of Information on Pre-Purchase Risk Reduction Tools on Perceptions and Choices in Competition

Lutz Hildebrandt, Professor, Humboldt-Universität zu Berlin, Institut für Marketing, Spandauer Str. 1, Berlin, D-10178, Germany, hildebr@cms.hu-berlin.de, Amir Heiman

This study analyzes the effect of comparative information on intensity of two effective risk reduction marketing tools, money-back guarantees and pricing strategies on consumers' perceptions and choice processes. We depart from previous studies by considering the effect of asymmetric return (price) policies on consumers' choices. Based on experimental surveys, we show that information that compares risk reduction tools affects both consumers' perceptions and their choice processes. Exposure to comparative retail return information increased the perceptual relationship between risk and its consequences. Our findings suggest that the high-end incumbent is better off not responding, while low-end producers need to reduce their prices.

■ TA11

11-Third Floor, Atlantic

Bayesian

Contributed Session

Chair: Norris Bruce, Associate Professor, University of Texas at Dallas, 800 West Campbell Road, Richardson, United States of America, norris.bruce@utdallas.edu

1 - Model-Based Project Discovery

Bruno Jacobs, Erasmus School of Economics, P.O. Box 1738, Rotterdam, 3000 DR, Netherlands, jacobs@ese.eur.nl, Bas Donkers, Dennis Fok

Product purchases by customers are often motivated by an underlying theme or project. For example, the customer may be buying products needed for a bathroom renovation. We propose a model-based approach that only uses observed purchases to identify the latent projects that exist in a product assortment. The model also allows one to infer the project a specific customer is involved in. Furthermore, the model allows a temporal dependence in the projects of individual customers. The customer will at a certain point in time be done with the current project and may move on to another one. Knowledge of the products that together comprise a project and the currently active project(s) of individual customers is very valuable to retailers. For example, this allows for a logical grouping of products in the store or customized project-specific product promotions. We apply our method to a unique data set from a Fortune 500 specialty retailer.

2 - Distributed Markov Chain Monte Carlo for Hierarchical Models

Federico (Rico) Bumbaca, PhD Student, UC Irvine, SB1 3300, The Paul Merage School of Business, Irvine, CA, 92697, United States of America, fbumbaca@uci.edu, Sanjog Misra, Peter Rossi

This presentation proposes a distributed Markov Chain Monte Carlo (MCMC) method for estimating hierarchical models when the number of units can be very large (N 100,000; 000). Existing parallel MCMC methods asymptotically approach the single machine performance as N becomes very large. However, when applied to data having a nested structure, they combine draws for the hyperparameters even though they may not be of primary interest. The cost of this approach is greater sensitivity to finite sample bias and heavier interprocess communication, resulting in performance degradation with the number of machines and subsampling, and decreasing returns to scale with the number of machines. This presentation describes an MCMC method that takes advantage of the data's hierarchical structure, resulting in an algorithm that is more robust to finite sample bias, has leaner communication requirements, and thus achieves stable single machine performance (even at relatively small values of N) with increasing machines and subsampling, while maintaining linear scalability in execution time. That is, an S -fold increase in the number of machines results in an equal, or greater, decrease in execution time. The algorithm runs on a single multicore workstation without the need for a complex parallel computing environment with a distributed file system. In the first stage, the algorithm estimates each machine's posterior predictive density. In the second stage, it combines the posterior densities and draws from the combined posterior with an independent Metropolis-Hastings sampler. A mixed logit model is estimated, with normal and Dirichlet process priors, and compared to existing methods using simulated data. Subsampling is used to demonstrate the performance and execution-time tradeoff.

3 - Nonparametric Bayesian Dynamic Modeling: An Application to Facial Emotions in Digital Video

Norris Bruce, Associate Professor, University of Texas at Dallas, 800 West Campbell Road, Richardson, TX, United States of America, norris.bruce@utdallas.edu

Bayesian methods in marketing have largely focused on parametric models, where researchers assume model components arise from known parametric forms. However, the growth of modern, more robust nonparametric methods has brought with it an unavoidable criticism: that parametric Bayesian inference requires arbitrary distributional assumptions, which could lead to poor inference. The purpose of this study thus is to describe how one may apply Bayesian nonparametric methods to a widely used model in marketing, the linear dynamic model (DLM). The study offers a nonparametric extension to the DLM in which the pdf of model errors are unknown, and modeled as Dirichlet process mixtures, a flexible Bayesian non-parametric model used here to perform density estimation. The study describes an efficient algorithm for estimation, the Rao-Blackwellized particle filter (RBPF), a Sequential Monte Carlo method; compares the proposed model to alternatives, including gaussian mixture DLMs; and apply it to study the effects of multiple facial emotions and low-level image features on visual attention.

■ TA12

12-Third Floor, Bristol

Marketing Finance I

Contributed Session

Chair: Anna S. Cui, University of Illinois at Chicago, 601 S Morgan Street, University Hall 2223, Chicago, IL, 60614, United States of America, ascui@uic.edu

1 - The Effect of Marketer's Value at Risk (VAR) on Customer's Product Choice and Welfare

Aharon Hibshoosh, Professor, San Jose State University & Lincoln University CA, Department of Marketing-DS COB, 1 Washington Square, San Jose, CA, 95192, United States of America, rhibshoosh@gmail.com, Mehmet Benturk

In many product categories, the customer's choice is restrained by a budget depending on credit extension and product's resale value. Specifically, the marketer or an associate lender extending the credit requires that the product sold, though possibly depleted, depreciated or reduced in value through principle's amortization would serve as collateral. To reduce its risk, the marketer/lender often limits the share of the purchase price or sales amount it is ready to finance against a down payment, and has the right to seize the product if the customer fails to make loan's installment payments. Both marketer and customer considerations of credit usage and thus of product purchasing depends on resale marketability and value and the ability to make the down payments. A customer may have an inclination to stop payments and product possession if its resale value drops too sharply. When the marketer limits its lending share and determines it by a prescribed maximal probability for insolvency, this common practice is referred to as marketing based on Value at Risk (VAR). The practice is prevalent in B2B marketing as is evident by the common contracts between manufacturers and dealers in the durable goods industries. Consumers often face this context when purchasing durable goods such as houses, cars, and financial securities. Following Becker's household production approach and Markowitz's Mean Variance approach we assume a customer whose utility depends on the values derived from the purchase of several products subject to the VAR's practice. We model, analyze and simulate, parametrically and non-parametrically, how various VAR parameters affect the estimation of consumer credit and in turn product choice and consumer welfare under various plans.

2 - Market-Based Assets and Financial Analyst Recommendation

Hanieh Sardashti, PhD Student, Michigan State University, 632 Bogue Street, Rm. N456, East Lansing, MI, 48824, United States of America, sardashti@broad.msu.edu, Roger Calantone

This study focuses on financial implications of customer evaluative measures of brand attributes (brand asset metrics), electronic word of mouth and customer satisfaction. We propose four models to empirically answer two research questions. First, we question whether brand asset metrics, online word of mouth, and/or customer satisfaction influence security analyst recommendation, coverage and stock price. Second, we question whether brand asset metrics and electronic word of mouth can influence customer satisfaction (ACSI). Data was obtained on 185 publicly traded companies in multiple industries using multiple sources from 2008Q1 to 2010Q2. To account for endogeneity, multiple explanations for a better performing stock, we performed 3SLS analysis. To further investigate existence of nonlinear relationships, we used response surface regression (RSREG). We empirically show the relevance of brand value asset metrics to financial analyst recommendations. Our results demonstrate the importance of change in consumer preferences reflected in brand assets variables, customer satisfaction, and electronic word of mouth and impact of such changes on financial performance of firms. Finally, our results emphasizes on importance of consumers' online conversations and impact of electronic word of mouth on financial outcomes. For example, the non-linear relationship of electronic word of mouth and financial outcome is very interesting; moreover, the interaction between variables measuring consumers' online conversations and brand image, loyalty and other attributes calls for further research on the topic.

3 - Myopic Marketing and Innovation Management: The Relevance of Financial Leverage

Daniel Willmann, RWTH Aachen University, Kackertstrasse 7, Aachen, 52072, Germany, willmann@time.rwth-aachen.de, Malte Brettel

Faced with earnings pressure from stakeholders, a substantial fraction of managers indicate a high willingness to manage short-term earnings at the expense of long-term marketing and research and development (R&D) investments. As the adverse long-term financial consequences of these myopic practices tend to outweigh their short-term benefits, it remains an academic challenge to identify circumstances under which managers are tempted and have the ability to act myopically. Although prior studies have examined myopic management around distinct corporate financing events, no study has – to the best of our knowledge – so far analyzed the interactions between myopia and financial leverage with a particular focus on marketing and R&D. Studying these interactions is relevant as the indebtedness of entities and the socio-economic consequences have recently rekindled the academic debate on the bright and dark sides of financial leverage. Based on 61,805 US firm-years in the period from

1971 to 2013, we examine the interactions between myopic management and financial leverage and contribute to the marketing-finance interface literature in two ways. First, we find strong evidence for a right-skewed (inverted U-shaped) relationship between the prevalence of myopic marketing and innovation management and industry-standardized financial leverage ratios. This finding suggests that underleveraged firms tend to exploit their enhanced managerial discretion more often in myopic ways. Second, we analyze abnormal stock returns in a multi-year setting and find underleveraged myopic firms to outperform their peers in the short-term, but to significantly underperform them in the long-term. We present recommendations for corporate governance systems, diminishing incentives for myopic behavior.

4 - Stock Market Returns to Innovation Events: Varying Effects at Different Stages of New Product Development

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Promotional bundling, the practice of granting a discount to consumers who purchase a specific combination of units, is one of the most prevalent promotional tactics proven to be effective in boosting sales volumes. The current study compares two common bundling formats: A) buy two items, get a discount on both items; and B) buy two items, get a discount on the cheaper item; and investigates the effect of promotion framing on consumer spending. Intuitively, for any given discount, promotion A offers greater savings, and should therefore induce equal or higher willingness to spend. Yet, we demonstrate that holding the spending on the first item fixed, promotion A actually reduces the amount people are willing to spend on the second item. We offer a 'marginal return on investment' account to explain the observed effect. We propose that in the context of promotional bundling, consumers' decision on how much to spend on the second item is driven by the desire to maximize the marginal savings on each dollar spent, rather than by the overall savings considerations. Because promotion A brings a dramatic increase in savings as the spending on the second item goes from \$0 to \$1, people are motivated to spend relatively little on the second item to maintain the high marginal return on investment. In contrast, because promotion B has a constant marginal return on investment, shoppers are no longer motivated to keep their spending to a minimum, and, as a result, spend more. Four experiments using different discount magnitudes, product prices, and response scales, provide evidence in support of the main effect and the proposed 'marginal return on investment' mechanism.

■ TA13

13- Fourth Floor, Harborside A

Digital Marketing I

Contributed Session

Chair: Huma Amir, Assistant Professor, Institute of Business Administration, University Enclave, University Road, Gulshan-e-Iqbal, Karachi, Pakistan, huma.amir@hotmail.co.uk

1 - User-Generated and Firm-Generated Content's Impact on Low- versus High-Involvement Products in SMM

Huma Amir, Assistant Professor, Institute of Business Administration, University Enclave, University Road, Gulshan-e-Iqbal, Karachi, Pakistan, huma.amir@hotmail.co.uk

Research on social media marketing is far from mature and there remain many mysteries that need to be uncovered. This research looks at the impact of social media marketing from two aspects: user-generated content (UGC) and firm-generated content (FGC). Specifically, the study aims to study the effects of UGC and FGC of Facebook brand pages on attitudes towards the brands and consumer purchase intentions. Two categories of products were taken into consideration: low-involvement products (food category) and high-involvement products (technology-related products). In the exploratory phase, two focus groups were conducted based on different age groups. The findings were incorporated into a survey instrument. An initial survey of 130 university students revealed that there was positive correlation between attitudes towards high involvement products and both UGC and FGC. FGC showed a higher correlation (Spearman's rho = 0.4) with attitude towards a brand as compared to UGC (Spearman's rho = 0.174). FGC had a positive impact on attitudes towards high-involvement brands (with adjusted R² = 0.168). Significant positive impact of UGC on attitude towards the brand could not be established (adjusted R² = 0.052). A positive linear relationship between consumer attitudes built by social media marketing and purchase intentions for high-involvement products could not be established (adjusted R² = 0.109). These initial findings did not show positive correlations between attitudes towards low involvement products and either UGC or FGC. Nor were we able to establish a relationship between attitudes built by social media marketing and purchase intentions for low-involvement products. The results are incomplete and will be subjected to further analysis.

2 - Is Co-Creation Service Recovery Effective: Based on the Perspective of Initiation?

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The purpose of this study is to verify the validity of the effect of co-creation service recovery under the network environment, and explore the impact of initiation on post-recovery satisfaction. By experiments, we proved that the co-creation service recovery reach higher satisfaction. Compared with consumers

initiate co-recovery, company initiate co-recovery receive higher post-recovery satisfaction, and gender play a significant moderating role in this effect. Finally, this paper gives some suggestions for online companies to improve customer satisfaction.

3 - Exploring the Relationship between Social Media and Loyalty Reward Programs

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The impact of social media on consumer purchase behaviour is receiving increasing attention in the marketing community. In particular, the impact of social media on traditional Customer Relationship Management (CRM) processes is receiving strong increasing interest amongst marketing practitioners and academics. In this study we focus on the impact of social media on the purchase expenditures of members of a company's loyalty rewards program. Our research aims to contribute to a better understanding of the emerging literature on Social Customer Relationship Management (SCRM). The study presents a conceptual framework for analysing the impact of social media posts on the sales of an Australian organic food retailer. Our framework also explores the moderating role of loyalty program membership on the relationship between social media posts and sales. Our results suggest that the dissemination of information communicating the motivations and barriers towards organic food consumption via social media posts positively impacts organic food sales. We find that this impact is greater for the purchase expenditures of long-term members of the company's loyalty rewards program.

4 - Social Media Framework for Businesses: Exploratory Study for Top US Retailers

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This paper reviews the importance of social media for businesses and the methods used to assess their effectiveness. In addition, the paper offers a review of scholar papers and practitioner reports investigating the challenges of social media, their use across industries, their objectives and more specifically their impact on sales. The paper suggests also a structural framework to facilitate future social media analyses by classifying social media strategies, types, processes, business objectives and the factors affecting the framework. Finally, as an exploratory study, the paper attempts to investigate the relationship of social media metrics and sales of top retailers in US and how that relationship depends on retailers' product offerings. The empirical study examines specifically the social media usage behavior of top retailers and the role of engagement in social media.

■ TA14

14- Fourth Floor, Harborside B

Internet I

Contributed Session

Chair: Zainab Jamal, Research Scientist, HP, 1140 Enterprise Way, Palo Alto, CA, 94089, United States of America, zainab.jamal@hp.com

1 - Analyzing Competition Structure by using Google Search Query Data

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Consumers search for information about brands and products before making a purchase decision in case of high involvement products. A typical information search behavior is using 'search engine service' such as Google, Baidu, Naver and Yahoo and their behavior can be easily monitored by using 'search query' data. As search engines provide quasi real-time search query data, researchers are now able to collect data and utilize them in research. In a variety of academic fields such as epidemics, economics, finance, technology, and more, many researches regarding using search query data have already been studied. However, despite of the fact of the increasing importance of internet search, there are a lack of studies about this topic in the marketing area. Moreover, although there are several theoretical studies about consumer information search, there are only a few empirical studies using secondary data. We collect search query time series data of major automobile brands in the U.S. market at the state level from 'Google Trends'. In this study, firstly, we compare search queries of several brands in consumers' consideration set and try to figure out their competition structure by using factor VAR models. Secondly, based on the results from the first step, we analyze the dynamics of conversion rate from search to sales to provide a decision rule for evaluating the performance of marketing and sales function.

2 - How do Review Environment Dynamics Influence Product Reviews?

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Consumers who use review websites to inform their consumption decisions generally understand that two products with the same rating may vary in level of quality. Is this intuition correct? Why does this happen? Do reviews on certain type of products deserve a higher level of trust? This research presents an empirical investigation of the role review environment plays on influencing product reviews. Building on previous literature, we show that three main dynamic trends create noise around the true evaluation of product quality: a sequential trend, an age trend, and a macro environmental trend. We argue that these dynamic trends interact with product characteristics, producing a heterogeneous effect on the ratings received by products. We focus on the restaurant market, an industry where quality perceptions are complex and determined by multiple factors. Also, quality evolution of restaurants can have large variations overtime and across competitors. We use online reviews and ratings from Yelp.com, the review website of reference for restaurants, on all the establishments in Boston from 2004 to 2012. This setting allows for examining the interaction between the evolution of the dynamic trends and restaurant characteristics (chain affiliation, price range, location, type of cuisine, etc.).

3 - Prediction and Analysis of Digital Customer Purchase Propensity

Zainab Jamal, Research Scientist, HP, 1140 Enterprise Way, Palo Alto, CA, 94089, United States of America, zainab.jamal@hp.com

Enterprises have clickstream data that tracks their customers' visits to digital store fronts and touch points. The data typically tracks the page visited, the date and time of the page visit, the pages that comprise a session and other attributes about the customer and the page. This data is big spanning billions of pages across millions of visitors, is generally sparse with low purchase conversion rates and messy. A critical need for the enterprise is to understand its customer base and improve its return on investment (ROI) on marketing and communications investments worth millions of dollars. The ability to mine in-house clickstream data for actionable insights is an important piece of any application that addresses this need. Our model tackles this need and develops an analytical solution to mine visitor clickstream data to predict visitor purchase propensity. We use a discrete choice model along with a page classification algorithm to predict likelihood of purchase during a visit session. The model allows us to identify and quantify the effect of key attributes like types of pages visited, number of pages visited and total time spent during a visit session. The model and the page classification algorithm perform well. The page classification algorithm has True Positive Rate (TPR) on average of about 90% and precision rate of 95%. The model had a TPR of 95% and a precision rate of 26%. We also find interesting insights on factors that impact purchase propensity across segments and product categories.

4 - Online Consumers' Channel Choice between Online and Offline

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We aim to understand the online consumer's channel choice behavior between online and offline. In this study, we empirically examine how the offline store's entrance affects the online consumer's purchase decision on diverse behavior measures: (1) the number of transactions, (2) product uncertainty level, and (3) product price. We explore this question using individual-level transaction data collected from one of the premier online shopping malls in Korea. Our analyses show that when a relatively big offline shopping mall opens locally, online consumers' market basket substantially change and the impact of offline competitor's appearance is a function of traveling distance. This study also shows (1) the dynamics of the impact of a local offline shopping mall's appearance over time and (2) diminishing impact of offline mall's appearance with the increase of local offline shopping malls. We conclude with a discussion of the managerial implications of our findings such as consumer segmentation (e.g., loyal online consumer vs. occasional online consumer).

■ TA15

15- Fourth Floor, Essex AB

Building the Marketing-Finance Interface – Substantive and Methodological Issues

Cluster: Special Session

Invited Session

Chair: Alina Sorescu, Associate Professor, Texas A&M University,
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1 - When do Branded Apps Impact Firm Value?

Eric Boyd, Wampler-Longacre Eminent Scholars Professorship in Marketing and Associate Professor of Marketing, James Madison University, Harrisonburg, VA, 22807, United States of America,
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Firms are increasingly launching branded apps, which are self-contained computer software programs developed for mobile platforms that relate to specific brands. Though research has recently begun to examine how to mobile app characteristics can increase demand, concerns remain that a relatively small percentage of branded apps are extensively downloaded, thereby raising questions as to whether branded apps create value for firms. In this research, we

use an event study to investigate whether the introduction of branded apps generates financial value. We also examine how the app design and firm's market strategy influence the extent to which branded apps generate financial value. We analyze the stock returns and test our model using 170 announcements describing a firm's branded app launch. Results from our research indicate that a branded app generates positive stock market returns, and has the largest effect on the day prior to the app's announcement. Furthermore, we find that two aspects of app design play an important role – branded apps with fewer features and those that are more innovative further increase stock market returns to branded app announcements. We also examine the market strategy elements impact of order of entry and app exposure on these returns. Finally, we find that the strength of the brand moderates the impact of the above variables on stock return. Building on these results we provide insights into how firms should design the apps and strategize their launch for maximal impact on firm value.

2 - Examining the Impact of Price-Increase Announcements on Shareholder Value

Kapil Tuli, Associate Professor, Singapore Management University,
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Firms regularly increase their prices due to supply and/or demand pressures. Interestingly, many firms opt to publicly announce such increases ahead of time. Despite its prevalence, there is limited knowledge on the actual effect of such an announcement on the firms' shareholder value. Accordingly, this study seeks to provide empirical evidence on the profitability of price-increase announcements. Using the event-study method, we examine more than 250 price-increase announcements by 73 different firms between 2005 and 2012. Even though the stock-market reaction is positive on average, about 42% of the price increase announcements are followed by negative abnormal returns. Drawing on prior research on both pricing strategies in competitive markets and on the psychological aspects of pricing, we build a conceptual framework for analyzing the implications of price-increase announcements on a firm's shareholder value. We find strong empirical support for the central thesis that investors are likely to react less favorably to a price increase announcement when it (i) is announced by firms operating in highly competitive markets, and (ii) when consumers are more likely to perceive the price increase to be unfair.

3 - What Should Be the Dependent Variable in Marketing-Related Event Studies?

Bernd Skiera, Prof., Goethe-University Frankfurt,
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Most event studies rely on cumulative abnormal returns, measured as percentage changes in stock prices, as their dependent variable. Stock price reflects the value of operating business plus non-operating assets minus debt. Yet, many marketing-related events influence the value of the operating business, but not non-operating assets and debt. For these cases, the authors argue that the cumulative abnormal return on the operating business, defined as the ratio between the cumulative abnormal return on stock price and the firm's leverage effect, is a more appropriate dependent variable. Ignoring firms' different leverage effects inflates the impact of observations pertaining to firms with large debt and deflates those pertaining to firms with large non-operating assets. Supporting this claim, an empirical study outlines a large range of leverage effects. Observations of highly leveraged firms receive up to four times the weight attributed to unleveraged firms. A simulation study shows that ignoring firms' leverage effects influences an event study's results in unpredictable ways. Another empirical study reanalyzes a published marketing event study; its results support the authors' arguments.

4 - What Brand Do I Use for My New Product?

The Impact of New Product Branding Decisions on Firm Value

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Alina Sorescu, Mark B. Houston

Every new product introduction involves a branding decision. Firms need to decide whether to use an existing brand to market a new product, or create a sub-brand or a new brand. While the branding literature has identified the main risks and benefits associated with each branding option, many of these insights are based on evidence obtained from behavioral lab experiments, often conducted using fictitious brand names. To our knowledge, empirical research on actual branding decisions is scarce, as is evidence of the impact that such decisions have on firm stock market value. The goals of our paper are two-fold. First, we propose a theoretical framework that organizes product-, category- and firm-level determinants of firms' decisions of how to brand their new products. We empirically estimate this choice model over an extensive dataset of new product introductions of consumer packaged goods. We also show how the stock market value of firms is impacted by the totality of the product-level deviations from what the theoretical model predicts to be an appropriate branding decision given each product's characteristics.

5 - Capitalizing Advertising Spending

Shuba Srinivasan, Professor and Dean's Research Fellow, Boston University, 595 Commonwealth Avenue, Boston, MA, 02215, United States of America, ssrini@bu.edu, Edward Riedl, Emanuel Bayer, Bernd Skiera

Despite growing empirical evidence on future benefits related to advertising, current financial reporting rules require most advertising spending to be expensed rather than capitalized as an investment. As a result, the mandated expensing treatment creates a potential mismatch between the economics of advertising and its representation in financial reporting as having only short-term impact. This

paper revisits this debate by exploring the conditions under which advertising spending can be considered for capitalization. We are motivated by recent advances in advertising response modeling and data availability, both of which strengthen the linkages between various types of advertising spending and current/future customer behavior, and accordingly reduce the uncertainty that is the basis for the current full expensing treatment. We identify an ex ante set of conditions for evaluating any advertising spending for consideration for potential capitalization: attribution, conversion, and long-term impact. As exploratory data analysis using available financial data, we show that pro-forma capitalization of advertising spending lowers the reported volatility of performance ratios relative to the current expensing treatment, and that the equity market has increased its (on average) valuation weighting of advertising spending. We conclude with implications for three stakeholder groups – firms, investors, and regulators – emphasizing the need for awareness of the heterogeneity in advertising spending, the implications of this heterogeneity on internal and external decision-making, and as an appeal to revisit the current the debate on expensing versus capitalizing advertising spending.

■ TA16

16- Fourth Floor, Essex C

Working Paper II

Contributed Session

Chair: Ayman Farahat, Yahoo, 701 1st Ave, Sunnyvale, United States of America, ayman.farahat@yahoo.com

1 - Selection, Order, and Pricing of Linear Online Video Ads

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Viswanathan Swaminathan

This paper studies the selection, ordering and pricing of advertisements in video sessions shown in online video platforms and proposes an algorithm that uses a collective measure of price and quality for each advertisement to optimize these decisions. The algorithm is based on cascade models and a dynamic programming method that assigns ads to a particular slot in an online linear video. The approach accounts for the negative externality created by lower quality ads placed in a video thereby leading a viewer to exit and preventing the platform from showing the subsequent ads scheduled in that video session to the viewer. Our proposed algorithm is scalable and suited for real time applications. Accounting for externalities generated by the ads, a pricing scheme based on VCG auction is implemented which ensures truthful price quotes by the advertisers. A large log of viewer activity from a leading video advertising company is used to empirically test the algorithm. A series of simulations show that our algorithm maximizes publisher revenue and increases audience retention.

Thursday, 10:30am - 12:00pm

■ TB01

01-Third Floor, GB 1

Advertising II

Contributed Session

Chair: Prasad Naik, Professor, University of California Davis, One Shields Avenue, Davis, CA, 95616, United States of America, panaik007@gmail.com

1 - Transparent or Disguised: The Impact of Sponsored Content Advertising on Two-Sided Media Platforms

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Sponsored content advertising is a new form of advertising which has recently gained popularity across many media platforms. With this new form of advertising, media platforms allow marketers to integrate promotional messages with the platforms' editorial content, often by simply disguising such messages in the form of editorial content. While marketers seem to favor sponsored content advertising that resembles organic content, such promotional technique may cause consumer aversion. In this paper, we employ a game theoretic model to understand the optimal transparency decisions of the media platforms – should a media platform explicitly clarify that the published content is a promotional message or should it allow a promotional message to pose as an editorial content? In a two platform competition setup, we find that the platforms would pursue maximal differentiation strategies in terms of their optimal transparency decision. We also find that when a platform increases its transparency level, the rival platform charges a higher fee to the advertisers even though raising transparency leads to higher readership in the first platform. The key tradeoff lies between more consumers (of sponsored content) and less transparency (higher advertising fee) in this context. Raising transparency level would also affect the prices for the

consumers, although it depends on platform's intrinsic quality. When a platform with low quality raises the media transparency level, then the platform with high quality would charge a lower price to the consumers. However, when the high quality platform raises its transparency level, the low quality platform would charge a higher price to the consumers. This puzzling result can be attributed to the cross-side network effect in the two-sided market. We also find that the effect of one's own transparency level on subscription prices is asymmetric for the two platforms.

2 - Assisted Self-persuasion: Choice, Complementary Adjustment, and the Effects of Advertising

Matthew Nagler, Associate Professor, The City College of New York, 160 Convent Avenue, NAC 4/121, New York, NY, 10031, United States of America, mnagler@ccny.cuny.edu

The paper presents a theory of imperfect competition a la Hotelling in which consumers choose products and also whether and how much to adjust to (i.e., improve their attitude toward) what they choose. Advertising is modeled as reducing the cost of adjustment. When consumer tastes are distributed symmetrically with respect to products and the marginal costs of adjustment are similarly symmetric, advertising raises (lowers) prices when the marginal adjustment costs faced by successive consumers grow lower (higher) as one moves from the position of the indifferent consumer toward positions of extreme preference. Analogous price effects result from advertising-driven translations of the adjustment cost structure that result in a relative reduction (increase) in marginal adjustment costs toward the extremes. Privately- chosen advertising levels are excessive when advertising's price effect is positive and large relative to its 'efficiency' effect of reducing accumulated marginal adjustment costs across the mass of consumers, or when adjustment cost reductions for the just-indifferent consumer are large compared to the mass of consumers. While price increases are a necessary condition for advertising to increase joint profits, firms may still advertise when prices decrease, thus prisoners' dilemma equilibria are possible.

■ TB02

02-Third Floor, GB 2

Channel II

Contributed Session

Chair: Dinah Cohen-Vernik, Rice University, 6400 Main St, Houston, TX, 77005, United States of America, vernik@rice.edu

1 - Channel Contracts with Information Asymmetry, Quality Based Competition and Heterogeneous Preferences

Shameek Sinha, Assistant Professor, IE Business School,
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Retail markets are characterized by asymmetric power. Information asymmetry and competitive pressure within and across channels, quality differentiation between manufacturers and consumer preference heterogeneity often results in complicated bargaining dynamics during contract negotiations between upstream and downstream channel members. So to devise optimal contracts for channel coordination is challenging under this scenario. In this research, we provide a theoretical approach to model these efficient contract conditions incorporating bargaining across channel members who have asymmetric power structures. While quality differentiation and preference heterogeneity are incorporated using a Hotelling structure, we take into consideration competition both at the retail and manufacturer levels (dominant and weak) and also across the upstream and downstream channel members. Information asymmetry is modeled using a multi-dimensional principal-agent framework. We show that, for the dominant retailer, the dominant manufacturer's strategy is to adopt a non-linear pricing policy along with quantity discounts and revenue sharing options, thus motivating the retailer to put in costly effort. However, the weak manufacturer only offers a two-part tariff, relying on voluntary effort from the dominant retailer. For the weak retailers, both manufacturer types propose a linear pricing without any expectation for effort. However, while the dominant manufacturers create channel diversification and provide supportive investments to weak retailers to mitigate the dominant retailer's power, the weak ones opt for information sharing and assortment management arrangements. These findings are contingent on the degree of product quality differentiation between manufacturers, the effectiveness and costliness of effort from retailers as well as the extent of preference heterogeneity.

2 - Effect of Gender of the Co-Buyer on Attention Arousal, Shopping Attentiveness & Outcome Apprehension

Rajdeep Chakraborti, Assistant Professor, IBS, Hyderabad, IFHE University, Hyderabad, India, pikluchakra@gmail.com, Atanu Adhikari

Research in retailing has primarily investigated individual buying behavior causing paucity of research in purchase with shopping companion. In addition, researches in retailing have rarely considered the role of the gender of co-buyers. At the same time research on the effect of gender of incidental co-buyer is equally sparse. Research in consumer psychology has observed that individuals behave differently depending upon their companion(s). Only a handful of earlier researches have observed that people behave differently while shopping with opposite gender co-buyers. Through a series of experiments, the current study investigates buyer behaviour in retail context and explores how the presence/absence of a shopping companion affects a shopper's a) level of shopping arousal, b) level of shopping attentiveness and c) level of outcome apprehension. Our research also investigates the change of reservation price of the buyer in presence of different gender shopping companion. Through experimental research we investigate that whether the buyers' reservation price get influenced by a) the gender of their co-buyers whom they do not know or b) by the gender of the buyers' shopping companion. The moderating role of relationship of shopping companion is explored by empirically testing whether the relationship (family member or a friend) with the companion affects the participants' retail buying behavior. This study investigates some very important yet rarely explored facet of the companion's influence on the buyer's shopping behavior and their willingness to pay.

3 - Identifying Online Shopping Types from Off-Site Clickstreams to Enhance Marketing Decision-Making

Daniel Schellong, RWTH Aachen University, Kackertstr. 7, Aachen, Germany, schellong@time.rwth-aachen.de, Jan Kemper, Malte Brettel

Consumer behavior literature highlights the importance to better understand shopping motivation for effective marketing campaigns. Each consumer runs through multiple decision stages and browses through various online channels on his path to purchase. However, little attention has been paid to consumer behavior based on the online channel choice to access online shops. Today's technology enables marketers to track these choices in great detail. Therefore, for e-commerce firms it is ever more success-critical to understand consumers' shopping behavior to improve marketing decision making. The aim of this study is to detect and understand online shopping goals of consumers by establishing a typology of shopping strategies. We use individual-level off-site clickstream data as it records the users' sequence of visits to a firm's website through all online advertising channels. We contribute as we believe to be among the first to link the online channel journey of consumers with their underlying search patterns to establish a typology of shopping strategies. Further, we apply an interdisciplinary approach in integrating information retrieval insights to categorize advertising channels for various two-step clustering analyses. Our work is also of immense practical relevance as the results offer marketers the ability to make real-time inferences for onsite personalization or targeted advertising, which promises direct effects on purchase behavior. We base our analysis on a unique and comprehensive set of individual-level off-site clickstream data from a leading online-only fashion company across the European market. The observation period from March to May of 2014 includes a total of several million off-site clickstream journeys from 8 major online advertising channels.

4 - Competing with Co-Created Products

Dinah Cohen-Vernik, Rice University, 6400 Main St, Houston, TX, 77005, United States of America, vernik@rice.edu, Niladri Syam, Amit Pazgal

The practice of firms co-creating products and services with their customers has a long history in business markets and, with advances in information technology, is now gaining increasing popularity in consumer markets too. In this research we study how firms may compete with co-created products. We analyze the strategic choices of two downstream user firms who simultaneously decide whether or not to co-create with an upstream supplier, given that the users will compete in the end consumer market with their co-created products. Within this framework we incorporate, (1) endogenous pricing and effort choice by the upstream supplier and (2) endogenous pricing and effort choices by the downstream users. User firms contemplating co-creation with a supplier are faced with a trade-off. On the one hand they can benefit from the supplier's innovation efforts and therefore obtain a better product than they themselves could produce. On the other hand, they are confronted with the adverse effect of their own innovation efforts spilling over to their rivals via the supplier who would sell the co-created products to all user firms. Our model captures this tension. We have four main results. First, we show that, when users compete with co-created products, the supplier can exert lower innovation effort when it co-creates with more users. This result is in contrast to Syam and Pazgal's (2013) finding that, without competition between users, a supplier is always better off when it co-creates with more users because it can then sell a better product. Second, and interestingly, we show that in the co-creation game, ex-ante symmetric firms can pursue asymmetric strategies in equilibrium. The asymmetric equilibrium, in which only one of the two users co-creates with the supplier, is obtained when the degree of competition between the users is large. The economic force behind the asymmetric equilibrium is the endogenous innovation effort choices of the users and the supplier when they co-create. Third, even though the co-creation game is played by the two downstream users, the upstream supplier's incentive to participate in co-creation is important. We find that for high degree of competition between users the supplier also prefers an asymmetric equilibrium outcome. Interestingly, even for moderate degree of competition, when both users prefer co-creation, the supplier would refuse to co-create with one of them

thereby enforcing the asymmetric outcome. Finally, when only one user co-creates, she can actually benefit from spillover, even though it is one-sided, that is, the co-creating user's effort spills over to the rival from whose effort she herself does not benefit.

■ TB03

03-Third Floor, GB 3

Consumer Behavior II

Contributed Session

Chair: Paul Messinger, University of Alberta, School of Business, Edmonton, Canada, paul.messinger@ualberta.ca

1 - Managing Expectations – Towards a Model of Post-Purchase Satisfaction and Product Returns in Online Retailing

Niklas Hellemann, RWTH Aachen University, Kackertstr. 7, Aachen, 52072, Germany, hellemann@time.rwth-aachen.de, Malte Brettel

While experiencing unrivaled sales growth, online retailers face cutbacks in profits through extensive product returns. Yet, key questions in this area remain unanswered. What makes customers return online purchases? How is their cognition on the path-to-purchase affecting returns? Can online retailers adjust their websites to impact return behavior? In this study, we test an integrated model of return intentions, connecting research in return behavior to consumer satisfaction and cognition theory. We argue that the perceived accuracy and the value of expectations towards product quality can influence satisfaction and returns. Drawing on findings from persuasion and overconfidence research, we propose that perceived accuracy and value of expectations are in turn influenced by the level of elaboration during the purchase process. Additionally, we examine the impact of website stimuli on satisfaction formation, namely the level of product information and a direct appeal to customers to make a more considerate purchase decision. Results of a structural equation model analysis based on 170 participants suggest that satisfaction is in fact a powerful predictor of return intentions, and that elaboration affects expectations. More specifically, a higher level of elaboration reduces perceived accuracy and increases the value of expectations. Furthermore, we identify an effect of the level of product information on all variables, including a negative impact on return intentions. Our findings expand knowledge in product return research in two ways: (1) we are – to the best of our knowledge – the first to develop a psychological process model of return behavior in online retailing, and (2) we demonstrate the impact of shopping website stimuli on post-purchase outcomes.

2 - Is Congruity Desirable for Marketing? A Meta-Analysis

Paul Messinger, University of Alberta, School of Business, Edmonton, Canada, paul.messinger@ualberta.ca, Qian (Claire) Deng

We conduct a meta-analysis of the effect on consumers' responses of several related forms of congruity present in seven domains of marketing activity. Our sample consists of 462 effect sizes arising in experimental studies described in 75 journal articles. The mean effect size of congruity, overall, is positive (the more congruent, the better), but relatively small ($R = 0.178$). More importantly, different mean effect sizes and patterns of results are identified across different application contexts and for different dependent variable measures. This literature began in 1989 and now accounts for more than 10,400 Google citations, but a consensus is yet to emerge as to whether (or when) congruity, incongruity, or moderate incongruity yields the most favorable consumer reaction. The results of this paper suggest a synthesis about the congruity effect, moderators, and possible directions for future work.

3 - Why Does Compliance Vary Over Time?

Wei Zhang, Iowa State University, College of Business, Ames, IA, 50011, United States of America, wtzhang@iastate.edu, Ajay Kalra, Alexander Chaudhry

Statistics show a staggering in excess of 50% non-compliance rates that cause 125,000 deaths, \$30 billion of losses for pharmaceutical firms and costs north of \$200 billion annually for the health care system. Medical research has associated compliance rates with patient knowledge, health attitudes, quality of patient-physician interaction, symptoms, demographics, specific diseases, social support (e.g., DiMatteo et al 2002, 2004, 2012). A key variable linked with compliance are perceptions of disease severity, as perceived by the patient or by the physician (Dimatteo et al 2007). However, the reasons underlying as to why people discount the severity of the threat are not well understood. In contrast to past research that largely explains inter-person variation, we consider two factors that explain within-person variation: day of refilling and seasonality. We propose that these factors temporarily alter perceived disease threat. Additionally, we re-investigate another factor of deep interest to marketers and policymakers – whether the drug is branded or generic. We test our predictions using data provided by Wolters Kluwer focusing on chronic diseases. The final data consists of a panel of 30,031 patients with total of 1.5 million prescriptions over 4 years. We use a tobit model to capture the influence of various factors on compliance behavior. We find strong evidence that an individual's compliance varies over time. In particular, compliance rates vary by season and are impacted by the day of the scheduled re-fill. Further, generics lower perceived severity of threat. Our results have direct implications for policy makers and health providers.

4 - Consumer Search and Preference for Variety

William Allender, Assistant Professor, McMaster University,
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We use an experimental approach to determine whether consumer search costs or preference for variety is a dominating factor when deciding on the consideration set and subsequent purchase decision. By imposing a search cost, and a preference for variety, we induce search behavior that leads the participants to make both single, and multiple-purchase decisions. With uncertainty over product attributes, no single choice stands out as a clear favorite a priori, so utility rises in the number of choices that are included in the consideration set, but at a decreasing rate. We find preference for variety drives the total number of items in the consideration set whereas the search cost influences which choices are included. The results suggest that a manufacturer interested in selling more of their specific product is better off trying to reduce the consumer's cost of search through promotion and advertising. A retailer, on the other hand, can broaden their assortment of goods to persuade consumers to patronize their store. We also find that consumers' demand for variety exhibits significant heterogeneity across participants. As a result, a offering a large variety to one set of consumers may provide a competitive, it may deter consumers with little preference for variety. We illustrate how preference for variety can be tested empirically using point of sale data and retail assortment decisions optimized.

■ TB04

O4-Third Floor, GB 4

Customer Relationship Management II

Contributed Session

Chair: Xi Zhang, Georgia State University, Tower Place 200,
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1 - Do it by yourself: Customer Post Behaviors after Service Contract Termination

Shin-Hye Kim, PhD Student, Washington State University,
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Customer relationship management (CRM) plays a prominent role in business processes. Yet, we know little related to a customer's future behaviors after the relationship terminates. Some customers may opt to not hire a new service provider after terminating a contract, but rather elect for self-service. Using an exclusive survey of 3,039 respondents who have terminated their service contract with a gardening service firm operating in the US, we investigate a customer's propensity to pursue self-service after terminating a contract. Results reveal that a customer who has a short-term relationship with the firm and a customer who has spent less money towards the firm are more likely to defer to self-service after the contract terminates. Additionally, while a dissatisfied customer prefers self-service, the monetary value paid by the customer mitigates the negative relationship between customer dissatisfaction and likelihood for self-service. Our research contributes further insight into CRM literature by exploring post termination management. Indeed, we account for the important influence of customer satisfaction, prior value, and duration for the likelihood of post behavior after the relationship terminates. Interestingly, our results shed light on the defensive strategies to retain current customers, as well as the offensive strategies to acquire lost customers. Overall, a customer's prior satisfaction, value generation, and length in a relationship are indicators for opting self-service after contract termination. That being said, a chance exists to win back lost customers if firms strategically meet their needs.

2 - Customer Noncompliance and Firm Relationship in a Contractual Setting

Mahima Hada, Assistant Professor, Zicklin School of Business,
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The relationship between a firm and its customers is a dyadic one – and while scholars have often looked at situations involving firm inadequacies, customers can misbehave, too. For example, customers often do not pay their bills after using the product (e.g., subscriptions), they consume the 'free' product and then cancel the contract with the firm (e.g., in Wine clubs), or they repeatedly sign up for only for the free "first-month" offers (e.g., Netflix). We look at situations where customers (intentionally and economically) do not comply with the contract between the firm and the customer, leading to firms' adoption of varied strategies to deal with such customer noncompliance (such as, forgive them or cancel the contract). We build a hidden markov model which incorporates the customers' noncompliance, the firm's response to the customer behavior and the effect of these actions on the states of the customer-firm relationship. With seven years of data from over 7,000 customers in a contract with a firm, we look at the effect of firm's actions towards noncomplying customers on firm's revenue from these customers. Our findings have implications for: (1) identifying the hidden states of customer-firm interactions during customer noncompliance and its antecedents; and (2) assessing the effectiveness of different strategies that firms adopt while dealing with customer noncompliance in a contractual environment.

3 - Customer Relationship Management in the Digital Age

Rebecca Jen-Hui Wang, Northwestern University,
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Due to the proliferation of electronic and mobile technologies, firms are able to make use of online channels to provide information on its brands and offerings. Firms can also actively promote their offerings through emails in addition to traditional direct mailings (DMs). We analyze a unique dataset from a loyalty program that tracks customers' spending through point accumulations, their online activities, and receipts and uses of promotional offers. Using the loyalty program as the brand of interest, we ask the following questions: 1) Why do customers look up information online? 2) When customers look up information online, do their point accumulations change, and does the change differ by device type, i.e., PCs and mobile devices? 3) How do customers' online activities influence responses to firms' promotional efforts and point accumulations? We posit that contrary to conventional wisdom, customers do not necessarily go online and look up brand information upon receiving a promotional offer. Rather, they engage with the brand when they want to extract value from it, i.e., redeem rewards with their points. Those who go online via multiple channels, i.e., PCs and mobile devices, have the highest point accumulation. However, using mobile devices alone yield a smaller increase in point accumulations than using PCs alone. Finally, for customers with online activities, they are more likely to respond to emails than DMs. However, DMs are more effective in increasing subsequent spending for PC and multichannel customers. In conclusion, we offer insight for managers and recommend that they implement promotional targeting and account for customers' PC and mobile engagement behaviors to encourage customer spending.

4 - Dynamically Managing a Profitable Email Marketing Program

Xi Zhang, Georgia State University, Tower Place 200, Suite 204,
3348 Peachtree Road NE, Atlanta, GA, 30326, United States of
America, xzhang31@gsu.edu, V Kumar, Koray Cosguner

Firms are using email marketing to engage with customers and encourage active transactional behavior. Yet extant research either only focuses on how customers respond to email messages or looks at the 'average' effect of email on transactional behavior. We consider that not only customers' response to emails and their transactional behavior are correlated but also there are dynamics that govern the evolving of the two types of customer relationship: email-response and purchase relationships. In this study, we model the opening of emails with a Binomial distribution and the frequency of store visits with a Poisson distribution and capture the dependence between the two discrete distributions using a copula approach. In addition, we develop a hidden Markov model to model the effects of email contacts on purchase behavior. We also allow the relationship that represents customers' responsiveness to email marketing to evolve flexibly along with the relationship of purchase. We apply the proposed model in a non-contractual context where a retailer operates a large-scale email marketing program. Through the empirical study, we capture a positive dependence between the opening of emails and purchase behavior. We identify three purchase-behavior states along with three email-response states. Further, we find that customers in active purchase state may not be active in responding to emails. We argue that resources are misallocated by only maximizing email open rate. This study provides important implications for dynamically managing a profitable email marketing program.

■ TB05

O5-Third Floor, GB 7

Working Paper III

Contributed Session

Chair: Baojun Jiang, Assistant Professor of Marketing, Washington
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1 - Signaling through Price and Quality to Consumers with Fairness Concerns

Baojun Jiang, Assistant Professor of Marketing, Washington
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Consumers with inequity aversion experience some psychological disutility when buying products at unfair prices. Empirical evidence and behavioral research suggest that consumers may perceive a firm's price as unfair when its profit margin is too high relative to consumers' surplus. In practice, however, consumers may be uncertain about the fairness of the firm's price, because they may not know the firm's cost even for search goods, whose quality is readily evaluated before purchase. Since inequity-averse consumers have a higher willingness-to-pay for any given quality when the firm's cost is higher, a cost-efficient firm may have an incentive to mimic an inefficient firm's pricing and quality strategies. We develop a game-theoretic model to investigate the effects of the consumer's inequity aversion on a firm's pricing and quality decisions. We highlight several interesting findings. First, because of the consumer's uncertainty about the firm's cost, the firm's optimal quality may be non-monotone with respect to the degree of the consumer's inequity aversion. Second, stronger inequity aversion makes an inefficient firm worse off, but may benefit an efficient firm. Third, we show that stronger inequity aversion by the consumer can actually lower the consumer's monetary payoff (economic surplus) because the firm may reduce its quality to a greater extent than it reduces its price. Lastly, as the average cost-efficiency in the market decreases, both the expected quality and the social welfare may increase rather than decrease.

2 - In-Store Advertising for Competitor: When Promoting Rivals Softens Competition

Dmitri Kuksov, UT Dallas, 800 W. Campbell Rd, Richardson, TX, 75080, United States of America, dmitri.kuksov@utdallas.edu, Mohammad Zia, Ashutosh Prasad

The traditional advice to firms in competitive markets is to avoid any practice that puts customer retention at risk. However, we see instances where a firm allows competitors to advertise directly to its customers. For example, Walmart.com shows banner ads for TVs from Sears to customers searching for TVs on Walmart.com thereby risking the loss of customers in exchange for a commission. This paper explores whether and under what conditions allowing competitor advertising in one's store may be a mutually beneficial strategy. We analyze a duopoly market with customers heterogeneous in their search costs, information and preferences. We find that in-store competitor ads may mitigate price competition and boost profits of both firms, but only if the advertising firm pays a high enough commission on the customer traffic it receives through such ad. On the other hand, when the commission is not high enough, allowing competitor's advertising may decrease profits of both firms. In particular, these results imply that there is no conflict of interest between the firms in setting the level of commission. We also consider the level of advertising efficiency, i.e., the extent by which advertising simplifies consumer access to the competitor and show that in this dimension, the firm displaying the ad may be interested in the most efficient ad while the other firm is not.

■ TB06

06-Third Floor, GB 8

Remembering Allan D. Shocker: A Celebration of Intellectual Leadership

Cluster: Special Session

Invited Session

Chair: Richard Staelin, Duke University

1 - Remembering Allan D. Shocker: A Celebration of Intellectual Leadership

Richard Staelin, Duke University, Dipankar Chakravarti, D. Sudharshan, Kannan Srinivasan, Seenu Srinivasan, Ratti Ratneshwar, Russ Winer, Raj Srivastava

This special session is dedicated to the memory of Allan D. Shocker, a great researcher, teacher, mentor, and friend of the marketing academic community. Shocker was known for his passion for scholarly research, his talent for seeing the big picture in marketing ideas and concepts, and his keen instinct for topics that provoke broad interest. He mentored young marketing scholars and helped build marketing academic communities wherever he went. He sustained excellence in scholarship and published in top journals for more than thirty years, from *Psychometrika* in 1973 to the *Journal of Marketing* in 2004. Other journals in which Shocker published include the *Journal of Marketing Research*, the *Journal of Consumer Research*, *Marketing Science*, *Management Science*, and *Marketing Letters*. He also served on the editorial review boards of the *Journal of Marketing*, the *Journal of Marketing Research*, and *Marketing Science*. Shocker's many important contributions to the marketing discipline span a variety of subject areas: • Conjoint analysis: Linear programming methods for multidimensional analysis of consumer preferences • Market structure analysis: Conceptual issues and empirical approaches regarding identification of product-market boundaries; substitution-in-use methods for analyzing product-market structures • New product development and product management: Analytical methods for identifying new product ideas and optimizing new product positioning; inter-category effects on product demand; forecasting sales of new products in test markets • Brand management: Conceptual issues and measurement approaches regarding brand equity; composite brand alliances and brand extension effects • Consumer decision-making: Composition of consideration sets and its role in consumer decision-making; product categorization and its links to consideration sets and multiple-category decision-making

■ TB07

07-Third Floor, GB 9

Game Theory II

Contributed Session

Chair: Woochoel Shin, Assistant Professor, University of Florida, Box 117155, Gainesville, FL, 32611, United States of America, wshin@ufl.edu

1 - Two-Part Tariff and Store Brand

Woochoel Shin, Assistant Professor, University of Florida, Box 117155, Gainesville, FL, 32611, United States of America, wshin@ufl.edu, Wilfred Amaldoss

It is well known that the traditional two-part tariff contract improves total channel profits. In the presence of a store brand, however, the traditional two-part contract is not effective in coordinating the channel. In fact, contrary to some of our intuitions, the two-part tariff actually yields lower total channel profits in the presence of the store brand. Given this challenge, we propose a novel hybrid

contract under which the two-part tariff increases the total channel profits despite the presence of the store brand and the national brand manufacturer regains the high-quality position lost to the store brand. We further show how the manufacturer can motivate the retailer to select the hybrid contract and thereby shift the channel to the Pareto superior equilibrium. Finally, we provide some empirical evidence that points to the possibility that the hybrid contract could help the national brand manufacturer earn more profits.

2 - A Dynamic Model of Re-Positioning

J. Miguel Villas-Boas, University of California-Berkeley, Berkeley, CA, United States of America, villas@haas.berkeley.edu

Firms have to re-position their products to best fit the changing consumer preferences. Re-positioning is costly and it is not profitable to do it for any small change in consumer preferences. This paper studies a model where consumer preferences evolve randomly and a firm decides when to re-position its product when consumer preferences move sufficiently far away from the current product positioning. When the consumer preferences move away from the current product positioning, the firm has to decide whether to adjust the product right away or if it should wait to see if the consumer preferences return to close to the current product positioning. The paper presents the optimal re-positioning strategy, and discusses how it varies with the interest rate, cost of re-positioning, and variability of consumer preferences. The expected time between re-positionings is also investigated. When the evolution of consumer preferences has some deterministic drift there is an additional force to re-position the product beyond the current consumer preferences.

3 - Informal Banking in the Emerging Market: Relationship as Collateral

Weining Bao, Assistant Professor, Jinhe Center for Economic Research, Xi'an Jiao Tong University, No. 28 Xianning West Road, Xi'an, 710049, China, wbao3@jhu.edu, Jian Ni, Shubhranshu Singh

The loans from the informal banks in the emerging markets are often characterized by relational lending where the repayment is neither law protected nor assets secured. Built on the relational contract framework, we show that the borrower-lender relationship serves as "collateral" that screens out risky borrowers and countervails the moral hazard over the course of relationship. We allow installment payments which further mitigate the transaction frictions caused by the information asymmetry. Contrary to conventional wisdom, the value of "collateral" is determined by future expected transactions. In the optimal contract, as the relationship advances, the loan rate falls and the value of relationship rises. We find that the formal bank's transactional inefficiency increases the informal bank's incentives to discipline the borrower, when the probability of the borrower being high ability is high. We also find that the informal bank may prefer to operate in a market in which it takes longer to discipline the borrower. Moreover, we show that along the course of relationship, moral hazard mitigates the future adverse selection.

4 - Consumer Deliberation and Quality Signaling

Yue Wu, PhD Candidate, INSEAD, 1 Ayer Rajah Avenue, Singapore, Singapore, yue.wu@insead.edu, Liang Guo

This paper proposes that consumer deliberation about product valuation can be an endogenous mechanism to enable credible quality signaling. Consumers are often uncertain about their product valuations. Regardless of the presence or absence of perfect knowledge about quality, the consumers may bear some uncertainty and purchase a product without deliberation. Alternatively, the consumers can incur a deliberation cost to find out their true valuations and then make their purchase decisions. Our basic model rules out existing signaling mechanisms such that a firm is not able to signal her quality through price alone without consumer deliberation. By contrast, she is able to do so with endogenous deliberation. The signaling equilibrium emerges because the consumers' deliberation incentive varies with price and perceived quality of the product and because a high-quality firm may have a stronger preference for deliberation than a low-quality firm does. In the signaling equilibrium, the high-quality firm induces consumer deliberation by setting a high price, whereas the low-quality firm prevents deliberation by charging a low price. Compared to the case of complete information about quality, the price of the high-quality firm can be distorted downward to avoid the low-quality firm's imitation or distorted upward to facilitate consumer deliberation. In an extension we consider uninformative advertising as a potential quality signal along with the product price. The high-quality firm can utilize advertising spending to avert imitation from the low-quality firm without downward price distortion, earning a higher profit than that without advertising. However, advertising mitigates the distortion at the expense of consumer surplus and social welfare.

■ TB08

08-Third Floor, GB 10

Working Paper V

Contributed Session

Chair: Yi-Chun Ou, Assistant Professor, University of Surrey, Surrey Business School, Guildford, Su, GU2 7XH, United Kingdom, y.ou@surrey.ac.uk

1 - Individual and Brand-Level Impact of Delight and Displeasure on the Satisfaction-Loyalty Link

Chris Groening, Asst. Professor of Marketing, Kent State University, 522 College of Business, Kent, OH, 44242, United States of America, cgroenin@kent.edu

This paper examines moderators of the relationship between satisfaction and loyalty. Specifically we look at the effects of delight and displeasure, using their behavioral outcome, word-of-mouth. These two variables are examined at the individual- and brand-levels, as well as the first- and second-order effects of customer satisfaction at the brand-level. We find that the main effects of these measures affect the individual-level relationship between satisfaction and loyalty. Moreover, each of these measures is found to significantly moderate the relationship between satisfaction and loyalty. Individual-level measures have greater effects on the satisfaction-loyalty relationship than do brand-level measures. Within the brand-level measures, while the first- and second-order effects of brand-level satisfaction significantly moderate the satisfaction-loyalty link, the magnitude of their effects is lower than with brand-level delight and displeasure. Our results are obtained by examining a dataset of 53,173 respondents over a three-year period across 10 product categories that include 171 brands.

2 - On Customer Emotions and Loyalty Strategies

Yi-Chun Ou, Assistant Professor, University of Surrey, Surrey Business School, Guildford, Su, GU2 7XH, United Kingdom, y.ou@surrey.ac.uk

While managing customer emotions is becoming popular, there are managers still questioning whether managing customer emotions is a right thing to do, as misperceiving the interaction of multiple strategies critically deteriorates the effectiveness of resource allocation. This study asks whether customer equity drivers (CEDs) are differentially effective for creating loyalty intentions, depending on customer emotions. I take two important types of customer emotions in decision-making as moderators into account: type I (generated by firms) and type II (not generated by firms) emotions. In addition, I re-examine the main effects of type I emotions on loyalty intentions in a broader sense, including all three CEDs. Three studies (including large-scale of customer datasets and the experimental design) are adopted to test the hypotheses. The data show that type I emotions have the moderating impact on the CEDs-loyalty link, but type II emotions do not. Specifically, the CEDs-loyalty link is mitigated by positive valence of type I emotions, but strengthened by negative valence of type I emotions. Additionally, the result re-confirms the main effect of type I emotions on loyalty intentions beyond CEDs. The findings suggest that managers should be cautious of combining customer emotions and CEDs for creating loyalty intentions.

■ TB09

09-Third Floor, Dover AB

Modeling the Persistent and Downstream Effects of Strategic Firm Decisions

Cluster: Special Session

Invited Session

Chair: Ahmed Khwaja, Yale University, ahmed.khwaja@yale.edu

1 - Switching Costs and Market Power under Umbrella Branding

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This paper extends recent research on the importance of switching costs for dynamic pricing to the area of umbrella branding and multi-product firms. We examine household level scanner data from the yogurt category, focusing on parent brands that offer multiple sub-brands (e.g. Yoplait offers Yoplait Original, Yoplait Light and Yoplait Thick and Creamy). Our demand framework allows us to estimate state dependence arising from both the parent brand and the sub-brand level and, in turn, to set up a dynamic pricing game in which we evaluate the impact of parent brand state dependence on forward looking prices and profits. Additionally, we use the dynamic pricing model to study two strategic issues pertaining to pricing: i) the benefit of centralized decision making (multi-product pricing) and ii) the potential loss associated with setting uniform prices across sub-brands of the same parent brand. Findings for the market leader in this category, Yoplait, can be summarized as follows: parent brand state dependence effects increase its profits by about 6%, centralized decision making generates only 0.2% incremental profits and this number is mediated by cross-sub-brand dynamics, and finally, switching to uniform pricing across three sub-brands yields only a small decrease in profits for the parent firm.

2 - Firm Expansion, Size Spillovers and Market Dominance in Retail Chain Dynamics

Ahmed Khwaja, Yale University, New Haven, CT,
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A firm's decision to expand or contract has long term strategic implications for its market outcomes and industry structure. A stylized fact also is that the dynamics of retail market structure are more richly driven by expansion and contraction than de novo entry or permanent exit. Moreover, there may be a heterogeneous relationship between firm size and future profitability; some firms may expand and become more profitable whereas expansion for others may be detrimental. Motivated by these considerations this paper develops a dynamic oligopoly model of endogenous firm size that allows size to affect future profitability, and market dominance. The dynamic link between firm size and profitability implies that a firm's abilities change based on its experience. It also allows this relationship to be heterogeneous. Thus, with expansion not all firms become more profitable. The spillovers of size on future profitability are implemented through a firm specific unobservable (to the researcher). There may also be retention of past size spillovers through serial persistence due to firm specific heterogeneity. The hurdle of estimating the model is surmounted by extending a two-step procedure that doesn't require solving the game. The first stage combines semi-parametric Conditional Choice Probability estimation with particle filters to integrate out the serially correlated unobservables. The second stage uses a forward simulation approach to estimate payoff parameters. Data on Canadian hamburger chains provides evidence of heterogeneity in size spillovers and serial persistence in profitability across firms. This heterogeneous dynamic linkage shows how some firms become dominant and others falter as they evolve, thus affecting market structure and industry concentration.

3 - The Impact of Newspaper Paywalls

S. Sriram, Stephen M. Ross School of Business, University of Michigan, ssrira@umich.edu

Growth in online readership and the corresponding decline in the circulation base of print newspapers have prompted newspaper publishers to identify opportunities to monetize online content. As a result, several newspapers have begun charging readers for access to online news content by erecting paywalls. However, the overall effect of erecting pay walls on newspaper readership and revenues is unclear. One concern is that paywalls may induce readers to substitute away to other free sources of news. Further, the attrition in readership as a result of paywalls could put advertising revenues at risk. Lastly, paywalls are believed to serve an equally important objective of stemming the declines in print newspaper readership, by preventing paying print subscribers from switching to the free newspaper. In this paper, we study the overall implications to newspaper revenues from operating paywalls, by using readership and advertising data for the New York Times before and after it launched a paywall in March 2011. By exploiting the structural break implied by the paywall launch, we assess its effects on both print and online newspaper readership as well as newspaper advertising. We comment on revenue implications for newspaper publishers from the increasingly popular decision to monetize digital news content.

4 - Can Frequency Rewards Program be Profitable?

Raphael Thomadsen, Olin Business School,
Washington University in St. Louis, St. Louis, MO,
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This paper examines the effectiveness of a linear customer loyalty program. We use a unique dataset with a complete record of individual transaction level data from all customers both before and after the loyalty program is introduced to analyze the profitability of the program. We find that the presence of the loyalty program increases firm profits by approximately 11%. Most of the loyalty program impact comes from higher retention rate, which leads to a significant increase in customer lifetime value. We also find that the presence of the program increases the frequency of purchases among consumers who at some point redeem an award by 4.5%. This is offset by a 3.8% decrease in revenues due to the discount offered in the rewards program. Throughout the paper, we control for the selection effects of which individuals choose to become members of the program, which is possible because our data includes all customer transactions, including those by members and non-members, both before and after the program introduction.

■ TB10

10-Third Floor, Dover C

Retailing II

Contributed Session

Chair: Jie Zhang, Associate Professor of Marketing & The Harvey Sanders Fellow of Retail Management, Robert H. Smith School of Business, University of Maryland, 3311 Van Munching Hall, University of Maryland, College Park, MD, 20742, United States of America, jiejie@rhsmith.umd.edu

1 - Distribution Dynamics and Brand Performance:

The Role of Market Type, Retail Format and Macroeconomics

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Emerging markets offer ample opportunities for growth and are being seen as a hotbed for direct investment, especially in retailing. However, given the largely unorganized retail structure, the lack of granular data and the presence of multiple domestic retail formats prevalent in most emerging markets, the distribution decision for Consumer Packaged Goods (CPG) marketers is more challenging. The complexity of the distribution is further compounded by the presence of dynamics in the distribution effects. Much of the extant literature in emerging markets and distribution, though scarce have focused on aggregate distribution effects which are static in nature. However, in this study, we make the case that not only is the effect of distribution dynamic, the aforementioned dynamics are influenced by retail format type, market type and macroeconomic trends. Further, through a Dynamic Linear Modeling (DLM) approach, we uncover the effect of macroeconomics as well as market type (urban/rural) on the dynamics of each retail distribution format. Specifically, we answer the question of how much distribution effectiveness of each retail format is affected by recessionary trends, whether this effect varies across urban and rural markets and how this effect has implications for overall brand performance. Through our proposed model, we are also able to elicit the long and short term effects of macroeconomic fluctuations on distribution effectiveness. The proposed model is implemented on five years of data obtained from a large Consumer Packaged Goods (CPG) manufacturer operating in an emerging market.

2 - When Cents-Off Discounts are Replaced by Reward Point

Promotions: A Cross-Category Analysis

Jie Zhang, Associate Professor of Marketing & The Harvey Sanders Fellow of Retail Management, Robert H. Smith School of Business, University of Maryland, 3311 Van Munching Hall, University of Maryland, College Park, MD, 20742, United States of America, jiejie@rhsmith.umd.edu, Els Breugelmans, Seoungwoo Lee

This study investigates a new "item-based loyalty program" (IBLP) design in which conventional cents-off price discounts are replaced by reward points that need to be cumulated and redeemed later. Under this practice, LP rewards are not just based on store-level total spending but largely driven by purchases of individual items on promotions. Zhang and Breugelmans (2012) studied the impact of switching to it on store level purchase outcomes and revenue implications. In this study, we focus on category-level purchase behaviors and explore the drivers of consumer reactions among a large set of category and household characteristics. For retailers, understanding whether and how individual categories and consumers may differ in the way they are affected can provide important insights to help them fine tune and improve the effectiveness of the program. Our data were provided by a European online grocery retailer that switched from a conventional LP to the IBLP. We constructed a Hierarchical Bayes Type II Tobit model of households' category purchase incidence and quantity decisions and estimated it on 22 categories that span across food, beverage, personal care, and household products. In the second stage analysis, we utilized household-specific posterior draws from the MCMC estimation procedures and related purchase behavior outcomes to category and household characteristics. We find that there are large variations in reactions to the new LP design across categories and consumers, and both category and consumer characteristics play important moderating roles. Our results provide valuable insights to retailers and manufacturers on how to improve the effectiveness of an IBLP and how to minimize its potential negative impact on some categories and consumers.

3 - The Effectiveness of Managerial Actions during Conflict Delistings

Marleen Hermans, PhD Candidate, Maastricht University, P.O. Box 616, 6200 MD, Maastricht, Netherlands, marleen.hermans@maastrichtuniversity.nl, Kathleen Cleeren, NÈemie Raassens, Ko de Ruyter, Martin Wetzels

While the bargaining power clearly used to be associated with manufacturers a few decades ago, retailers have now grown to become equal opportunity players. This presents the challenge of negotiations turning into power conflicts. Consequently, both manufacturers and retailers decide to temporarily remove products from the shelves when conflicts arise (hereafter referred to as conflict delistings). Not only do conflict delistings occur very frequently, they also cause major revenue losses for both manufacturers and retailers, due to consumers switching to alternative brands within the store and consumers switching between stores, respectively. This study investigates which managerial actions manufacturers and retailers can take in various conflict situations to mitigate potential losses, by focusing on the effectiveness of both parties' price promotions

and advertising. More specifically, we investigate the impact of a conflict delisting on manufacturer and retailer performance using conflict delistings that occurred between 2002 and 2013 in four European countries, which amounts to 278 brands in 217 FMCG categories. The use of such a comprehensive dataset - spanning different countries, categories, manufacturers, and retailers - not only allows for the exploration of empirical generalizations on the effectiveness of marketing strategies when conflict delistings occur, but also presents an opportunity to assess variability between cases, which, in turn provides insights into the moderating impact of conflict characteristics (e.g. the initiator of the conflict or the amount of publicity). The results of the study, therefore, provide guidelines to both manufacturers and retailers on which marketing instruments are more effective in different types of conflict situations.

4 - Store Format and Price Perceptions

Anthony Koschmann, Emory University, 1300 Clifton Road, Atlanta, GA, United States of America, akoschm@emory.edu, Douglas Bowman

Store format (such as grocery, club, drug, etc.) categorizes the broad positioning of a store to consumers. This positioning conjures consumer judgments for what the store emphasizes: assortment breadth and depth, convenient locations, and/or low prices, to name a few. Consumers perceive prices of products sold by retailers as a function of the store format. For example, club stores tend to be perceived as low-priced across the board because products are sold in bulk packaging in a warehouse. This tendency to apply price image to all categories sold within the store format can lead consumers to inaccurately estimate prices. We test store format price recall accuracy against measures of several theoretical explanations: purchase frequency, extent of marketing activity, concentration ratio, and relative price. We find that consumers have an overall price image for store formats, and estimate category prices predominantly by store format and not by product category, a result consistent with the categorization effect of stores within a store format. Consumers view the store format to be predominantly either expensive or cheap, rather than discerning which individual product categories may be more expensive or less expensive within the store format. An implication for managers is that price image carries an over-riding price perception of category prices, which affects perceived price accuracy. As a whole, high price items and purchase frequency are more likely to lead to accurate perceived prices, while marketing activity (through varying prices) and the presence of a high volume share brand are not factors in price recall accuracy. These effects vary by store format.

■ TB11

11-Third Floor, Atlantic

Choice Models I

Contributed Session

Chair: Zizhuo Wang, Assistant Professor, University of Minnesota, 111 Church St SE, Minneapolis, MN, 55455, United States of America, zwang@umn.edu

1 - Consumer Choice Models with Endogenous Network Effects

Zizhuo Wang, Assistant Professor, University of Minnesota, 111 Church St SE, Minneapolis, MN, 55455, United States of America, zwang@umn.edu, Ruxian Wang

Network externality may arise when the utility of a product depends not only on the valuations of its attributes including price, but also on the number of users who purchase the same product. In this paper, we generalize the widely-used multinomial logit (MNL) choice model by taking into account the endogenous network effects in both dynamic and static settings. The steady-state choice probabilities are characterized and comparative statics studies are performed. Unlike the standard MNL model, the proposed model does not suffer from the independence of irrelevant alternatives property and can exhibit more versatile substitution patterns. Then we study the assortment planning problem under this new choice model. We first show that a revenue-ordered assortment is optimal under some conditions on the degrees of the endogenous network effects. Then we define a new class of assortments, called quasi-revenue-ordered assortments, which consist of a revenue-ordered assortment plus (at most) one additional item. We show that, theoretically, there exists a quasi-revenue-ordered assortment that is indeed optimal under much more general conditions, and practically, by performing extensive numerical experiments, they achieve optimal revenue in nearly all cases. Therefore, we suggest the consideration of such assortments when the decision maker suspects the goods may exhibit network effects. Finally, to calibrate the new consumer choice model, we propose iteration-based estimation methods for cases with both complete and incomplete data. We perform an empirical study with a popular real data set, and the empirical test results show that our proposed model provides a better fit for the data, with the corresponding coefficient statistically significant.

2 - Bad Habits and Endogenous Decision Points

Peter Landry, University of Toronto, 105 St George St, Room 555, Toronto, ON, M5S 2E8, Canada, peter.landry@rotman.utoronto.ca

I present a theoretical model of addiction in which cravings are costly distractions that force the individual to "think about" the associated consumption decision. By allowing choices to influence the frequency of future cravings, the model emphasized new incentives and disincentives; namely, consumption provides a temporary break from the so-called "decision points," but increases their long-run frequency. Matching evidence unaddressed by prevailing theories, raising present consumption reduces near-term future demand by delaying the consumption occasion, but leads to both higher frequencies and higher per-occasion levels of

consumption in the long-run. Incorporating random external cues (modeled as decision points) into the cravings model, consumption becomes more predictable and less cue-sensitive as habits strengthen. Although cues generally boost demand, overexposure deters consumption, in line with the evidence on advertising “wearout.” Lastly, a method to elicit users’ “natural” decision points is proposed, which carries unique and testable implications regarding the time-pattern of precommitment.

3 - Online Algorithms for the Estimation of Mixed Models

Keunwoo Kim, Doctoral Candidate, UCLA, 110 Westwood Plaza, B4.01, Los Angeles, CA, 90095, United States of America, keunwoo.kim@gmail.com, Sanjog Misra

Estimating nonlinear heterogeneous models in the context of Big Data is a challenging endeavor. The key issue is that traditional approaches require us to compute the objective function using the entire sample thereby rendering the approach cost prohibitive. In this research we present a fast, scalable, online approach to estimation of mixed models. In particular, we leverage recent developments in the area of machine learning and construct a stochastic gradient based approach that can be implemented with very little effort. Our simulation results show that our approach is computationally cheaper than traditional numerical optimization without any incremental bias or significant loss of precision. For example, estimating a full-covariance random coefficients Logit model with 100,000 households, 10 observations per a household and 3 alternatives (9 total parameters) took less than 45 seconds. The model scales linearly for larger datasets (millions of observations, larger choice set, larger parameters, etc.) and typically recovers parameters accurately in a fraction of the time usually required. Our new approach would allow for the implementation of popular models on truly big data.

4 - Modeling Consumer Demand under Mental Constraints

Byungyeon Kim, Korea University Business School, 145 Anam-ro, Seongbuk-gu, Seoul, 136-701, Korea, Republic of, byungyeonkim@korea.ac.kr, Jaehwan Kim

Consumption of products often involves some sort of negative aspects – risk of harm, concern for obesity, guilt for mischief, etc. – as a consequence. Contrary to the conventional studies where the benefits of the product characteristics solely determine consumer demand, we focus on the mental constraints and incorporate them into a formal constrained utility maximization framework as additional sources that limit constant consumption of excess disbenefit generating product offerings. These constraints are incorporated via temporal dependence, where an individual’s consumption history evolves into a cognitive inventory of accumulated concern or mental burden. The model is applied to the fast-food conjoint data, where concern for obesity serves as the mental constraint. The results are compared to the standard model with a single budget constraint and other benchmark models. Policy implications on optimizing the dis-benefit generating product attributes configuration under different circumstances are explored.

■ TB12

12-Third Floor, Bristol

Marketing Finance II

Contributed Session

Chair: Daniel McCarthy, Doctoral Student, Wharton School of Business, 3730 Walnut Street, Suite 400, Philadelphia, PA, 19104, United States of America, danielmc@wharton.upenn.edu

1 - Customer-Based Corporate Valuation via Data Fusion

Daniel McCarthy, Doctoral Student, Wharton School of Business, 3730 Walnut Street, Suite 400, Philadelphia, PA, 19104, United States of America, danielmc@wharton.upenn.edu, Peter Fader

As many researchers have previously noted (e.g., Gupta, Lehmann and Stuart 2004; Rust, Lemon and Zeithaml 2004; Gupta, Hanssens, Hardie et al 2006; Schulze, Skiera and Wiesel 2012), the value of a firm should be closely related to the net present value of all its current and future customers, or Customer Equity (“CE”). Some of these papers have offered initial “proof of concept,” running CE models upon individual test cases, but none have used state-of-the-art methods to fully account for all of the sources of value (e.g., customer heterogeneity) and to accommodate differences across firms in a statistically sound manner. Accordingly, we propose a principled firm-valuation framework, guided by real options theory, the corporate valuation literature, and hierarchical Bayesian methods. Our model will properly value, “borrow strength,” and accommodate heterogeneity across customers within business units, business units within companies, companies within industries, and industries within the stock market as a whole. We simultaneously model dozens of publicly traded companies, far larger than any previous study in the marketing literature. To do so, our model must be robust to the idiosyncrasies of individual firms’ financial disclosures, most notably the fact that disclosure of customer metrics varies across firms and over time. We treat this partial observability issue as a data fusion / missing data problem and sample over the posterior distribution of the missing data to provide a more complete picture of each firm’s customer-based valuation. We conclude with two illustrative vignettes and discuss implications for both marketing and finance/accounting executives.

2 - Value of Customer-Related Assets in Mergers and Acquisitions

Cem Bahadir, Ozyegin University, Cekmekoy Campus, Nisanteppe Mah. Orman Sok. No:34-36, Istanbul, Turkey, cem.bahadir@ozyegin.edu.tr, Sundar Bharadwaj

Customers of target firms are integral part of the assets acquired through mergers and acquisitions (M&A’s). In many M&A transactions, customer portfolios account for significant portion of the value in M&A’s. In fact, the failure of many M&A’s are attributed to the poor value of customers. Despite the importance of customers to M&A’s, there is limited empirical work on the value of acquired customers. In this study, we seek to understand the factors that influence the financial value the acquirers attribute to the customer-related assets of target firms. More specifically, we investigate two sets of factors that may affect the value of customer assets in M&A’s. First, the characteristics of the customer bases of the target and the acquirer firms, because the customer-base concentration of the target firm has significant implications for the level, growth, and vulnerability of the cash flows from target’s customers. Second, the synergies among the strategic assets of the acquirer and the target firm, because acquirers that have larger customer asset bases may attribute greater value to target firm’s assets as it would be easier for such firms to integrate target firm’s customer assets into its organization. We test these hypotheses on a unique data set which includes the customer base characteristics, the value of customer assets of target firms as well as the values of the assets that the acquirers have accumulated over time.

3 - Volatility Spillovers Across User-Generated Content and Stock Returns

Myrthe van Diejen, Erasmus School of Economics - Erasmus University Rotterdam, Burgemeester Oudlaan 50, Rotterdam, Netherlands, myrthevandiejen@gmail.com, Abhishek Borah, Gerard Tellis, Philip Hans Franses

This study investigates the relation between user-generated content (UGC) and stock price volatility by examining the presence of shock and volatility spillover effects between stock returns and UGC, and by studying which company-related events trigger increases or decreases in the volume of UGC. Stock price volatility can be interpreted as a proxy of risk, and can therefore serve as an important financial performance measure. The daily volume of positive and negative tweets, blog posts, and Google searches are used as metrics of UGC and are gathered over a period of 3 years. We use a multivariate GARCH model to estimate the shock and volatility spillover effects and multivariate regression models to estimate the influence of company-related events on UGC. The results show that past shocks and past volatility in the volume of UGC can significantly influence a company’s stock price volatility. Past shocks in the volume of positive UGC decrease stock price volatility, whereas past shocks in the volume of negative UGC increase stock price volatility. Moreover, new product launches have a significant positive impact on all UGC metrics, and product announcements can significantly increase the amount of tweets. These results show that managers should be aware that UGC is a potentially useful instrument which deserves special attention in the marketing mix. Proper management of UGC can gear financial volatility and this is a powerful marketing instrument with potential consequences in terms of financial performance.

4 - Marketing Alliances and Firm Risk

Tuba Yilmaz, PhD Candidate, Koc University, CASE Office 169, Koc University, Rumelifeneri Yolu Sariyer, Istanbul, 34450, Turkey, tyilmaz@ku.edu.tr, Stefan Wuyts

Even though there is growing evidence linking market-based assets with stock returns and risks, the research on the effect of marketing alliances on the firm risk is scant. This is an important gap since lowering risk has an immediate impact on the firm’s market value. Adopting risk measures established in finance literature, this study analyzes risk-reducing effect of marketing alliances. We study firm risk of two different stakeholders, specifically debt and equity holders. In addition, we explore the risk-reducing role of the network of the focal strategic alliance. Examining how alliance agreements impact debt-holder and equity-holder risks is a necessary step to obtaining a complete picture of how marketing alliances add value to the firm.

■ TB13

13- Fourth Floor, Harborside A

Digital Marketing II

Contributed Session

Chair: Sha Yang, Professor, University of Southern California, 3660 Trousdale Parkway, ACC 306E, Los Angeles, CA, 90089, United States of America, shayang@marshall.usc.edu

1 - The Role of Mobile Devices in the Online Customer Journey

Evert de Haan, University of Groningen, Nettelbosje 2, Groningen, 9747AE, Netherlands, evert.de.haan@rug.nl, PK Kannan, Peter Verhoef, Thorsten Wiesel

The penetration of mobile devices (e.g., tablets and smartphones) is increasing very rapidly. This has consequences for how customers behave online, including how they go through the online customer journey. In the past, customers only had access via their fixed devices, and thus had to use their PC or laptop to go through all stages of the journey. Nowadays customers can choose which device to use in which stage. The preferred device will depend on the advantages and disadvantages of the different devices for each stage. Using clickstream data from a large online retailer we find that customers use mobile devices more frequently in the exploratory stage, while switching to fixed devices when they are in the goal-directed stage. We furthermore find that customers who go from a more mobile device to a less mobile device have a significant higher conversion rate, indicating that customers have gathered better information to make a decision. This switching effect is stronger when sessions are closer to each other in time and stronger for less loyal customers. For online retailers this provides opportunities to better target customers during their online customer journey (e.g., when a less loyal customer has recently visited the online retailer's website on a mobile device, it is recommended to retarget the same customer when (s)he is using his/her fixed device).

2 - Assimilation or Differentiation? Investigating the Effect of Competition on Sponsored Search Advertisement

Sha Yang, Professor, University of Southern California, 3660 Trousdale Parkway, ACC 306E, Los Angeles, CA, 90089, United States of America, shayang@marshall.usc.edu, Shijie Lu

As Internet advertising intermediaries now provide rich competition-related information, sponsored search advertisers are becoming more strategic in their keyword decisions. In this study, we regard each keyword as a market and empirically examine whether positive or negative spillover effects occur in advertisers' keyword entry decisions, which lead to assimilation or differentiation in their keyword choices. We develop a model of advertisers' keyword decisions based on the incomplete-information and simultaneous-move game with two novel extensions: (i) we allow the strategic interactions to vary with advertisement positions to reflect consumers' top-down search pattern; and (ii) we infer potential entrants of a keyword by modeling the advertisers' keyword consideration process to capture their limited capacity in analyzing all existing keywords. To cope with several econometric challenges, we use a two-step approach in conjunction with the Bayesian method to estimate the model. We apply the proposed model to a panel dataset of 1,252 laptop-related keywords mainly used by 28 manufacturers, retailers, and comparison websites that advertise on Google. Several key findings emerge from our analysis. First, the expected number of below-ranked advertisers has a positive spillover effect on all three types of advertisers' keyword entry decisions. Second, for the strategic interactions with advertisements ranked above, we find both assimilation and differentiation tendencies. Retailers are the most aggressive and assimilate with all three types of advertisers, and comparison sites are the least aggressive and differentiate from other comparison sites and manufacturers. Third, both manufacturers and retailers are more likely to use historical competition information to learn from other advertisers of the same type, while comparison sites tend to learn from other comparison sites and retailers. Finally, our counterfactual simulations demonstrate that more accurate competition information provided by intermediaries induces market expansion, via increasing the average number of advertisements per keyword and improving the search engine's revenue by 4.4%.

3 - Poaching in Paid Search Advertising using Broad Match: Evidence from a Field Experiment

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Poaching competitors' customers by targeting and persuading them to switch is a well-established offline strategy that is gaining popularity in online markets due to the ease of tracking and targeting online consumers who are interested in competitor products. Nowadays, to achieve poaching in online search, paid search ad firms tend to use the 'broad match' option when bidding on keywords, which results in online consumers being shown paid search ads when their search terms contain relevant variations of the keywords. Broad match allows poaching search advertising to be displayed in many situations where paid search ad firms might fail to anticipate the exact search terms that consumers search for and thus to get access to more competitors' prospective customers. However, broad match is still a black box to advertisers and extant literature does not yet measure the effect of broad match on the effectiveness of poaching advertising. On the basis of a field experiment conducted through an online paid search ad firm with Google's AdWords platform, this study examines how broad match influences poaching advertising in two purchase funnel activities, affective activities (i.e., generating consumer interest/click in information search) and conative activities (i.e., converting consumer interest into purchase/conversion). We find that although broad match can increase clicks of the website from more competitors'

prospective customers, it does not lead to greater purchases, and thus results in fewer net revenues. However, a dynamic linear model analysis gives some preliminary evidence that increased clicks from poaching advertising can spill over to subsequent purchases of generic and own branded advertising. These findings provide implications for managers of search firms that they need to make tradeoffs between more clicks and lower net revenues when they design broad match for poaching search advertising. If search firms intend to get more direct net revenues, poaching without broad match can save costs on wasteful clicks and generate more net revenues. By contrast, if search firms intend to increase brand awareness and consumer clicks which can spill over to future purchases, poaching with broad match would be effective.

4 - Sellers' Online Responding Strategies to Negative Online Reviews

Chunyu Li, PhD Candidate, Lingnan University, SEK 101, DepT. of MIB Tuen Mun, N.T. Hong Kong, Hong Kong - PRC, chunyu.li@ln.edu.hk, Geng Cui, Ling Peng

To counteract the detrimental impact of negative WOM, both researchers and practitioners underscore the importance to proactively monitor and manage online reviews. Consequently, literature has identified various methods, such as identifying the influentials, encouraging advocates, or withholding product information to manipulate online WOM. Notably, research on another innovative solution, namely sellers' online responding directly to negative WOM (hereafter, NWOM), has lagged far behind its popular adoptions in industry. This study investigates the interfering influence of online responding to NWOM from observing consumers' perspective. Based on the implications from relevant literature such as negative publicity and crisis management, service failure and recovery, and interpersonal and inter-organizational apology, this study posits that sellers' online responding strategies can be categorized into defensive and accommodative responding. Further, whether sellers' accommodative or defensive responding is more effective in counteracting NWOM depends upon the different nature of NWOM, namely regular NWOM and product failure NWOM. One laboratory experiment and one field investigation of data crawled from Tripadvisor.com provide converging evidence that online responding can be effective to circumvent the negative impact engendered by NWOM only when seller takes the appropriate responding strategies. In particular, when confronting product failure (vs. regular) NWOM, accommodative (defensive) responding is more effective in (1) enhancing consumers' attitude toward product and brand, and purchase intention (Study 1), and (2) helping generate more helpful reviews, increase subsequent consumers' satisfaction, and improve hotel ranking (Study 2). Furthermore, a moderated mediation role of causal attribution of the NWOM is identified as the underlying mechanism for the relative effective of different responding strategies (Study 1).

■ TB14

14- Fourth Floor, Harborside B

Internet II

Contributed Session

Chair: David Muir, Assistant Professor of Marketing, University of Delaware, Alfred Lerner College of Business & Econ, 20 Orchard Rd, Newark, DE, 19716, United States of America, muir@udel.edu

1 - Online Niche Markets and Geography: How Offline Environments Affect the Online Sales of Niche Brands

Jikyung Kim, Assistant Professor, IE University, Campus de Santa Cruz la Real, Cardenal Z'òiga, 12, Segovia, 40003, Spain, jeanne.kim@ie.edu, Jungmin Son, Jeonghye Choi

Offline environments affect the purchases of popular brands online. This study explores whether such relationship exists for niche brands; specifically, for the organic diaper brands. We investigate three offline elements: offline demand for the supercategory, i.e., the organic industry, offline shopping convenience, and proximity to a brand pole (a growth pole where the head quarter of a brand is located). The outcome is measured in two ways: online niche market size and online niche brand share associated with the region. Our results show that offline demand for organic industry spills over to online and increases online niche market size; however it does not affect the brand share. The offline shopping convenience of the focal brand negatively affects the share of the brand online, but does not affect the market size. The proximity to the brand pole affects both dimensions of niche product sales. Both the niche market size and the focal brand share are larger for the region closer to the brand pole. The study contributes to the literature of niche brands by investigating a novel setting and previously overlooked variables, and provides strategic implications to both the niche brands operating online and the online retailers who sell a large breadth of niche products.

2 - The Demand for One-to-One Customization: Evidence from the Personal Computer Industry

David Muir, Assistant Professor of Marketing, University of Delaware, Alfred Lerner College of Business & Econ, 20 Orchard Rd, Newark, DE, 19716, United States of America, muir@udel.edu

I study the demand for one-to-one customization in the personal computer hardware industry. Using household browsing, transaction, and demographic data from the comScore database, I uncover overwhelming evidence that households who buy and customize computer hardware online are "preference minorities" (Choi and Bell 2011). Preference minorities seek relief from local isolation by choosing to buy and to customize their computer hardware online. These households face smaller consideration sets and do not intensely search for information, implying they know their preferences well and find better matches

to their preferences through one-to-one customization. Correspondingly, agglomerated households predominantly use the Internet for research and comparison shopping, searching alternatives with intensity. Hence, like earlier research, I show evidence the Internet acts as a substitute to brick-and-mortar stores for preference minorities in relative local isolation, but acts as a complement for agglomerated households who have numerous offline options. Firms with capabilities to offer one-to-one customization, thus, should focus on both household types: isolated households are more likely to customize the default while agglomerated households are more likely to choose the default itself. This paper is the first to claim that preference minorities are the most likely consumers to engage in one-to-one customization.

3 - Affiliate Advertising

Hana Choi, Duke University, 1134 Millspring Dr., Durham, NC, 27705, United States of America, hana.choi@duke.edu, Carl Mela

In this paper we consider the market for affiliate advertising on e-commerce sites such as Amazon or eBay. These e-commerce sites are two-sided networks that obtain revenue from both sides of the platform; charging fees based on revenue from goods sold to the consumers on the site, while charging advertising fees from third-party affiliates who seek to obtain favorable search placements on the site. These two revenue sources often conflict; as advertisers obtain favorable placements, consumers may need to search through more alternatives, lowering their likelihood of purchase. We consider this trade-off by developing a joint model of consumer search and the market for affiliate advertising. In the process, we extend the literature on search along two dimensions. First, we consider the supply side ramifications of consumer search behavior via the affiliate advertiser problem. Second, we extend online search models to consider sites wherein information on goods is partially revealed, thereby requiring consumers to click away from the list of summary results to a detailed product page in order to consider the goods they search. Stated differently, we extend structural search models to include search, consideration and choice.

4 - Modeling the Click Stream – How Micro Journeys as Browsing Click Patterns Influence Conversions

Marc Linzmajer, Postdoctoral Researcher, University of St.Gallen, Dufourstr. 40a, St. Gallen, 9000, Switzerland, marc.linzmajer@unisg.ch, Ingo Frank Becker, Florian von Wangenheim

Online advertising has become increasingly complex from both, a technological and user behavioral perspective. Technology wise, advertisers employ novel targeting measures to pursue potential customers browsing the web, however, are insecure which customers are most promising in converting. Furthermore, users interact in a more elaborate manner leaving traits while browsing the web, but the extraction of implications manifested in these user traits is covered insufficiently. While preceded research focuses on singular clicks and associates them with categories, e.g., informational and navigational, in this study, we implement the time component and derive a novel concept to uncover hidden purchase intentions of customers. Routing from situational purchase involvement, we conceptualize and analyze users' browsing behavior, by summarizing browsing patterns of successive singular clicks that do not exceed a defined time interval, which we call micro journey. Consequently, an individual customer journey may contain one or multiple micro journeys which may comprise at least two or manifold successive clicks. Based on four large-scale individual user level data sets, we apply a proportional hazards model and reveal that micro journeys are well-suited to better predict user conversions. Users with micro journeys are more likely to convert – they convert directly after the micro journey as well as some time or clicks thereafter to equal proportions. We further characterize the micro journeys by employing two-staged cluster analyses and find that micro journeys that are preceded by singular clicks as well as micro journeys with navigational contacts are especially suitable to predict converting customers. The conceptualization of user behavior and its translation into conversion propensity is highly relevant for theory as well as practice, especially in vigorous environments, since we 3 introduce a theoretically grounded click pattern and enable advertisers to extract user behavior on their path to conversion to dynamically improve their marketing measures.

■ TB15

15- Fourth Floor, Essex AB

Developments in the Measurement and Modeling of Consumer Preferences I

Cluster: Special Session

Invited Session

Chair: Daria Dzyabura, Assistant Professor of Marketing, NYU, 40 West 4th St, Suite 805, New York, NY, 10012, United States of America, ddzyabur@stern.nyu.edu

1 - A Cognitive Model of How Users Type and Click on Search Engines

Jia Liu, Columbia University, Columbia Business School, New York, United States of America, jl3631@columbia.edu, Olivier Toubia

Our goal is to better understand how consumers form search queries online, in order to be able to learn about their preferences from their queries. How do consumers form online search queries? In particular, to what extent are queries reflective of preferences vs. semantic relationships between search terms? That is, do consumers simply include the terms they care most about in their queries, or do they strategically leverage semantic relationships between these terms? In order to answer this question empirically, we conduct an experiment in which we

manipulate preferences exogenously. We find evidence for semantic-based query formation, i.e., queries are not a simple reflection of preferences. This raises our second question: What types of semantic relationships do consumers rely upon when forming search queries? Based on two studies, we find that the queries formed by consumers are consistent with undirected semantic networks where nodes represent search terms and edges represent semantic relationships between these terms. Further, we explore systematic biases in consumers' beliefs on these semantic relationships. These findings provide the cornerstone for a model that answers our third question: How can we learn consumers' preferences from their search queries? Using a representation of users' semantic beliefs based on the previous findings, we build a framework for empirically identifying and estimating preferences based on the queries formed by consumers and their clicking behavior. Specifically, we build a cognitive dynamic choice model of consumers' search engine usage. The model captures what queries users type, which links they click on, and when they stop searching. We calibrate this model using data from a study in which we manipulate preferences exogenously, observe consumers' behavior as they search for information online consistent with their preferences, and estimate their preferences based on this behavior.

2 - When Words Sweat: Written Words Can Predict Loan Default

Alain Lemaire, Columbia Business School, alemaire18@gsb.columbia.edu, Michael Herzenstein, Oded Netzer

Unprecedented levels of US consumer loan default were key contributors to the 2008 financial crisis and have made it more difficult for individuals to secure a bank loan since. As a result an industry of online peer-to-peer lending that provides unsecured consumer loans has evolved. However, even though the leading crowdfunding platforms were able to reduce default rates over the years, they are still high, which signals there may be room to improve lending decisions. Traditional measures for loan default have included quantifiable financial measures such as credit rating and debt to income ratios. This paper presents empirical evidence that borrowers may leave traces of their personality and emotional state in their online loan application text and such traces are predictive of whether the borrower will default on his/her loan three years later. Using a large sample of loans and text mining methods relying on the established LIWC framework, we find that words related to personality traits such as extroversion and agreeableness are often used by borrowers who defaulted on their loans. Using a holdout sample of loans, we found that adding the aforementioned text and inferred personality traits to a model based solely on financial indicators significantly increased our ability to predict loan default.

3 - Choice Modeling with Feeling: Incorporating Emotions into Discrete Choice Models

John Roberts, Prof, UNSW Business School, UNSW Business School, UNSW 2052, Sydney, Australia, johnr@agsm.edu.au

Discrete choice models have been a major success story in marketing science, both from the perspective of theory and practice. Advances in recent years including incorporation of key phenomena such as unobserved heterogeneity and belief dynamics, together with developments in model specification, have greatly increased the range of problems that they can address, as well as the accuracy and rigor with which they can address them. I argue that one way to further increase the diagnosticity and forecasting ability of choice models is to incorporate emotions. Consumer behavior scholars have long described evaluation in terms of three elements; cognitive (or thinking), affective (or feeling) and connotative (or doing). I cite seventeen key articles in the consumer behavior literature each of which has as its first sentence an endorsement of the critical role of affect or emotions in the consumer evaluation process. And yet, if I look at 'emotions discrete choice' in Google Scholar, in terms of top tier articles, I come up with a null set. I see calls from economists such as Richard Thaler and psychologists such as George Lowenstein for work on the role of emotions in choice, but little resultant output from marketers. One reason for this is the difficulty of measuring emotions and a second is the difficulty incorporating them into our choice models in a grounded way. In this paper, I demonstrate a method for measuring emotions and show how it can be applied in practice to increase the explanatory power of our models and improve their diagnosticity. I then compare alternative formulations of emotions in choice, consider the structure of emotions in a way similar to has been performed with cognitions using perceptual mapping, and examine the relative role of emotions in different categories, looking across a set of 100 studies of emotions in choice.

4 - Using Online Preference Measurement to Infer Offline Purchase Behavior

Daria Dzyabura, Assistant Professor of Marketing, NYU, 40 West 4th St, Suite 805, New York, NY, 10012, United States of America, ddzyabur@stern.nyu.edu, Srikanth Jagabathula, Eitan Muller

Most preference elicitation methods that are used to design products and predict market shares, such as conjoint analysis, ask respondents to evaluate product descriptions, typically online. However, many of these products are then sold offline. In this paper we ask the question of how well preference elicitation studies perform offline when predicting consumer evaluation online. To that end, we conduct two within subject conjoint studies, one online, and one with physical products offline. We find that the weights of the product attributes ("partworths") are different in the online and offline studies and that these differences are large. Furthermore, we propose a model that captures this change in weights and based on this model, we derive an estimator for offline parameters, based on the individual respondent's online parameter, and population-level parameters. We demonstrate that this estimator leads to better out-of-sample prediction than simply using the online data. We also ask respondents to state their uncertainty about product attributes, and find that while respondents anticipate some of the attributes whose weights change, they completely miss on others.

■ TB16

16- Fourth Floor, Essex C

Working Paper IV

Contributed Session

Chair: K Sudhir, Yale School of Management, 165 Whitney Avenue, New Haven, CT, 06511, United States of America, k.sudhir@yale.edu

1 - Peer Effect of iPhone Adoptions on Social Networks

Tony Ke, University of California, Berkeley, 1117, Etcheverry Hall, Berkeley, CA, 94706, United States of America, kete@berkeley.edu, Zhuqing Yang

This paper studies the peer effect of iPhone adoptions in China. I use a unique data set from a provincial capital city in China, in a span of over four years starting from iPhones first introduction to mainland China. I construct a social network using six month's call transactions between iPhone adopters and all other users on a carrier's network. Strength of social ties is measured by duration of calls. Based on the network structure, I test whether an individual's adoption decision is influenced by his friends' adoptions. A fixed-effect model shows that, on average, a friend's adoption increases one's adoption probability in next month by 0.79%, and the marginal effect decreases in the size of his current neighboring adopters. To further control for potential time-varying correlated unobservables, I instrument adoptions of one's friends by their birthdays, based on the fact that consumers are more likely to adopt iPhones on birthdays. The IV estimation shows a comparable peer effect at 0.84%. I also investigate how network structures modulate the magnitude of peer influence. My results show that peer effect is stronger when the influencer has more friends or a stronger relationship with the influencee.

2 - The 'Prosperity-in-Youth' Effect in Category Adoption

K. Sudhir, Yale School of Management, 165 Whitney Avenue, New Haven, CT, 06511, United States of America, k.sudhir@yale.edu, Ishani Tewari

We show that individuals' circumstances during youth, in particular the experience of economic prosperity, is an important driver of their lifetime willingness to adopt new categories. We label this the 'prosperity-in-youth' effect. Using twenty-years of panel data spanning a period of rapid growth and proliferation of new categories in China, we find that cohorts born during the 1980s and 1990s – those who came of age during high economic growth— have a 13-20% higher lifetime coffee consumption. We can further identify this effect by exploiting cross-province heterogeneity in economic growth. Individuals who spent their youth in richer provinces are more likely to drink coffee and consume more coffee – ceteris paribus, youth in the richest provinces will have double the lifetime coffee share relative to tea than their poorest counterparts. The main driver of this effect is not youths' personal income, but rather the level of prosperity in the wider environment. Moreover, we show that this effect also holds for other modern categories, but not traditional ones. Overall, our results highlight the importance of taking into account both the temporal and geographic dimensions of past experience in assessing adoption behavior, especially in the context of high-growth emerging markets.

Thursday, 1:30pm - 3:00pm

■ TC01

01-Third Floor, GB 1

Advertising III

Contributed Session

Chair: Peter Danaher, Monash University, Department of Marketing, Caulfield East, Melbourne, 3145, Australia, peter.danaher@monash.edu

1 - Effects of Advertised Quality Emphasis and Objective Quality on Sales: Evidence from Minivan Market

Praveen Kopalle, Professor, Dartmouth College, 100 Tuck Hall, Hanover, NH, 03755, United States of America, praveen.kopalle@dartmouth.edu, Robert Fisher, Bharat Sud, Kersi Antia

Quality is a key determinant of sales but quality is hard to assess for experience goods, especially major durables. While advertising quality increases awareness and forms beliefs about quality, there is little empirical evidence documenting the effects of advertised, objective quality, and their interaction on sales. In this paper, we address the issue of to what extent firms should emphasize quality (e.g., mention quality a lot) in their advertising? We empirically assess whether high or low quality brands differentially benefit from emphasizing quality in advertising. Further, we develop a simple analytic model to further understand the normative link between advertised quality and objective quality. We find that higher quality brands benefit more from emphasizing quality in advertising compared to lower quality brands, and that quality emphasis could actually hurt sales of lower quality brands. The analytical model also suggests it is optimal for higher quality brands to emphasize quality more than lower quality brands, thus supporting the empirical result. Overall, the empirical results, analytical findings, and the model-free evidence, all show consistent results.

2 - A Times Series Analysis of Online Review Market Microstructure

Nikolaos Korfiatis, University of East Anglia, Norwich Business School, Norwich, NR47TJ, United Kingdom, n.korfiatis@uea.ac.uk, Nikolaos Vlastakis, Raphael Markellos

We propose a new methodological approach for the analysis of online reviews which borrows ideas and tools from the literature on financial market microstructure and time series analysis. The behaviour of aggregate z-scores of ratings for comparable products is investigated in both review and calendar time. Our empirical study employs a sample of over 40,000 Amazon reviews for 2,800 books. The serial autoregressive dynamics of ratings are consistent with an asymmetric sequential bias as only above average ratings have a significant positive influence on subsequent reviews. Day-of-the-week seasonality analysis of reviews using simple and quantile regression is not supportive of manipulation in the data. However, unconditional and conditional Markov transition probabilities suggest manipulation in reviews as it is much more likely that a higher rating follows a lower rating, compared to the opposite. We also analyse the time between reviews using the Autoregressive Conditional Duration (ACD) model of Engle and Russel, which has been developed to model unevenly spaced financial transactions. The results indicate again manipulation since reviews that appear sooner than expected have an abnormally high rating. Finally, an analysis of reviews as financial price "stub quotes", suggests that around 4% of the ratings in our sample are the result of manipulation.

3 - Social Retargeting – A Randomized Field Experiment

Thomas Frick, PhD Student, Rotterdam School of Management, Burgemeester Oudlaan 50, Rotterdam, 3062PA, Netherlands, frick@rsm.nl, Ting Li

The dominant player in the area of social media advertising, Facebook, generated around 11.5 billion US\$ revenue from advertising in 2014 alone. Social Retargeting combines the opportunities of social advertising with dynamic retargeting. This form of advertising allows advertisers to target users on social media based on demographics, personal preferences, social connections, as well as external browsing behavior on their websites. External browsing behavior is in this case used to target consumers, who browsed on the advertiser's product websites without purchasing, with advertising related to these products. In a randomized field experiment with a large European e-commerce company, we examine the factors that influence the effectiveness of social retargeting with respect to how closely consumers should be retargeted on social media. We focus on three dimensions of closeness, namely, (1) Product Specificity: Should consumers be re-addressed with advertising based on product or product category? (2) Temporal Distance: At what point in time should consumers be re-addressed with advertising taking their purchase decision process into consideration? (3) Social Endorsement: Does social endorsement in social retargeting increase advertising effectiveness through informational social influence or decrease it via privacy concerns of consumers? More precisely, we randomly present different advertising creatives to consumers in their Facebook newsfeed after their visit to the company's website. Our results can provide significant insights into how to adequately retarget consumers on social media as well as the causal relationships between the above mentioned dimensions and advertising effectiveness.

4 - A Simple Method for Multimedia Touch Point Attribution

Peter Danaher, Monash University, Department of Marketing, Caulfield East, Melbourne, 3145, Australia, peter.danaher@monash.edu, Harald van Heerde

The increasing availability of individual-level data containing all the media touch points along with purchase behavior has shifted the focus in media effectiveness measurement from elasticities to media attribution. Broadly speaking, media attribution is the assignment of a percentage weight to each of the media touch points a consumer is exposed to prior to making a purchase. A common attribution method used in practice is to assign all the attribution weight to the media touch point a person is exposed to immediately prior to purchase. However, this method ignores any carryover effect from other media a person is exposed to prior to purchase and favors media that have a higher exposure rate (e.g., email), even if they are ineffective. Instead, we propose a method based on the incremental contribution that each medium makes to the purchase probability. This method incorporates both current period and prior media exposure. Using simulations with data at the exposure level, we show how our proposed attribution method closely approximates the true media attribution weights. We then show how our method can be extended to commonly available weekly data. Finally, we illustrate the use of our method for two empirical examples involving multimedia campaigns and demonstrate the strong and managerially-relevant differences between our method, the most common industry method and the use of elasticities.

■ TC02

02-Third Floor, GB 2

Channel III

Contributed Session

Chair: Umut Konus, Dr. Assistant Professor, Amsterdam Business School, Plantage Muidergracht 12, M.2.05, Amsterdam, 1018TV, Netherlands, u.konus@uva.nl

1 - Doing Good to Do Better? Consumer Persuasion Knowledge Responses to Corporate Social Responsibility

Monika Kadam, PhD student, Waterford Institute of Technology, Cork Road, Waterford, Ireland, kadam.monika@yahoo.co.in

Corporate Social Responsibility has become a popular strategy amongst firms to give something back to the society, enhance their social image and possibly improve their financial performance. Today, information about socially irresponsible practices of firms is easily accessible through mass media, internet and social media. The present research focuses on analysing the use of consumer persuasion knowledge to evaluate CSR campaigns. This means understanding the extent to which consumers use their knowledge about how companies try to influence them while evaluating CSR campaigns by firms. The proposed research investigates the consumer psychology and consumer knowledge about persuasion tactics while making these evaluations. This puts the focus on the consumer rather than the firm or CSR campaign to understand consumer behaviour which is generic across all firms and CSR activities. The proposed research suggests that while the evaluations of CSR campaigns are mediated by consumer persuasion knowledge, they are also moderated by many other contextual factors such as perception of firm reputation, type of motive of the campaign and the intensity of this motive; for instance, whether such a motive is more appropriate or inappropriate.

2 - Efficiency and Effectiveness of “Mee Seva”:

An e-Governance Project in Andhra Pradesh, India

Lalitha Rani Daggubati, Professor, Andhra University, Department of Commerce and Management St, Visakhapatnam, AP, 530003, India, dlalitharani@gmail.com, V. Swamy Pulletikurthi

The high potential offered by the Information and Communication Technologies and widespread use of the internet is encouraging governments all around the world to introduce ICT tools to transform bureaucracy, reduce cost, improve governance, increase effectiveness, efficiency, reach and to fast-track economic and social progress. To provide information and services to the general public is the business of government. The Government of Andhra Pradesh introduced Mee Seva Project in the year 2011. The Mee Seva project is an easier, faster, online, web based, transparent and secured, citizen-centric service facility, to provide convenient access to the citizens without any need for them to go to multiple Government offices for the different government services. Visakhapatnam is a coastal, port city, often called “The Jewel of the East Coast”, situated in the state of Andhra Pradesh, located on the eastern shore of India. The central government of India has expressed the interest in making Visakhapatnam a ‘smart city’ and now, Visakhapatnam is on the path to become the country’s most modern city. Information Technology has become a catalyst for enabling more effective governance through better access to services for empowering the democratic process. Public are showing more interest in the use of Internet and Information Technology solutions. There is an increasing expectation that more citizens will utilize the national and local e-Government services for not only more efficient governance but also for improving public access to information and services. Efficiency in providing effective electronic government programs is vital for the improvement and enhancement of public services. In this context, the research examines the value, efficiency and effectiveness of e-Services within the government sector, with a focus on the customers’/citizens’ view of the usefulness and success of e-Service initiative with reference to Mee-Seva project in Visakhapatnam City, Andhra Pradesh, India.

3 - Safeguarding Pre-Existing Resources versus Creating Value in Industrial Contracts: Theory and Evidence

Desmond Lo, Santa Clara University, 500 El Camino Real, Santa Clara, CA, 95053, United States of America, hlo@scu.edu, Giorgio Zanarone, Mrinal Ghosh

Partners entering into collaborative relationships choose governance forms that balance the potential gains from these relationships with the hazards posed to their pre-existing resources and capabilities. Extant work in transaction cost economics has largely ignored this issue, focusing instead on how governance forms support productivity gains within a relationship. Building on the incomplete contracting approach, we develop a model that shows how OEM manufacturers can protect their pre-existing resources by contracting a price with their suppliers ex ante, which disincentivizes the suppliers from over-investing in activities that may facilitate appropriation of the OEMs’ resources ex post. We then take key predictions from the model to data on procurement contracts between OEMs and their component suppliers. Consistent with our theory, but not with alternative approaches, we find that OEMs tend to use closed-price contracts, rather than open-price contracts, when their pre-existing product and customer strength are high, and that the use of closed-price contracts reduces both the supplier’s dedicated investments and the OEM’s gains from the relationship. Our work provides the first formal theory and evidence in marketing on how parties, cognizant of the dark side of relationships, strategically trade-off protection of pre-existing resources and productivity gains in a relationship. We conclude with the academic and managerial implications of our study.

4 - How do Instant Touchpoint Experiences Affect Satisfaction and Behavior: A Mobile Real-Time Approach

Umut Konus, Dr. Assistant Professor, Amsterdam Business School, Plantage Muidergracht 12, M.2.05, Amsterdam, 1018TV, Netherlands, u.konus@uva.nl, Emma MacDonald, Hugh Wilson, Jing Li

Customers experience various touchpoints along their shopping journey. These touchpoints include conventional information, purchase and after-sales service channels of firms, traditional advertising media, in-store touchpoints, online-offline WOM, usage occasions and other firm, customer or others initiated encounters. Each instant experience, coupled with a touchpoint contributes to customer’s overall experience and relationship with the brand. It is relevant for researchers to know how these instant experiences influence satisfaction and behavior along the shopping process. In this research we investigate the effects of real-time touchpoint experiences on customer satisfaction, purchase and customer initiated WOM over time from an holistic perspective. We apply a novel mobile based real-time experience tracking method to track experiences from various touchpoints, including mass media, direct channels, in-store, outdoors, online, publicity and WOM. 448 customers reported more than 8000 touchpoint experiences via mobile text messages, every time they encountered their main current brand from each of three categories (supermarkets, banking, and healthcare) in a four-week period. We employ dynamic probit models together with simultaneous equations under the control of pre-satisfaction, customer demographics and psychographics. Our results reveal that the effect of instant customer experiences on satisfaction mainly comes from the valences of touchpoints, and not from their volumes. And these effects vary across touchpoints’ types and categories. Revealing the most influential touchpoints and experiences by using real-time mobile experience tracking will help managers to better target right customers with right touchpoints, offers and experiences.

■ TC03

03-Third Floor, GB 3

Decision Making

Contributed Session

Chair: Tong Lu, University of Pennsylvania, 727.9 Jon M. Huntsman Hall, 3730 Walnut St, Philadelphia, PA, 19104, United States of America, tonglu@wharton.upenn.edu

1 - Scarcity Polarizes Preferences: The Impact on Choice Among Multiple Items in a Product Class

Meng Zhu, Assistant Professor, Johns Hopkins University, 100 International Dr, Baltimore, MD, 21202, United States of America, mengzhu@jhu.edu, Rebecca Ratner

This research examines how the salience of scarcity influences choices of individual items from a product class. The authors propose that overall perception of scarcity versus overall perception of abundance increases choice share of the most-preferred item from a product class. They argue that this phenomenon occurs because scarcity induces arousal and the heightened arousal polarizes the evaluations of individual items contained in the choice set. The results from five experiments show that scarcity versus abundance broadens the discrepancy between the liking of the favorite and nonfavorite items and leads to a greater choice share of the favorite item. The findings provide support for the arousal-based explanation, showing that the effect of scarcity salience on choices is mediated by consumers’ reported arousal level and moderated by an experimentally induced arousal state.

2 - Generalized Mean Extension of Random Utility Models

Khaled Boughanmi, Columbia Business School, Coilumbia Business School, Uris Hall, 5th floor, 3022 Broadway New York, NY, 10027, United States of America, kb2662@columbia.edu, Rajeev Kohli, Kamel Jedidi

We extend random utility models to allow different context effects, including compromise and attraction effects. The proposed extension uses a generalized mean value to determine the deterministic utility component in a random utility model. The special case of a geometric mean reduces to a standard random linear utility model. We interpret the meaning of alternative means, including limiting cases in which the value of an alternative is determined by its single best feature, or its single worst feature. We estimate the proposed model for a problem concerning the choice of transportation modes, allowing heterogeneity in the means used by different consumers. Results suggest that the proposed model provides better fit and predictions than a multinomial logit model, and that consumers differ in their use of context effects.

3 - From Web to Wardrobe: Consumption Patterns in Online Apparel Retail

Tong Lu, University of Pennsylvania, 727.9 Jon M. Huntsman Hall, 3730 Walnut St, Philadelphia, PA, 19104, United States of America, tonglu@wharton.upenn.edu, J. Wesley Hutchinson

This project is aimed at understanding consumer search patterns during online shopping. In a lab experiment, we exogenously manipulated the amount of goal-directed versus stimulus-driven attention during online shopping trips by giving participants either a hedonic or a utilitarian goal for a purchase in the same product category, with visual attention captured using eye-tracking. We build a model of eye fixation choices from the landing page of the website up until the first click away. Our model captures how fixations are sequentially related, accounts for product information acquisition over time through visual attention, and incorporates a stopping rule framework based on traditional economic models of optimal search. Initial comparisons of the two goal conditions suggest that utilitarian shoppers tend to exhibit more goal-directed behavior (e.g., heading directly to the specified category), while hedonic shoppers exhibit more stimulus-driven behavior and are more willing to re-orient their goals during search (e.g., searching landing page more extensively, fixating on wider range of products). We have also collected data from a parallel in-store version of the experiment. In future work, we plan to compare search patterns for online and in-store shoppers, enabled by our new method of self-coding eye-tracking video.

4 - Debt Repayment Strategy and Consumer Motivation to Repay Debt

Simon Blanchard, Assistant Professor of Marketing, Georgetown University, 37th & O Street NW, McDonough School of Business, Washington, DC, 20057, United States of America, sjb247@georgetown.edu, Keri L. Kettle, Remi Trudel, Gerald Häubl

This research examines how consumers' motivation to pursue an overarching goal is affected by their selective pursuit of non-ordered subgoals. We investigate this question in a context that affects many consumers – the repayment of multiple debt accounts. Our key hypothesis is that paying down debt accounts sequentially (concentrating repayments on one account at a time) rather than simultaneously (spreading repayments out evenly across multiple accounts) leads consumers to infer greater progress toward the repayment of their overall debt which, in turn, enhances their motivation to repay their remaining debt. A large-scale field study of more than 5,000 indebted consumers reveals that the use of a more sequential strategy increases subsequent debt repayment success, and three laboratory experiments provides further evidence of the optimality of sequential subgoal pursuit. We also show that partial repayment of any one debt account is sufficient for the sequential strategy to enhance the motivation of indebted consumers.

TC04

04-Third Floor, GB 4

Internet and Incentives

Contributed Session

Chair: Marcel Goic, Assistant Professor of Marketing, University of Chile, Republica 701, Santiago, Chile, mgoic@dii.uchile.cl

1 - An Empirical Analysis of Customer Inbound Communication Decisions

Yi Xin, Johns Hopkins University, 3400 N Charles St., 440 Mergenthaler Hall, Baltimore, MA, 21218, United States of America, yxin4@jhu.edu, Baohong Sun, Jian Ni

The increasing popularity of Internet and mobile Internet allows customers to have 24/7 access to rich information, learn about product and services on their own, initiate communications to request information, products and services. Today's customers are in the drivers' seats than ever before to initiate contacts with the rms (inbound communications) at any time and through multiple touch points. Firms are shifting from outbound marketing to on-demand marketing. It is imperative to develop research to understand how customers make inbound communication decisions. We propose dynamic simultaneous equations, in which customers make decisions on when to initiate requests using which channel and for what reason. Consumers' evolving needs for products is taken into account using a hidden markov process. Applying the model to a rich dataset with history of consumer inbound and outbound communication offered by a large financial service company, we investigate how the evolving needs affect their choices of inbound communication channels. More specifically, i) how customers migrate to Internet and mobile channels; ii) how the new channels empower customers in managing information and demand; iii) how do empowered customers evolve in using multiple touch points to manage their different types of requests; iv) whether the increasing in democracy increases customer demand for product and services. A better understanding of customer decisions on channel choices shed lights on how rms' can sharpen their outbound communication strategies to better synchronize with the stream of customer inbound requests. We then run simulations to show rms can better manage customer lifetime value by integrating outbound communications with customer inbound requests.

2 - Empirical Analysis of the Effectiveness of Mobile Channels

Marcel Goic, Assistant Professor of Marketing, University of Chile, Republica 701, Santiago, Chile, mgoic@dii.uchile.cl, Jose Guajardo

The proliferation of mobile technology generates a number of new challenges and opportunities for firms to interact with consumers. One unique feature enabled by mobile technologies is the possibility to incorporate location-based information to communicate with consumers more effectively and in real time. In this project we use data on location-based transactions to investigate the role of this type of information in generating more effective promotional vehicles and increasing firms value propositions. In this project we analyze a novel dataset from a mobile app that enables firms to communicate with consumers sending them product information, promotions and discounts, when they are close to a store. More specifically we empirically investigate the conditions under which the use of location-based information is more likely to have an impact on product awareness, consideration and recommendation.

3 - Do You Really Want Them Back? How Promotions Affect the Value of Ex vs. New and Current Customers

Irina Dyshko, Goethe University Frankfurt, Grueneburgplatz 1, Frankfurt, 60323, Germany, Dyshko@em.uni-frankfurt.de, Christian Schulze

Firms increasingly woo ex-customers, implicitly assuming that it generally pays off to win them back. Although price promotions increase the probability to reactivate a lost customer, it is not clear whether ex-customers reacquired through deep discounts will a) be profitable in the promoted product category and b) cross-buy products from non-promoted categories. Given a limited promotional budget, should marketing managers really target ex-customers or should they maybe even exclude them from promotions and focus their efforts on new and current customers instead? In this study, we compare the impact of price promotions with different incentive sizes on new, current and ex-customers. We observe complete purchase and transaction histories of more than 60,000 clients of a financial services firm. These customers are tracked over five years after the promotion so that long-term effects can be studied. We assess customer value indicators not only within the promoted product category, but also analyze revenue, loyalty, cross-selling and profitability on the company level. We show that ex-customers do not significantly differ from new customers if the promotional incentive is small. However, as incentive size increases, excustomers' value quickly decreases. Compared to new and current customers, lost customers are by far the least attractive group to target with substantial discounts. We also demonstrate that negative effects of price promotions are not limited to the promoted product category only. Even on the firm level, larger incentives attract low value customers.

4 - Incentives in the Online Labor Market: Money and/or Hobby

Yajing Jiang, Johns Hopkins University, 440 Mergenthaler Hall, 3400 N Charles St, Baltimore, MD, 21218, United States of America, yjiang20@jhu.edu, Jian Ni, Xinlei Chen

The popularity of online labor market, especially in the form of contest, allows employers to attract the talented labors, while help diligent and determined workers offer their service to the employers who value them most. Such market is also credited for being effective to spur innovation. Even though the rebate structure is widely adopted in these platforms, other types of reward schemes are discussed and/or advocated. Using a unique field experimentation induced by the reward scheme change in one of the leading online labor market platform, we find workers behave differently in response to the monetary incentives. The higher rewards do not necessarily lead to better quality work. We then devise some stylized theoretical model to explain such phenomena. The nature of loving the job itself (in this case, programmer) turns out to be important impact in designing the labor market incentive. This is due to the fact that providing high reward might attract the "wrong" people into the coding task therefore reduces the average quality of the submission. We further test the model implication based on the post-experiment data. We find there exhibits two types of programmers consistent with the theoretical prediction. We conclude that without considering these nonmonetary incentives, the online labor market designed to attract best talents could undermine the good intention of the platform and the recruiters.

TC05

05-Third Floor, GB 7

Working Paper VI

Contributed Session

Chair: Monic Sun, Boston University, 595 Commonwealth Ave, Boston, MA, United States of America, monic@bu.edu

1 - Why Keep Your Product Value Secret from Competitor's Customers?

Mushegh Harutyunyan, Washington University in St. Louis, 1 Brookings Dr, WUSTL, Seigle Hall, Room 307, St. Louis, MO, 63130, United States of America, m.harutyunyan@wustl.edu, Baojun Jiang

A firm's customers often have better knowledge about the benefits or value of the firm's product than non-customers. We consider a situation in which customers learn some unanticipated or hidden use value of the purchased product while the non-customers remain uninformed about that extra value. Clearly, a monopolist will find it optimal to inform the non-customers of its hidden product value. However, our analysis reveals that it is not necessarily the case when the firm

faces competition in the market. We show that the firm may be better off if it keeps its hidden value secret from its competitor's customers even if it is costless to advertise and inform those customers. Keeping its product's extra value secret gives both firms incentives to continue to serve their own existing customers rather than to poach the competitor's customers. This will alleviate price competition and increase both firms' profits.

2 - Competitive Mobile Targeting

Monic Sun, Boston University, 595 Commonwealth Ave. Boston, MA, United States of America, monic@bu.edu, Yuxin Chen, Xinxin Li

We investigate in a competitive setting the consequences of mobile targeting, the practice of firms setting prices based on consumers' real-time locations. A distinct market feature of mobile targeting is that a consumer could travel across different locations for an offer that minimizes his total cost of buying. This cherry picking opportunity imposes constraints on firms to carefully balance prices across locations, which in turn weakens their price competition at each location. As a result, a firm's profit can be higher under mobile targeting than under uniform pricing or under targeted pricing based on consumers' permanent location. Extending the main model, we also discuss how the profitability of mobile targeting may change with the fraction of consumers who are mobile accessible to the firms, the distribution of consumers across locations, and the possibility of tracing down a consumer's base location and restricting him to offers at that location. Our findings have important managerial implications for marketers who are interested in optimizing their mobile targeting strategies.

TC06

06-Third Floor, GB 8

Decision Neuroscience I (Origins and Applications)

Cluster: Special Session

Invited Session

Chair: Carolyn Yoon, Professor, University of Michigan, 701 Tappan Street, R5374, Ann Arbor, MI, 48104, United States of America, yoonc@umich.edu

1 - Decision Neuroscience: Its Birth, Current State and Future

Antoine Bechara, bechara@usc.edu, University of Southern California

Decision neuroscience is an emerging area of research whose goal is to integrate research in neuroscience and behavioral decision-making. Neuroeconomics is a more specialized field of study that seeks to bridge neuroscience research on human choice with economic theory, whereas neuromarketing addresses the neuroscience behind consumers' choices, including product branding, preference, and purchase decisions. All these areas capitalize on knowledge from the fields of neuroscience, behavioral economics, finances, and marketing to explore the neural "road map" for the physiological processes intervening between knowledge and behavior, and the potential interruptions that lead to a disconnection between what one knows and what one decides to do. Decision neuroscience can enrich our understanding of a variety of human decision-making phenomena that inform many areas of life, and which interest the economists, marketing specialists, neuroscientists, psychologists, and physicians attempting to understand the neural basis of judgment and decision-making in social behavior and market economies. In this presentation, I will review the birth of this field, the past decade of research in decision neuroscience, and an outlook on where the field could be moving in the future.

2 - Neural Prediction of Crowdfunding Decisions

Carolyn Yoon, Professor, University of Michigan, 701 Tappan Street, R5374, Ann Arbor, MI, 48104, United States of America, yoonc@umich.edu

The popularity of crowdfunding on the internet has grown exponentially in recent years, with over \$10 billion raised in 2014, and that amount expected to double in 2015. Crowdfunding platforms offer a unique opportunity for individuals to engage with products as both financial supporters and consumers. The present study investigates the neural and psychological mechanisms responsible for individual decisions to fund projects. In particular, it focuses on the ability of neural activity to predict funding behavior. Participants made decisions regarding crowdfunding projects using real money while in the fMRI scanner. Neural analysis contrasting whole-brain activity in trials in which participants decided to fund versus trials in which they did not, indicated specific neural circuits whose activity predicted individuals' choices to contribute to crowdfunding projects. Greater activation in brain regions associated with positive affect (i.e., bilateral nucleus accumbens and caudate) and value integration (i.e., medial prefrontal cortex), while viewing the projects, predicted eventual decisions to fund. This activity occurred before the decision phase of the trial, and is thus temporally distinct from activity associated with the act of indicating a choice. In other words, neural activity while viewing the project information during an early phase of the trial successfully predicted decisions to fund later in the trial. Study findings highlight the potential for neural measures to predict funding decisions in a new domain of consumer decision-making with significant economic consequences, to hone theoretical accounts about which neuropsychological mechanisms drive crowdfunding decisions, and eventually, to improve the practice of constructing effective project appeals.

TC07

07-Third Floor, GB 9

Game Theory III

Contributed Session

Chair: Kinshuk Jerath, Class of 1967 Associate Professor of Business, Columbia Business School, Columbia University, 3022 Broadway, New York, NY, 10027, United States of America, kj2323@columbia.edu

1 - Strategic Under-Testing by Diagnostic Experts

Shubhanshu Singh, Johns Hopkins University, Carey Business School, Baltimore, MD, United States of America, shubhanshu.singh@jhu.edu, Tinglong Dai

Patients may lack the knowledge about the true state of their health. Line managers may not know the cause of the failure of a production line. Agents often rely on diagnostic experts, such as medical doctors or line engineers, for evaluation of the state of the world in such situations; an expert, on the other hand, often only imperfectly observes the true state of the world and may require additional testing. We model the incentives of a diagnostic expert, who cares about her own as well as the agent's well-being, to diagnose the state of the world either based on her signal or suggest further costly testing. We present interesting insights about diagnostic expert's behavior driven primarily by expert's concern for reputation.

2 - Quality Choice in a Supply Chain with Newsvendor Considerations

Kinshuk Jerath, Class of 1967 Associate Professor of Business, Columbia Business School, Columbia University, 3022 Broadway, New York, NY, 10027, United States of America, kj2323@columbia.edu, Sang Kim, Robert Swinney

We analyze a firm designing and selling a seasonal product with demand uncertainty and a single ordering opportunity with significant lead time. Prior to the start of the selling season, product quality and inventory must be jointly determined; a higher quality product results in a greater selling price but also greater marginal production cost. We consider both a centralized supply chain, in which a single firm determines quality and inventory, and a decentralized supply chain, in which a manufacturer determines product quality and a retailer determines inventory. We find that, for both centralized and decentralized supply chains, newsvendor considerations (i.e., the possible mismatch between supply and demand) lead to lowering of quality as compared to the case without newsvendor considerations. This is because the possibility of having leftover inventory leads to underinvestment in quality as the cost of increasing quality is incurred on every unit produced while revenue is realized only on the units actually sold. We also find that, in a decentralized supply chain, even though in our model wholesale price contracts can coordinate the supply chain in the case without newsvendor dynamics, they cannot coordinate the supply chain in either inventory or quality with newsvendor dynamics present. In other words, newsvendor considerations introduce a new type of inefficiency in the supply chain, specifically with respect to determining quality level. Interestingly, despite the fact that double marginalization reduces manufacturer incentives to invest in quality, we show that quality is often higher in a decentralized system than in a centralized system, all else being equal. This is because the manufacturer, who makes the quality decision, is partially shielded from demand uncertainty in a decentralized supply chain.

3 - Voluntary Information Disclosure for Complementary Products

Hyun Chul Maeng, PhD student, HKUST, Room 4017 LSK Building HKUST, Clear Water Bay, Kowloon, Hong Kong, Hong Kong - PRC, hcmaeng@ust.hk, Liang Guo

Many researches have investigated seller's information provision to buyers. However, information provision for highly complementary products is hardly examined. This study investigates how complementarity may influence seller's incentive to voluntarily disclose quality information, and draws comparisons among three scenarios: an integrated seller case, a separated seller case in which each seller observes both products' quality levels at the time it decides on disclosure (the common information case), and the other separated seller case where own product's quality level is universally private information (the independent case). First, we find that favorable information on a complementary product may not be disclosed due to unfavorable information on the other complementing product when sellers observe both products' quality levels at the time they make disclosure decisions. Secondly, more information is disclosed in the integrated case than in the common information case because integration increases ex ante revenue, which in turn gives more incentive for quality disclosure, and because the integrated seller cares disclosure costs for both products whereas the separated seller considers only own product's disclosure cost. Also, the amount of information revealed in equilibrium is influenced by information structure. Finally, we Examine ex Ante equilibrium Profit and Social welfare, and find interesting result: ex ante equilibrium market profit is lower in the integrated case than separated cases when disclosure cost is intermediate because ex ante disclosure cost undermines integrated seller's ex ante profit most severely when disclosure cost is intermediate. However, ex ante social welfare is highest in the integrated case due to the highest ex ante buyer surplus.

4 - Competitive Couponing

Bobby Zhou, Assistant Professor in Marketing, University of Maryland, 3461 Van Munching Hall, Robert H. Smith School of Business, College Park, MD, United States of America, bzhou@rhsmith.umd.edu, Debu Purohit, Preyas Desai

Although coupons continue to be one of the most popular promotional instruments employed by marketers, the effectiveness and profitability of these promotions remains contested. The consensus view from the academic literature is that these promotions are the result of a prisoner's dilemma situation and competing firms would actually be better off without these promotions. In this paper, we propose an alternate and competing view. We do this by developing a game-theoretic model of two competing firms. We use a standard Hotelling framework to model two competing firms that have to decide whether or not to offer coupons to consumers. There are three consumer segments that differ in their valuations for the product, their costs of searching and using coupons, and the degree of loyalty they feel toward both firms. An important result of our analysis is that both firms can choose not to offer coupons because of the prisoner's dilemma nature of competition. In other words, the competing firms would have been more profitable if they both offered coupons; however, because there are gains to be made from unilaterally deviating from this strategy, both firms end up not offering coupons. This is a striking result because it goes against the standard thinking that coupon promotions are the result of a prisoner's dilemma situation. We develop this idea further by studying the moderating role of imperfect targetability of these promotions and highlight the role of coordinating equilibria in this framework.

TC08

08-Third Floor, GB 10

Network

Contributed Session

Chair: Sudhir Voleti, Assistant Professor, Indian School of Business, Gachibowli, Hyderabad, India, sudhir_voleti@isb.edu

1 - What if the Dependent Variable is a Mass of Text? A Network-Based Approach

Sudhir Voleti, Assistant Professor, Indian School of Business, Gachibowli, Hyderabad, India, sudhir_voleti@isb.edu

Analysis and insight-mining from free-form text has received much research attention in recent years. Much of the work in this area deals with either 'supervised' analysis wherein well-defined dependent variables are regressed over covariates including raw text or 'unsupervised' analysis in interdependent models where there are no dependent variables. In either case, the large-dimensionality is sought to be reduced by various means before model estimation is carried through. We consider a problem context wherein (i) free-form text constitutes the dependent variable, and (ii) the dimensionality of the text is not reduced after the tokenization stage, thereby preserving the richness of the information in the text. We propose a framework wherein a semantic network of the free form text is the dependent variable and a set of network graphs based on predictors and antecedents are independent variables. We then apply network regression based analysis and inference procedures. We empirically demonstrate our approach on two datasets - one for consumers' open-ended ice cream flavor preference, and another for respondents' open-ended brand preferences - regressed against demographic, psychographic and behavioral characteristics. We summarize our findings and discuss insights and managerial implications therein.

2 - A Flag-Up Algorithm and Test for Non-Stationary Customer-Specific Product Graphs

Morten H. J. Fenger, PhD Student, Aarhus University, Bartholinsalle 10, Aarhus, DK, 8000, Denmark, mhjfenger@badm.au.dk, Joachim Scholderer

Panel scanner data allow detailed analysis of the behavior of individual customers. We show that, when individual shopping baskets are represented as unweighted product graphs, and their aggregations over time as weighted product graphs, assumptions about the stationarity of such graphs are equivalent to assumptions about the stationarity of any Markov process. However, when the vertex set is defined by the SKUs of a retailer, the transition matrix governing the process becomes so large that computationally feasible tests of stationarity have to be based on sparse data representations. We propose a feasible test against the null hypothesis that a given customer has a stationary basket composition. We suggest an algorithm that compares graphs at consecutive periods in terms of weighted lists of edges that are actually present, and hierarchically merges edges to ensure that all expected values are above five. The resulting statistic is Chi-square distributed, with degrees of freedom equal to the number of edges that are present, with a penalty based on shopping basket size. The test is demonstrated using panel scanner data from 4,921 supermarket loyalty card holders over a 19-month period. The results show that the test is clearly able to identify customers with evolving behavior, and that it can easily be deployed as part of a CRM system. It enables companies with loyalty programs to focus on nonstationary customers, i.e. customers who may represent opportunities for cross selling and customers who may be likely to churn.

3 - Microfinanced, Social Network-Based BoP Markets: Analysis of Entrepreneurial Economic Performance

L. Lin Ong, PhD Candidate, University of North Carolina at Chapel Hill, 3 Meeting House Lane, Durham, NC, 27707, United States of America, llinong@gmail.com, Sridhar Balasubramanian, Lisa Jones Christensen

In developing economies where 60-80% of the population may be unbanked, microfinance, or the provision of small-scale financial products to low-income individuals, has emerged as a significant source of financial opportunity and inclusion. With a worldwide capitalization of over \$10 billion and robust, consistent growth of the microfinance sector, managers are required to develop a deeper understanding of the microfinance consumer as the marketplace increases in sophistication. This paper identifies key drivers of the financial performance of microfinanced, socially-embedded microentrepreneurs in a BoP market. Through a unique dataset collected through a partnership with a Kenyan microfinance institution (MFI) that combines individual survey, network, and loan transaction data, we explore the separate impacts of the microentrepreneurs' entrepreneurial orientation, human capital, commitment to their MFI organization, and their obligations to their social network. We further investigate how a microentrepreneurs' network position within the MFI's client roster interacts with typical indicators of entrepreneurial advantage to drive personal financial performance. By increasing their client's economic success, MFIs decrease their banks' default rates while helping the microentrepreneurs achieve financial stability. These outcomes fulfil both the key business objectives and the social imperatives pursued by MFIs, and also increase their client base's attractiveness to further monetary investment. We expect that this work will (a) help MFIs and other organizations identify and develop traits that characterize successful microentrepreneurs, (b) assist managers who structure and manage microentrepreneur-based social network channels to maximize the likelihood of client financial success, and (c) help policy makers, social planners, and managers to develop educational and social interventions that will help individuals move – and stay – out of poverty cycles.

TC09

09-Third Floor, Dover AB

The Interplay between Social Networks and Consumer Behavior

Cluster: Special Session

Invited Session

Chair: Yaniv Dover, 100 Tuck Hall, Hanover, NH, 03755, Israel, yaniv.dover@tuck.dartmouth.edu

1 - Online Shopping and Social Media: Friend or Foe?

Yuchi Zhang, Temple University, Philadelphia, PA, United States of America, yuchizhang@gmail.com, Andrew T. Stephen, Zainab Jamal, Michael Trusov

As social media use continues to increase, an important question for marketers is whether consumers' online shopping behaviors are affected by their use of social media websites and, if so, what is the nature of this effect. On the one hand, spending time on social media websites could facilitate social discovery, meaning that consumers "discover" or "stumble upon" products through connections they have to others in social media. On the other hand, social media could be a substitute for other online behaviors, including shopping. To test the relationship between social media use and online shopping, the authors leverage a unique consumer panel dataset that tracks individuals' browsing of shopping and social media websites and their online purchasing behaviors over one year. The authors find that, consistent with social discovery, consumers who engage with social networking sites (i.e. online communities, not blogs) shop more: they are more likely to make a purchase, make more purchases, and use more online retailers. However, there is a short-term substitution effect whereby increased engagement with all types of social media (networks and blogs) leads to lower shopping activity.

2 - The Impact of Homophily and Popularity on Product Selection

Ron Berman, Wharton School, University of Pennsylvania., ronber@wharton.upenn.edu, Raghuram Iyengar

Research has shown that consumers overweight recommendations from their friends compared to non-friends when making purchase decisions. The choice of which product to inquire and recommend, however, is not determined exogenously without regard to the product's popularity. We explore the impact of providing popularity information as part of the recommendation on the decision process of consumers and its optimality. Specifically, we focus on how endogenous consumption and recommendation decisions of your friends affect what you consume.

3 - The Value of the Discrepancy between Numerical Rating and Textual Information in Customer Reviews

Florian Stahl, University of Mannheim Business School, florian.stahl@bwl.uni-mannheim.de, Oded Netzer

Online reviews have become a major source of information for consumers when evaluating and deciding which product to choose. Product reviews commonly include a numeric evaluation as well as a textual description of the review. Previous research has primarily analyzed the numerical ratings of product reviews and their impact on other consumers and product sales. The reason for the focus on quantitative measures is mainly the difficulty involved with analyzing textual data. More recently several papers have analyzed the content of the reviews. In

this research we empirically investigate the impact of inconsistencies in consumer online reviews on relevant marketing outcomes. In particular, we analyze how positive as well as negative divergences between the overall numerical evolution of the review and the “objective” evaluation by human coders of the content of textual comments may affect how consumers value the review as well as product sales. We use consumer reviews from Amazon.com across several product categories to obtain the numerical evaluation (star rating) and the text of the review for thousand of reviews. Additionally, for each review we had humans read the textual content of the review and rate the review solely based on the textual content. These two sources of data give us a measure of divergence between the numerical ratings and the equivalent measure of the textual data. We find that inconsistencies, i.e., instances when the text was inconsistent with the overall numerical rating, were informative with respect to how helpful other consumers find the reviews as well as product sales.

4 - Multi-Scale Tomography Analysis of Online Network Communities for Predicting the Emergence of Collective Social Behavior

Danny Shapira, Guilford Glazer Faculty of Business & Management, Ben-Gurion Univ. of the Negev, Beer Sheva, Israel, shapirad@bgu.ac.il, Yaniv Dover, Jacob Goldenberg

Social network theory was built using mathematical underpinnings that were developed based on the foundations of graph theory, wherein the units of analysis are nodes and links that represent individuals and their social ties. While it is true that consumers derive value from their close peers, we argue that in order to study network stability, more extended subnetworks, or social circles, are equally important (yet often ignored). Social circles can exist across scales – from the level of small core groups up to the level of an entire network. Our main premise is that social circles across scales constitute the “glue” that bonds communities of consumers together and enable a network to grow, while maintaining stability. Therefore, mapping the multi-scale structure of social circles can provide valuable insight in regard to the likelihood of a network to prosper. We will present a multi-scale tomographical online network analysis approach that facilitates the prediction of network stability and enables managers to predict and monitor the growth and wellbeing of online consumer communities.

TC10

10-Third Floor, Dover C

Retailing III

Contributed Session

Chair: Els Breugelmans, Associate Professor, Faculty of Economics and Business, KU Leuven, Korte Nieuwstraat 33, 2000 Antwerpen, Belgium, Els.Breugelmans@kuleuven.be

1 - Weather Sensitivity Analysis (WSA) in Grocery Shopping Trip

Sangkil Moon, Associate Professor, UNC Charlotte, 9201 University City Boulevard, Charlotte, NC, 28223, United States of America, smoon13@unc.edu, Younghan Bae, Moon Young Kang

Although weather is known to influence consumer behavior and, accordingly, businesses react to weather-caused consumer behavior, marketing scholars have not examined weather marketing as intensively as its importance suggests. To fill this research void, we choose the grocery shopping setting, where weather can influence shoppers' shopping trip incidence and basket size. We theorize that the weather event (e.g., rain, snow, thunder, fog) and the temperature discrepancy (the discrepancy from the standard temperature condition 68°F) decrease both shopping trips and basket sizes because such unfavorable weather brings shoppers' mood down. In the shopping trip, however, the negative weather impact is mitigated for less frequent shoppers because less frequent shoppers have higher basic shopping needs than more frequent shoppers. Similarly, in the basket size, store price familiarity lessens such a negative weather impact because shoppers in a familiar environment feels less uncomfortable about unfavorable weather. To explain both shopping trip and basket size simultaneously, we use a type 2 Tobit model. Using the grocery shopping data of Eau Claire, Wisconsin, we empirically support our weather marketing hypotheses.

2 - How Should Specialty Stores Compete with Big Box Retailers?

Huihui Wang, Duke University, 100 Fuqua Drive, Durham, NC, 27708, United States of America, huihui.wang@duke.edu, Wilfred Amaldoss, Preyas Desai

Search is costly and it affects store visit and purchase decisions. In this paper, we examine how store visit costs and evaluation costs affect the strategic behavior of consumers and, in turn, the pricing, promotion and product portfolio decisions of competing retailers. Our analysis offers insights on how specialty stores can compete with big box retailers. We consider a market in which consumers incur a travel cost to visit stores and an evaluation cost when examining the product at the store. In our model, a specialty store selling a niche product competes with a big-box store selling the niche product and a basket of staple goods. By visiting the big-box store, consumers can enjoy one-stop shopping but the specialty store can help reduce the evaluation cost by providing better product information and customer service. We find that it is not always the case that the big-box store sells the niche product at a price lower than the specialty store. Depending on characteristics of consumers that choose to go to the big-box store first, the big-box store would choose a price higher or lower than the price of the specialty store. Interestingly, we also find that the entry of the big-box store hurts the specialty store's profits even when the big-box store charges a higher price. We then examine the specialty store's product strategy to derive conditions under which the specialty store earns higher profits than the big-box store from the niche product.

3 - Agglomerated Retail Locations as the Market Equilibrium of Customer Service

Purushottam Papatla, Professor, University of Wisconsin-Milwaukee, 3202 N. Maryland Avenue, Milwaukee, WI, 53211, United States of America, papatla@uwm.edu, Amit Bhatnagar

An age-old issue in retail location studies is: why do retailers co-locate? Logic would suggest that stores locate far from each other to minimize the competition. Co-location makes product and price comparison less expensive for consumers and, hence, cannot be the optimal strategy. Empirical research, however, suggests that retailers do co-locate to benefit from demand by consumers who value retail agglomerations. Further investigations into the reasons why consumers value agglomerated retail locations identify two types of consumers: (1) those who are imperfectly informed and, hence, engage in search; these consumers seek reductions in search costs through the proximity of various retailers (Brown 1989) (2) those who are interested in multi-purpose shopping (McLafferty and Ghosh 1986). We suggest that there could be a third factor that can explain consumer interest in shopping in agglomerated locations: customer service. Our key argument is that co-location of stores reduces price dispersion thus increasing retailers' desire to gain a competitive advantage through service. Specifically, we theorize that retailers in agglomerated locations offer better service than stand-alone retailers or those that operate in areas with lower agglomeration. The consequent consumer preference to shop in agglomerated locations, in turn, attracts retailers to operate in such locations despite the proximity to competition and the costs of increased customer service. We test our theory using online consumer ratings of retailers of a broad range of products and services. The data includes precise coordinates of the geographic locations of the retailers thus permitting us to assess the level of agglomeration. Our empirical results support our theory. Specifically, we find that as agglomeration increases consumer ratings of customer service of retailers also increase. The inclusion of a broad range of retailers, products, and services, and, hence, diverse consumers, reduces the likelihood of poorly informed consumers or consumers who prefer multi-purpose shopping as endogenous explanations for our finding.

4 - The Clash of the Titans: On Retailer and Manufacturer Vulnerability in a Conflict Delisting

Els Breugelmans, Associate Professor, Faculty of Economics and Business, KU Leuven, Korte Nieuwstraat 33, 2000 Antwerpen, Belgium, Els.Breugelmans@kuleuven.be, Kathleen Cleeren, Sara Van der Maelen

In the grocery retailing landscape, retailers have gained power and the days of dominant manufacturers dictating the game are long gone. As a result, negotiations between both titans can be tough, and can escalate in major clashes. In such a clash, a weapon often used by both parties is the threat or the decision to delist the manufacturer's brands from the retailer's assortments, i.e., a conflict delisting. The objective of this study is to investigate the changes in brand and retailer share that occur as a result of a conflict delisting to gain insights in the retailer's or the manufacturer's vulnerability caused by consumers switching stores and brands, respectively. We expect that the vulnerability of both parties depends on several brand, retailer and category characteristics such that a manufacturer (or retailer) gets hurt more in one case than in another one. We have access to sales data of a natural field experiment, concerning a real-life “war” between a major retailer and a major manufacturer in the Belgian market that affected 47 categories, and 59 brands of the manufacturer. Overall, we find that the average shift in brand share during when compared to before the delisting is positive, whereas the average shift in retailer share is negative. Although the retailer, on average, seems to draw the short end of the stick in the conflict under research, there is a substantial amount of variability across the different brand-category cases, resulting in cases where the retailer outperforms the manufacturer.

5 - Measuring the Effects of a Sustained Targeted Couponing Program in a Supermarket Chain

Jorge Gonzalez, IESE Business School, Avda. Pearson, 21, Barcelona, Spain, JGonzalez@iese.edu, Ignacio Osuna, Julian Villanueva

Targeted couponing programs (TCPs) are becoming more popular as retailers embrace the big data revolution and decide to use the richness of transaction data to implement a level of targeting that previous promotional schemes could not achieve. The authors propose a method of measuring the elasticities of coupons issued in the context of a TCP, compare the elasticities of different coupons types and, finally, analyze coupon elasticities and TCP's effectiveness heterogeneity at the store level. Their unique dataset allows them to observe a sustained program targeting 393,000 loyalty cardholders in 349 European grocery stores through a two-year period. The retailer of study issued two types of coupons: reward coupons with the goal of keeping customers from switching to a competitor and trial coupons to invite customers to buy product categories they were not currently buying. The authors find trial coupon elasticities to be larger than those of reward (4.86% vs. 0.82%). They also find substantial heterogeneity across stores. When analyzing the long-term effects of the program, the authors conclude that trial coupons can be a good marketing tool in the long-run both for purchase consolidation and for minimizing attrition of some clients even if they were somewhat opportunistic. For reward coupons, one should not focus only on their low elasticity levels. Even though investing more money in reward coupons does neither consolidate purchases nor minimizes attrition, stores with customers exhibiting a more intense use of them (i.e., higher redemption levels) had a better weekly sales evolution.

■ TC11

11-Third Floor, Atlantic

Location Decisions

Contributed Session

Chair: Pravat Surya Kar, Assistant Professor, GIM, Goa, Sanquelim, GOA, GO, 403505, India, pravat@gim.ac.in

1 - Revisiting Rural India's Periodic Markets: RRA of Two HAATS

Pravat Surya Kar, Assistant Professor, GIM, Goa, Sanquelim, GOA, GO, 403505, India, pravat@gim.ac.in

Serving the remote rural consumers in emerging economies like India have always been a challenge for the marketers. Similarly, researchers have often realised that the conventional tools used in urban milieu are not easily adaptable to the rural settings. Growing importance of the emerging markets and their rural segments, off late, require marketers and researchers to use innovative research tools to understand the rural in better manner. Rapid Rural Appraisal (RRA) is one such tool that can help the marketers in such rural endeavours. This tool has evolved over time and has recently attracted the attention of rural market researchers. This tool, until now, has largely been used by the non-profit sector to study the needs of the beneficiaries' and to explore non-explicit barriers to social projects'. In this paper we report how this tool can be adopted to study the traditional periodic rural markets, the Haats, in India. Finally, we have briefly discussed how the findings of the study may help marketers to develop appropriate marketing strategies to efficiently reach the rural consumers.

2 - Measuring the Agglomeration Effect on Consumers' Store Choice

Hee Mok Park, University of Connecticut, 2100 Hillside Road, Storrs, CT, United States of America, hpark@business.uconn.edu, Joseph Pancras, Yesim Orhun, S 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 during the peak demand periods for the 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 - London Sandwich Wars: The Role of Strategic Interactions in Urban Chain Store Proliferation

Ali Umut Guler, Assistant Professor, Koc University, IIBF Sariyer, Istanbul, 34450, Turkey, umutguler@ku.edu.tr

We study the expansion of two rival sandwich chains (Pret a Manger and Eat) within central London to identify any strategic interactions that could play a role in urban chain-store proliferation. Our analysis builds on a panel model of store entry into markets defined by subway station neighborhoods, using station-level yearly traffic data to measure market size. We find that rival firm's presence in a market has a net positive impact on either firm's probability of entry. Based on how the magnitude of the strategic effect varies with market size, we test for three alternative explanations of this finding (demand expansion, learning, entry deterrence). In Eat's expansion pattern, we identify a positive spillover due to learning from Pret's past entry choices; whereas in Pret's expansion, we find evidence that the positive sign of the strategic effect may derive from a market deterrence strategy. The entry deterrence conjecture is also supported by results from a dynamic structural model which suggest asymmetric competitive effects, with only Pret being able to exert competitive pressure on rival firm's profits. The proposed explanations are consistent with Pret's incumbency status in a high majority of the markets.

4 - Store Location and Long-Term Store Loyalty: A Multi-Level Multi-Membership Model

Christina Kuehn, University of Mannheim, L5, 1, Mannheim, Germany, ckuehn@bwl.uni-mannheim.de, Christian Homburg, Hanna Schramm-Klein

For long, researchers and practitioners acknowledge the location of a retail store as one or even as the most important property of a retail store. Findings on this effect, however, are mixed. These ambiguous results may originate from several restrictions in extant research. For example, prior studies often model location by consumers' perceived location convenience or the geographic distance between the consumer and the store (in miles); do not account for competing stores; restrict consumers' loyalty to one instead of several stores; and frequently focus on a limited set of drivers of store long-term loyalty. Extending prior research, we develop and test a multi-level multi-membership model to better predict store long-term loyalty, focusing specifically on the role of location. We develop a model that includes several variables at the retail brand level (e.g., pricing), at the store level (e.g., location), and at the consumer level, which either act as direct drivers (e.g., demographics such as household size) or moderators (e.g., psychographics such as shopping enjoyment) for store loyalty. The model is estimated with a unique dataset that combines household panel data with geographical information systems (GIS), and consumer survey data for 26 retail

brands, 18,741 stores, and 97,525 households across a 3.5-year time period. Accounting for competing stores and consumers' loyalty to several stores, our results indicate that the location of a retail store – estimated by travel distance (in minutes) – is indeed an important driver of long-term loyalty. The importance of store location, however, varies with consumers' psychographics, retail brand characteristics, and the availability of competing stores.

■ TC12

12-Third Floor, Bristol

Marketing Strategy I

Contributed Session

Chair: Sundar Bharadwaj, University of Georgia, Terry College of Business, Athens, GA, 30602, United States of America, Sundar@uga.edu

1 - A Pace Too Brisk, a Bridge Too Far? Toward a Better Understanding of Firm Growth

Moeen Butt, Doctoral Student in Marketing, Ivey Business School at Western University, 1255 Western Road, London, ON, N6G 0N1, Canada, mbutt@ivey.ca, Kersi Antia

Firms differ starkly in their market development strategies – in the present context, their establishment of outlets in new markets. While some firms opt for rapid expansion of their footprint in the interests of generating a “big splash”, others adopt a near glacial approach to market development, purportedly to “get things right”. These contrasting approaches to market development reflect deep seated differences in firms' growth imperatives. The present study addresses two very specific questions about firm growth: (1) How do firms choose the markets in which to expand? (2) At what pace and how should firms grow so as to achieve positive performance outcomes? We synthesize Penrose's (1959) seminal research on firm growth with coordination-related insights from agency theory (Brickley and Dark 1987) and geographic information system (GIS)-informed metrics of span of control to provide a better understanding of firm growth. Our analysis of 75 franchise firms' market development strategies across 50 US states over more than a decade helps unpack two facets of growth - pace (the speed with which the firm grows relative to its current size), and span (the dispersion of the firm's market presence). We further demonstrate how these two facets of growth work singly and in combination to pose critical implications for firm's performance. Keywords: firm growth, market development, firm performance, geographic information systems, franchising.

2 - The Time-Varying Effect of Marketing-Mix on Sales

JeeWon Brianna Choi, Doctoral Student, Georgia State University, 3348 Peachtree Rd. NE, Suite 204, Atlanta, GA, 30326, United States of America, jchoi43@gsu.edu, V. Kumar, Mallik Greene

Firms are constantly challenged with limited marketing resources and increased complexity in the market due to the rapid growth of social media. Firms need to understand marketing-mix effectiveness on sales in order to stay competitive and make sound marketing strategies. One potential challenge could be that the effectiveness of marketing-mix elements could be changing over time. Few studies have examined the time-varying effect of marketing-mix variables; however, these methods are very complex and they rarely consider new variables such as social media. We propose a time-varying effect model (TVEM), which is a flexible non-parametric model that is optimal to understand the true effectiveness of marketing-mix including the social media and is much easier to implement and comprehend for practitioners. We apply TVEM on frequently consumed consumer packaged goods (CPG) monthly sales data available for 3 years. We also empirically compare TVEM with a static model to demonstrate the efficacy of their method. The results suggest that the effect of marketing-mix varies over time and product and channel specific time-invariant variables also have time-varying effects on sales. Moreover, TVEM with all variables changing over time have a higher predictive accuracy. This study should benefit both the researchers and the managers involved in a CPG industry to better understand the effectiveness of their marketing efforts and to build better marketing strategies.

3 - How Outbound Marketing Increases Asymmetry and Inbound Marketing Reduces It – A Study of Customers

Kashef Majid, University of Mary Washington, 1301 College Ave, Fredericksburg, VA, 22031, United States of America, kmajid@umw.edu

Inbound marketing refers to a collection of marketing strategies and techniques such as customer and search engine optimization that is focused on pulling relevant prospects and customers toward a business (Steenburgh, Avery and Dahod 2009). Outbound marketing is used as a reference to traditional forms of communication such as advertising (Trusov, Bucklin, Pauwels 2008). In this study we take the perspective of the firm and study both inbound and outbound marketing on the firm's ability to reduce asymmetry between the consumer and the firm. Traditionally, asymmetry has been studied from the perspective of the consumer who is attempting to differentiate good sellers from bad (Connelly, Certo, Ireland, and Reutzel 2011; Kirmani and Rao 2000). We argue that bad customers provide more cost to the firm than revenue and firms would benefit from differentiating between these two types of customers. For example, a homeowner that wishes to purchase a new fence may seek four estimates and this means that three businesses will spend time and energy giving estimates and not make any revenue from the customer. Using data from the home services market we examine whether firms can differentiate good customers from bad based on different inbound and outbound forms of marketing. Our results indicate that certain forms of inbound increase the probability that a lead will

turn into a customer over time while certain forms of outbidding have the opposite effect. Outbidding efforts may actually be increasing the costs the firm incurs which is ironic because this paid form of advertising is often targeted towards the customer (Trusov et al. 2008). Alternatively, inbidding efforts which do not target customers directly, can reduce costs while increasing the probability of obtaining a customer.

4 - Information Asymmetry and Myopic Management of Marketing and R&D: Evidence from a Quasi-Natural Experiment

Sundar Bharadwaj, University of Georgia, Terry College of Business, Athens, GA, 30602, United States of America, Sundar@uga.edu, Atanas Nikolov

Prior research documents a significant prevalence of myopic marketing actions by public firms and points to its negative consequences for firm performance and competitiveness. We examine the effect of reduction of information asymmetry on myopic marketing management. Specifically, we examine the role of active information production and intensive monitoring of corporate management in reducing myopic marketing actions. We exploit a quasi-natural experiment, to show the causal negative effect of reduction of information asymmetry on myopic marketing management in public firms.

■ TC13

13- Fourth Floor, Harborside A

Digital Marketing III

Contributed Session

Chair: Hsin-Chen Lin, Assistant Professor, University of New Brunswick, 7 MacAulay Drive, Tilley Hall 337, Fredericton, Ne, E3B5A3, Canada, hc.lin@unb.ca

1 - The Role of Incentives in Online Message Diffusion

Helen (Elham) Siuki, Macquarie University, Balaclava Road, North Ryde, Sydney, 2109, Australia, helen.siuki@mq.edu.au, Cynthia M. Webster

Viral marketing enables companies to exploit the power of electronic word-of-mouth (e-WOM), allowing consumers to promote the product and brand messages within social media networks. The potential to reach a broad and diverse range of consumers, both quickly and cost effectively makes viral marketing attractive for more and more organizations every day. Despite a fast growing body of research that investigates the factors facilitating the diffusion of online messages, few studies examine the impact of different types of incentives for message diffusion within social media networks. In response to the lack of research in the area, this paper investigates the role of both extrinsic and intrinsic incentives on online message diffusion. Monetary and non-monetary extrinsic incentives such as discounts, rebates and loyalty programs are commonly used by companies to engage and reward their consumers increasing awareness, sales and customer loyalty. Little however is known about the effects of such intrinsic incentives as social approval, reciprocity and self-image. The psychology and economic literatures suggest that extrinsic and intrinsic incentives may reinforce each other, but unintended consequences may also arise. Some studies show that introducing extrinsic monetary rewards may actually reduce individuals' intrinsic motivation. To clarify the role of incentives, this paper reviews a broad range of research and examines several successful viral marketing campaigns to develop a conceptual framework. The framework includes marketing, individual and network factors and proposes ways in which both extrinsic and intrinsic incentives influence online message diffusion within social media networks.

2 - The Impact of Multi-Channel Advertising and Inertia on Online Search and Purchase

Yiyi Li, PhD Candidate, UT Dallas, 800 West Campbell Rd, SM32, Richardson, TX, 75080-3021, United States of America, yxl111020@utdallas.edu, Ying Xie, Zhiqiang Zheng

The spurs and multiplicity of Internet advertising have made multi-channel attribution an immediate challenge to marketing practitioners. Standard solutions in the industry including single source attribution models and fractional attribution models suffer from at least three drawbacks. First, analyzing the converting path with respect to a focal firm only may yield biased estimate of ad effectiveness since the impact of competitors is unaccounted for. Second, focusing overly on conversion deprives these models from providing much insight on how to choose the optimal ad format at different shopping stages. Third, none of these models have considered the impact of inertia on customer's purchase decision, which may lead to an underestimate of the long-run effectiveness of digital ads. To overcome these deficiencies, we propose an integrated three-stage choice model that considers individual customers' search and purchase decisions across all competitors to analyze the effects of touches on (1) customer's choice of entry site, (2) their decisions about continuation of search, and (3) their subsequent purchases at one of the searched sites. Based on an individual-level path data from the online air-travel industry, we find that prior touches through email and display ads significantly increase the website's probability of being chosen as the entry one, and current touches through search engine and display ads are effective in increasing conversion rate. Our results also suggest that structural state dependence due to customer loyalty exists in both search and purchase stage. Lastly, we compute the own and cross channel elasticity in ad-engagement to quantify the sales impact of additional ad investment.

3 - The Impact of Candidate Social Media Presence on Election Results

Hsin-Chen Lin, Assistant Professor, University of New Brunswick, 7 MacAulay Drive, Tilley Hall 337, Fredericton, Ne, E3B5A3, Canada, hc.lin@unb.ca

The use of social media as a political marketing campaign has grown dramatically over the last few years. It is also expected to become even more critical to future political campaigns, as it creates two way communication and engagement that stimulates and fosters voters' attachment to candidates. The current research examines how elements of a political candidate's social media online presence influence electoral outcomes to help us better understand how candidate's online marketing efforts can benefit their electoral performance. Online social media data was acquired from 84 candidates running in a recent municipal election and analyzed using logit model. Results suggest that the candidates' visibility, authenticity, and their number of followers have positive effects on electoral outcomes, with their online authenticity being especially important. The current findings have theoretical implications for understanding the unique elements of a social media marketing campaign designed to promote a personal brand and also have more specific practical implications for political candidates seeking to gain voter support and build their personal brand image through online social media.

4 - Free Sample Promotion: New Understandings of Its Effects and Optimization

Lin Boldt, Assistant Professor of Marketing, Clark University, 950 Main Street, Worcester, MA, 01610, United States of America, lboldt@clarku.edu, Hee Mok Park, Neeraj Arora

Free sample promotion is an effective method to attract new customers, introduce new products, and generate incremental sales. Although used widely in the industry, the literature on free sample promotion is sparse. Most of the prior research on free sample promotion has been focusing on the effects of sampling on sales or market share. The literature on marketing mix modeling or sales response modeling largely treats free sample promotion interchangeable with other promotion methods. The present study aims to give a nuanced exploration of free sample promotion as a unique promotion method. It addresses the following questions. 1) How should free sample promotion be effectively used in cross selling efforts, i.e., should free samples be the same exact product, product in the same product category or product in a different product category that the customer has purchased before? 2) How can free sample promotion be used effectively in coordination with other promotional methods, such as price discount, emails, catalogues and sales reps? A unique dataset was acquired from a leading promotional product company. It builds its main marketing and sales effort on a "push" marketing strategy – mailing prospects and customers a sample and following up with a phone call. It also utilizes other promotion methods such as emails, catalogues and price discounts. The dataset includes information on purchase history, pricing, sampling contact, salespeople contact, email contact, catalogue contact and customer demographics.

■ TC14

14- Fourth Floor, Harborside B

Internet III

Contributed Session

Chair: Seoungwoo Lee, PhD Candidate, Robert H. Smith School of Business, University of Maryland, 3330J Van Munching Hall, University of Maryland, College Park, MD, 20742, United States of America, seoungwoolee@rhsmith.umd.edu

1 - Customer Engagement in a World Atwitter

Gina Brynildsen, Doctoral Student, Florida Atlantic University, Department of Marketing, Boca Raton, FL, 33431, United States of America, glavagna@fau.edu, C. M. Sashi

The revolutionary impact of the Internet on communication, especially the advent of Web 2.0 social media and its potential for engaging with customers and building relationships in various industries, has excited marketing academics and practitioners worldwide and generated much interest in the concept of customer engagement. Retailers in particular have recognized the opportunities afforded by these new communication media to connect and interact with large numbers of individuals and organizations in real time asynchronously regardless of location. By engaging with individuals and organizations, retailers hope to satisfy, retain, and turn some into loyal or delighted customers who become advocates for them and fans. In this study we empirically investigate customer engagement and the factors influencing advocacy with Twitter data for a sample of U.S. quick service restaurant companies. The findings indicate that calculative commitment, affective commitment, and connection with customers are the most important factors influencing advocacy at least for U.S. quick service restaurant companies' usage of Twitter.

2 - Free, Paid, or Both: Dynamic Versioning Decisions for Mobile Apps

Seoungwoo Lee, PhD Candidate, Robert H. Smith School of Business, University of Maryland, 3330J Van Munching Hall, University of Maryland, College Park, MD, 20742, United States of America, seoungwoolee@rhsmith.umd.edu, Jie Zhang, Michel Wedel

The primary objective of this study is to conduct an empirical investigation of mobile app publishers' dynamic versioning decisions on offering free, paid, or both versions. We build a dynamic discrete choice structural model which incorporates both direct and indirect revenue sources of mobile apps and captures inter-temporal and cross-version dynamics of mobile app demand. We employ the state-of-the-art Bayesian IJC estimation technique and estimate an app publisher monthly revenue via advertising networks and free and paid apps' expected revenue from in-app purchases. We also find that new installs are more costly than previous installs for app publishers. The discount factor is estimated to be 0.973. Our demand model also reveals a variety of inter-temporal and cross-version effects between free and paid apps. A second objective of the paper is to investigate alternative pricing structures imposed by mobile app distribution platforms via policy simulations based on our dynamic structural model. Our policy simulations show that applying a slightly lower commission rate to the revenue generated from paid-app downloads and a higher commission to in-app purchase revenues would increase the platform's revenue by over 6%, while it doesn't harm the revenue of the apps on the platform. In addition, the number of apps on the platform is predicted to increase if the platform would use this commission structure. Further, introducing a certain rent and lowering the commission accordingly presents another commission structure where both platform and app publishers can be better-off in terms of revenue and/or profit.

3 - Understanding Consuming, Contributing and Creating Behaviors on Social Networks with Network Structures

Damien Renard, Researcher, Institut Mines Télécom, 9 rue Charles Fourier, Evry, Paris, France, damien.renard@telecom-em.eu, Christine Balague, Lamya Benamar

This research aims at classifying social networks users' behaviors and modeling impact of social network structures on three categories of actions: consuming, contributing and creating. An empirical study on 1825 users of a social network specialized on food and recipes shows first that we can score users regarding their action of consuming, contributing and creating. In a second step, we create different graphs of interactions between individuals and characterize each of the three behaviors by network structures variables. We show that creators belong to a central layer, contributors to an intermediary layer and consuming to a peripheral layer of users.

4 - Understanding Demand Dynamics in Online Auction Markets

Sang-Uk Jung, Assistant Professor, Hankuk University of Foreign Studies, 107 Imun-ro, Dongdaemun-gu, Seoul, Korea, Republic of, sanguk.jung@hufs.ac.kr

A growing number of vendors are using online auctions to sell large inventories of identical items. These auctions that are scheduled in sequential, overlapping or simultaneous manner, create an auction market that lasts over a period of time. In these online auction markets, the choice of market design parameters affects market information thereby influencing bidding behavior. As bidders change their strategies and willingness to pay in these dynamic markets, we observe change in overall market demand. Therefore, understanding the interplay between market design parameters and demand dynamics in these auction markets is crucial for auctioneers. While bidding strategies and bidder behavior in these auctions have been studied, limited research exists on exploring how auction design can affect market demand. This research aims to fill this gap. Using real world data from a large online auction website and dynamic panel estimation, we find that supply and demand perception of the bidders in sequential auctions affect their choice of bidding strategies which in turn affect auctioneers' revenue.

TC15

15- Fourth Floor, Essex AB

Developments in the Measurement and Modeling of Consumer Preferences II

Cluster: Special Session

Invited Session

Chair: John Hauser, Kirin Professor of Marketing, MIT, 77 Massachusetts Avenue, Cambridge, MA, 02139, United States of America, hauser@mit.edu

1 - Modeling Multi-Taste Consumers

Liu Liu, Stern School of Business - New York University, lliu@stern.nyu.edu, Daria Dzyabura

In many applications of recommender systems, a single consumer may apply different decision criteria to different products in the same choice set. For example, a consumer choosing which movie to watch on a particular occasion may be choosing between movies of different genres. The consumer may look for comedy movies with exaggerated real life scenarios, humorous lines, and preferably directed by Kristen Wiig; the same consumer may look for Sci-Fi/Action movies with wild imagination, high-tech graphic design, and excellent visual effects. In order for a recommendation system to be able to make accurate predictions about this consumer's behavior, it must estimate both sets of decision

criteria, or "tastes". This task is particularly challenging when the different tastes do not correspond to known subsets of products, such as genres in the movie example. The multiple-taste phenomenon also occurs when working with data from products like restaurants, Youtube videos, music, or recipes, the application in this paper. In this paper, we propose a framework for modeling choice behavior of a consumer who has "multiple tastes" and formulate a population level hierarchical model. While the likelihood function is not globally convex, we use regularization to limit the feasible parameter space and propose a heuristic algorithm that approximates the maximum. We test this algorithm on an empirical dataset, using data from allrecipes.com, and in a set of numerical studies. We compare the performance of our algorithm to two benchmarks: (1) latent class logit model, (2) products belong to one of K groups and each consumer has a different taste for each group.

2 - Idea Generation, Creativity, and Prototypicality

Oded Netzer, Associate Professor, Columbia University, 3022 Broadway, New York, NY, 10027, United States of America, on2110@columbia.edu, Olivier Toubia

In this paper we use text mining and semantic network analysis tools to improve our understanding of the idea generation process. Our contribution is both theoretical and practical. From a theoretical perspective, we link the judged creativity of an idea to the semantic relationships among the set of concepts used to form this idea. The concepts related to any idea generation topic can be represented as a semantic network. Each idea contains a subset of these concepts, which form a semantic subnetwork. The structure of this subnetwork reflects a distribution between novel and familiar combination of concepts. We show a "beauty in averageness" or prototypicality effect, such that ideas with semantic subnetworks that have a more prototypical structure are judged as more creative. We show the robustness of this effect in eight studies across multiple domains. While we focus on judged creativity, the effect also holds with measures of overall idea quality coming from consumers or industry experts. From a practical perspective, we show that our research may be used to automatically text mine and identify promising ideas, and develop online idea generation tools that recommend concepts to users on the fly to help them improve their ideas.

3 - Identifying Relevant Attributes in Conjoint Analysis using Support Vector Machines

Ricardo Montoya, Assistant Professor, Department of Industrial Engineering, Universidad de Chile, Republica 701, Santiago, Chile, rmontoya@dii.uchile.cl, Julio LÚpez

This paper presents a new approach to identify the relevant attributes that consumers use when evaluating alternatives in a choice-based conjoint context using only consumers' decisions, problem known as "attribute non-attendance". Our approach is grounded on a Support Vector Machine (SVM) formulation that has proven important predictive ability in marketing contexts, and obtains a more parsimonious representation of consumer preferences than the traditional SVM model. We test our approach through an extensive simulation study that shows that the proposed approach can recover the sparseness implied by irrelevant attributes. We also illustrate the characteristics and use of our approach on two existing choice-based conjoint datasets. The results show that the proposed method has better predictive accuracy than competitive approaches, that it improves the understanding of customer preferences, and that it provides additional information on an individual level. Implications for marketing decisions are discussed.

4 - The Sleuth Game: Predicting Consumer Response to As-Yet-Unspecified Product Features for Really New Products

John Hauser, Kirin Professor of Marketing, MIT, 77 Massachusetts Avenue, Cambridge, MA, 02139, United States of America, hauser@mit.edu, Songting Dong, Min Ding, Lixing Huang, Holger Dietrich

Product development is an iterative process in which the features of a product evolve continuously. Based on customer feedback or technological development, new levels of features and even totally new features are introduced. But most forecasting tools, such as conjoint analysis, discrete choice models, or concept tests, require a defined set of features and feature levels. We propose a method in which a single set of consumer inputs provides the means to forecast for products which may have as-yet-unspecified features or may address as-yet-unarticulated customer needs. The proposed method relies on incentive-aligned tasks that elicit basic preferences and inclinations from "cluers." The forecasts themselves are made by aggregating input from another set of consumers, "sleuths," who, in an intertwined incentive-aligned task, use human judgment to integrate the clues and predict how the clues will react to new products with entirely new features. In our proof-of-concept study, clues reveal their basic preferences and inclinations through question banks and make choices with which to calibrate (and evaluate) the analysis. Their incentives are balanced so that they provide clues that enable the sleuths to make accurate decisions. When the clues choose, they have incentives to maximize utility net of price. Sleuths receive incentives to think hard and tell the truth. Honest reward theory and Prelec's Bayesian Truth Serum provide balanced incentives for existing products and really new products, respectively. In this paper we describe the theory (intertwined incentive-aligned games), suggest initial question banks, and report on the results of the proof-of-concept application. Full predictive tests are underway.

TC16

16- Fourth Floor, Essex C

Working Paper VII

Contributed Session

Chair: Ty Henderson, The University of Texas at Austin, 1 University Station B6700 Marketing, Marketing Dept, McCombs School, Austin, TX, 78712, United States of America, ty.henderson@mcombs.utexas.edu

1 - First-Mover Advantage Through Distribution: A Decomposition Approach

Mitsukuni Nishida, Johns Hopkins Carey Business School, 100 International Dr, 13th fl, Baltimore, md, 21209, United States of America, mnishid2@jhu.edu

Whereas the extant literature on entry-order effects establishes that first entrants often earn higher market shares ("market-share advantage"), the literature on distribution suggests increased distribution has a positive effect on sales. Can distribution help us better understand entry-order effects on market shares? This paper examines how the first entrant in a geographical market achieves a market-share advantage through distribution. For this purpose, I propose a simple method of decomposing sales into physical distribution and sales performance. The data come from a manually collected panel on six major Japanese convenience-store chains from 47 geographical markets between 1991 and 2007. Using an instrumental variable approach to deal with the potential endogeneity of entry order, I find the market-share advantage for the first chain brand is positive. Specifically, the physical distribution, measured by the number of outlets in a market, drives most of the advantage. This paper further finds the density of own outlets is nonmonotonically related (inverted U) to sales performance per outlet, suggesting that dynamic outlet expansion faces a trade-off between business-stealing effects within a chain ("cannibalization") and advertising effects through repetition.

2 - Efficient Design and Analysis for a Selective Choice Process

Ty Henderson, The University of Texas at Austin, 1 University Station B6700 Marketing, Marketing Dept, McCombs School, Austin, TX, 78712, United States of America, ty.henderson@mcombs.utexas.edu, Qing Liu

Variable selection is a decision heuristic that describes a selective choice process – choices are made based on only a subset of product attributes while the presence of other attributes plays no active role in the decision ("inactive attributes"). This paper addresses two integrated topics of interest to marketing that have received scant attention: the efficient design of choice experiments and the analysis of data in the context of a selective choice process. For efficient design, the authors propose a new compound design criterion that effectively incorporates prior information to serve the joint purpose of efficient detection of the inactive attributes and efficient estimation of the active attributes in the selective choice process. For efficient analysis, the authors propose a heterogeneous variable selection model that incorporates respondent-specific information about the active/inactive status of an attribute through the prior specification. The authors demonstrate the superior performance of the proposed approach relative to benchmark approaches using both simulated data and actual data obtained from a conjoint choice experiment where individual designs are customized based on the self-stated active or inactive status of the variables, and discuss the substantive implications of the results.

Thursday, 3:30pm - 5:00pm**TD01**

01-Third Floor, GB 1

Advertising IV

Contributed Session

Chair: Ting Li, Associate Professor, Erasmus University, Burgemeester Oudlaan 50, Rotterdam, 3062PA, Netherlands, tli@rsm.nl

1 - Understanding Information Privacy Concerns in Social Advertising: An Eye Tracking Study

Ting Li, Associate Professor, Erasmus University, Burgemeester Oudlaan 50, Rotterdam, 3062PA, Netherlands, tli@rsm.nl, Thomas Frick, Paul Pavlou

Social advertising is a type of digital advertising that targets consumers with personalized content based on their social connections on social networking sites. Despite the increasingly significant impact of social advertising, little is known about how it affects consumers' privacy concerns. This study answers the following research questions: (1) How does social advertising affect consumers' privacy concerns? (2) What is the value of social advertising for consumers and how can it be effective from a decision-making perspective without jeopardizing consumers' privacy? We undertake a set of experiments using eye tracking technology to investigate how social advertising affects consumers' privacy concerns by shaping their affective and cognitive reactions. For the experiments we create different social advertising conditions in a lab environment. To make sure that ad texts are realistic, we construct personalized advertising texts based on participants' actual Facebook connections and preferences. Therefore, we use

actual social connections to socially endorse ads and generate targeted ads based on their revealed preferences. Using eye tracking, we capture subjects' eye movements, allowing us to identify which information stimuli consumers look at, the duration of their attention on different elements of the social advertising message, and the frequency of viewing on different information stimuli, thus enabling us to identify the relevance of social endorsement and targeted advertising content, and understanding how they affect consumers' cognitive processing and decision-making. By objectively measuring visual attention, we can obtain a much richer understanding of how users affectively and cognitively process information and subsequently make decisions.

2 - The Duration of Short-Term and Direct Advertising Effects on Sales

Hiroshi Kumakura, Professor, Chuo University, 742-1 Higashi-namano, Hachioji, Tokyo, 192-0393, Japan, kumakura@tamacc.chuo-u.ac.jp

The duration of short-term and direct advertising effects on consumer purchase is discussed with single source data in packaged goods markets, from the viewpoint of "recency." It is the notion relating to both propinquity (time closeness in consumer behavior between purchasing points and ads exposure) and receptivity (psychological closeness between them, or consumer's psychological preparation for buying); and recency effects mean short-term and direct advertising effects on sales. Since previous researches have shown that the timing of ads exposure is the most important in modern advertising practice, and since the timing of ads exposure is attributed to the duration of advertising effects, the duration is important in recency effects. One the other hand, it has not been discussed well, as far as we know. Hence, the duration of recency effects is discussed here. Namely, we measure how the strength of the relationship (odds) between the factor (whether a consumer views TV ads or not) and the response (he/she purchases its brand or not at a purchasing point) fluctuates according as time passes, in a bottled green tea market. Our brief results are as below. Recency effects (short-term and direct ad effects on sales) are significantly strong, if time from his/her ads exposure to purchasing points is short. As time passes, the effects, the odds of the response (purchase) to the factor (ads exposure), become weak. In a case of bottled green tea brands, the duration of recency effects is 5 hours to 1 day. Our tiny contribution is to propose the way how to measure the duration advertising works and to show it.

3 - Mind-Share vs. Heart-Share and Competing in the Purchasing Funnel

Selin Erguncu, PhD Candidate, Koc University, College of Administrative Sciences and E, Istanbul, 34450, Turkey, serguncu@ku.edu.tr, Shuba Srinivasan, Nukhet Harmancioglu

Consumer mindset metrics provide leading signals of brand performance, allowing the firms to direct their customers across the purchase funnel. Recent research provides evidence for the explanatory power of mindset metrics in sales response models. We contribute to the literature by assessing how competition impacts the marketing mix responsiveness and the sales conversion of three mindset metrics: communication awareness, brand consideration and brand liking. We study a rich sample of 73 packaged goods brands from five grocery categories for the period between January 2001 and December 2010. We estimate the dynamic interactions between sales, marketing mix (advertising, price, promotion, and distribution) and mindset metrics using vector-autoregressive models. To estimate the moderation effects of competition, we use the immediate and cumulative elasticities from the generalized impulse response functions. Competition in the category is measured in terms of number of existing brands, advertising clutter and price competition. Our results show that category competition has both adverse and favorable effects. We find positive moderation effects by the number of brands on the sales conversion of mindset metrics indicative of positive spillovers across brands. Price competition has a positive effect on the sales conversion of the upper funnel metric of communication awareness, but negatively moderates the sales conversion of the lower funnel metric of brand liking. Advertising clutter has a negative impact on the sales conversion of communication awareness. Thus the impact of competition on sales conversion varies for upper versus lower funnel metrics and by competitive metric. The advertising responsiveness of all mindset metrics is negatively influenced by price competition while their price responsiveness is negatively impacted by number of brands and advertising clutter. Therefore, competition differentially diminishes the ability of marketing to move the needle on mindset metrics. We conclude with implications for brand managers.

4 - "Ask Your Doctor," Who Cares: Medium Types and Consumer Involvement in Pharmaceutical Direct-to-Cons

Qiang Liu, Assistant Professor, Purdue University, 411 Krannert Building, West Lafayette, IN, 47907, United States of America, liu6@purdue.edu, Hongju Liu

This study explores the roles of medium types and consumer involvement in the effects of direct-to-consumer advertising (DTCA) on patient behaviors. Specifically, we investigate two types of DTCA: TV and print in high cholesterol level market. Patients' diagnosis levels recorded by physicians represent consumer involvement levels. We find that print DTCA is more effective in driving patients with severer affliction to visit physicians and request the advertised drugs, while TV DTCA works better with patients with milder afflictions. This finding has rich implication for policy makers to improve public health and pharmaceutical firms to target patients with certain levels of affliction using DTCA.

■ TD02

02-Third Floor, GB 2

Channel IV

Contributed Session

Chair: Francisco Cisternas, PhD Student, Carnegie Mellon University, 5649 Phillips Ave, apt 12, Pittsburgh, PA, 15217, United States of America, foc@andrew.cmu.edu

1 - It is More than the Last Click: Investigating the Impact of Referral Channels

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With the advancement of big data technologies, companies are moving more quickly from a single-click or search-only model toward greater sophisticated models of informing and influencing the online customer behavior. This study scrutinizes the predictive relationship between three referral channels — search engine, social media, and third-party advertising — and e-commerce website performance. Taking advantage of the large scale of clickstream data, our results derived from vector autoregressive models suggest a significantly differential predictive relationship between referrals from the three channels and sales performance measures. Our findings suggest that search engines play a more important role in driving online sales while social media channels have the strongest long-run relationship with conversion rate. The three channels also have considerably different predictive powers in directing customers to one of the competing online shopping websites. Our results also show that search engine referrals explain the most of the variance in sales, while social media referrals explain the most of the variance in conversion and third party ads referrals explain the most of the variance in sales volume.

2 - The Effect of Data Breach Announcement on Customers' Purchase and Channel Choice Behavior

Joon Ho Lim, Doctoral Student, Texas A&M University - Marketing Department, 201L Wehner Building, 4112 TAMU, College Station, TX, 77843-4112, United States of America, jlim@mays.tamu.edu, Subodha Kumar, Ramkumar Janakiraman, Rishika Rishika, Ram Bezawada

Retailers and business entities are constantly under the threat of cyberattacks. We position our study to be the first to examine the short term effect of cyberattack announcement on customers' actual purchase behavior and quantify the economic impact of a cyberattack. To meet our objectives, we leverage a unique customer level channel choice and transaction data pre- and post- cyberattack reporting by a multichannel retailer. We exploit this "natural experiment" coupled with appropriate econometric modeling steps to address issues of endogeneity. We find that the reporting of the cyberattack event leads to decrease in overall sales and number of purchase trips made by customers. Customers seem to migrate from the affected channels to the non-affected channels. We examine if the undesirable effects of cyberattack vary across customers. Following the studies in customer relationship management, we focus on two customer characteristics, namely customer level of retailer patronage and buying focus. We find interesting patterns on how different customers respond to the cyberattack announcement. Based on our results, we quantify the economic implications of cyberattack announcement and offer prescriptions for managers on how to engage with different types of customers following data breach incident.

3 - The Influence of Marketing Communication on both Online and In-Store Consumer Path-to-Purchase

Jason Pallant, Monash University, S5.16 26 Sir John Monash Drive, Caulfield East, Melbourne, VI, 3145, Australia, jason.pallant@monash.edu, Peter Danaher

Consumers may visit a website for many reasons, including general browsing, browsing followed by purchasing, or just purchasing products browsed during an earlier visit that have been left in the shopping cart. The first part of this study is concerned with developing a typology of website visits, of which there are six. These include shallow visits, general browsing, knowledge building, broad search, focused search and cart checking. We subsequently examine both in-store and online purchases for a multichannel retailer and the types of visits that occur prior to purchase. For example, a common pathway to purchase is broad search, focused search, cart checking and then online purchase. Another is focused search followed by purchase in-store. There are also a number of alternative sequences of these visit types, which we find are often influenced by marketing communications. This study therefore provides an extension to prior channel migration research by demonstrating how marketing communications may influence the consumer path to purchase in addition to purchase channel choice.

4 - Optimizing a Bank Branch Network in the Presence of Mobile Banking

Francisco Cisternas, PhD Student, Carnegie Mellon University, 5649 Phillips Ave, Apt 12, Pittsburgh, PA, 15217, United States of America, foc@andrew.cmu.edu, Willem van Hoeve, Alan Montgomery

In the past consumer financial transactions like deposits and withdrawals had to be performed at physical bank branches. Technological developments over the past few decades, like automated teller machines (ATM), telephone banking, and online banking, have changed the type and number of transactions that consumers execute at their local bank branches. More recently the introduction of mobile banking, brought about by the adoption of smartphones, has the potential to dramatically change consumer interaction with their bank. Some

banks have reported that they may reduce the number of their branch locations by half over the next decade. Using geo-coded transaction data from a large consumer bank, we develop a structural model that represents consumers' preferences for online and physical channels and in the case of physical branches considers how location affects their choice. This model takes into account changes in banking behavior due to this new mobile channel. For example, consumers are more likely to check their balance and make more, but smaller deposits since the transaction costs are substantially reduced. We use this model to predict the timing and type of transactions, as well as which branch to use for the physical network. We use this model to optimize the branch network in terms of capacities, amenities, location and number of branches to efficiently respond to the heterogeneous consumers' needs not only for today but over the next decade based on mobile adoption projections.

■ TD03

03-Third Floor, GB 3

Consumer Behavior III

Contributed Session

Chair: Onesun Yoo, University College London, Gower Street, London, United Kingdom, o.yoo@ucl.ac.uk

1 - Whom Do You Follow? The Effect of Geographic and Social Distance on Crowdfunding

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The rapid growth of information technology and the Internet enable users to access not only geographic but also social information of other users. This emerging characteristic raises important questions to marketers: whom do potential users follow in the presence of existing users who are geographically and/or socially related to them? Extant literature has documented how geographic and social distance separately affect potential users (i.e., neighborhood effect and social learning), but little is known about how potential users are affected in the presence of both geographic and social information of existing users and if close distance (geographically or socially) may lead to deviant behavior. In this study, we examine the simultaneous impacts of geographic and social distance on crowdfunding behaviors. Based on the data collected from a crowdfunding website with 18715 funders and 191 projects, we found that the influences of geographic and social distance depend on the types of projects and such influences can be weakened as the distance is close. Specifically, we found that for high-technological projects, social distance was more influential on the success of such projects (i.e., achieving the projects' funding goals), and early funders who are socially distant had stronger influences. However, for leisure and entertainment projects, while both geographic and social distance were influential on the success of such projects, early funders who are socially close but geographically distant had stronger influences. Our findings contribute to the observational learning literature and provide managerial implications on whom crowdfunding should target so as to achieve their goals.

2 - How Trial Affects Purchase and Product Usage in the Software Industry

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We propose a structural model to explain consumer decisions of product purchase and usage, conditional on a trial period, in the software industry. In our setting, a consumer has an option to try the product for a limited duration before she decides to buy or pay a subscription for its usage. From the methodological standpoint, we propose an optimal choice process with three decisions - trial, purchase, and usage - and use time series data on these consumer choices from a well-know software product to empirically test our approach. Using our model, we quantify the value of trial and provide managerial insights about how to improve trial design to increase purchase and usage of the software product.

3 - How to Make a Customer Happy in the Long Run?

Consumer Perceptions and Matchings in Online Games

Daniel Kaimann, Dr., University of Paderborn, Warburger Str. 100, Paderborn, 33098, Germany, Daniel.Kaimann@wiwi.upb.de, Joe Cox, Nadja Maraun

The pursuit of happiness is omnipresent in both customer's perceptions and marketer's efforts to create brands and products to appeal these perceptions. Video games are high-involvement products with multiplatform and multiplayer characteristics whose objective is the long-term happiness of their customers. We analyze the drivers of consumer perceptions on long-term happiness with data that is provided by the WCAI and a major international video gaming company that originates from a single multiplayer game that includes historic behavioral data for 9.5 million users who played 882,000 unique game rounds. To achieve long-term happiness and sustained player engagement, companies especially draw on two aspects: (i) the offering of expansion packs, premium accounts with additional content, and new game titles and (ii) the matching of players into "best-fitted" teams according to the players' skills. To measure consumer perceptions and optimize matching in online game in the long run, we address the questions: (i) which specific, observable factors affect a positive game experience and consequently influence long-term happiness; and (ii) what are the habits and skill levels that affect an efficient matching of players and consequently a long-term positive game experiences? We develop both an empirical model approach and a theoretical matching approach to address the

questions. First, we formulate a dynamic simultaneous-equations model with a match equation and a happiness equation that analyze the influence of the match quality and the concept of happiness on customers purchase decisions. Second, we develop a matching algorithm that allocates players to teams to optimize a player's gaming experience.

4 - Role of Predisposition and Information on Consumer Choice and Market Outcomes

Onesun Yoo, University College London, Gower Street,
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Facing purchase choice with uncertain product quality, consumers today can gather information and reduce their uncertainty at low cost, i.e. in a "one-shot" manner. Such environment presents opportunities for sellers to help consumers create and disseminate their personal opinions about the seller's products. When it comes to purchase choices however, consumers are also influenced by predisposition that has been consciously or unconsciously constructed from past experiences or associations. The force of predisposition may counteract the evidence of sample information (e.g. about quality) to produce a change in opinion and preferences. In this paper, we present a simple model characterizing the interaction between predisposition and information by employing the hypotheses testing framework. Using the framework, we provide insights into the seller's information strategy. In particular, we examine a competitive duopoly in a two stage game: in the first stage, firms determine the information level to provide, and in the second stage, engage in price competition. We find that the new entrant should increase (or encourage customer feedback) if and only if there are sufficient information available in the market. Our study suggests that promoting information as free "sales assistants" may backfire when consumer's predisposition is taken into account. Our paper also highlights the difficulty in overcoming an incumbent with predisposition advantage, with a quality and information advantage.

■ TD04

04-Third Floor, GB 4

Customer Relationship Management IV

Contributed Session

Chair: Andres Musalem, Universidad de Chile, Republica 701,
Santiago, Chile, amusalem@duke.edu

1 - How to Manage Profitable Relationships by Strategic Segmentation

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It is always an interesting issue about where, how and to whom firms are going to allocate their limited resources and provide differential and personal treatment. Therefore, finding the most profitable customers and managing profitable relationships are critical issues in the field of customer relationship management (CRM). In this article, the author measures customer lifetime value (CLV) to select and target potential and the most profitable customers by considering individual heterogeneity and consumption uncertainty. Based on strategic segmentation by taking into account both customer lifetime value and current share of wallet, the author identifies four customer segments to help companies make decisions of allocating resources, differentiating marketing initiatives, and refining marketing contacts and promotions. The author also simulates the retention rate to illustrate the changes in customer lifetime value and its impact on customer equity. In addition, the article presents the framework of the cycle of customer lifetime value and additional concepts for future research.

2 - Incorporating Purchase Timing Patterns in Stochastic Repeat-Buying Models Improves CLV Predictions

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Business, Department of Marketing, Welthandelsplatz 1, Austria,
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Stochastic customer behavior models based on recency-frequency (RF) data are popular tools to assist marketing analysts for making predictions about a customer's activity status and future purchase propensities. Knowledge about these quantities is crucial for accurately estimating residual Customer Lifetime Value (CLV) of a company's customer base. In their repeat-buying component, most of these models share the assumption of a Poisson purchase process, which implies random purchase occurrence with an exponentially distributed interpurchase time. We make the case for a more flexible timing model, one which is able to capture various degrees of "clumpy" (i.e., unequally distributed) as well as "regular" (equally distributed) purchase timing patterns plus allows for heterogeneity across customers. As we will demonstrate, a more accurate modeling of the timing process turns out to be beneficial in noncontractual settings, because it helps making inferences about customers' latent activity status. By developing a new variant of the well-known Pareto/NBD model and applying it to several real-world data sets we can show that this flexibility yields significant improvements in predicting customer behavior. This is particularly the case for those valuable customers currently at stake, i.e. those customers who previously were active but recently have exhibited a longer purchase hiatus. Further, we will present an extensive simulation study and discuss some of the non-trivial findings when it comes to scoring clumpy versus regular customers.

3 - This Call May Be Recorded: Using Call Center Data to Predict Customer Retention

Andres Musalem, Universidad de Chile, Republica 701,
Santiago, Chile, amusalem@duke.edu

Customer loyalty is a central driver of firm profitability. In this regard, a customer's decision to leave a firm is incumbent upon her experiences with the product or service provider. Call centers provide opportunities for customers to interact with the firm to address service issues and/or to make changes to the services they receive from the firm. Interestingly, these interactions are often recorded and this allows us to examine whether these service encounters might be predictive of future customer behavior. In particular, using data from a telecommunications service provider, we analyze a sample of call center transcripts using Latent Dirichlet Allocation to identify a subset of topics that can be used to classify different transcripts. This classification is then used to model customer retention showing that a subset of topics can be identified as stronger predictors of customer behavior. This approach is then contrasted with one that relies on transactional data showing that call center transcripts have a similar predictive power as transactional data.

4 - Impact of Technology Upgrade on Customer Satisfaction: A Natural Experiment

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Sridhar Narasimhan

Wireless penetration in the US now exceeds 104%, and 97% of consumers have a choice of at least 3 carriers to choose from. With such high penetration levels and intense competition, wireless companies are trying to gain customer loyalty by introducing promotions and improving service quality. In this article, we examine how the introduction of a technology – Voice Over LTE or VoLTE – impacts customer satisfaction of a leading national mobile carrier in the USA4. Since VoLTE allows transmission of voice data through the LTE network instead of the traditional 3G networks, customers enjoy High Definition (HD) voice quality with fewer dropped calls. Since the firm introduced this service in a staggered manner and only customers who have VoLTE enabled phones can enjoy HD calls, we have a natural separation of control group that is not impacted by this upgrade and the treatment group that experiences better quality of calls. We utilize this natural experiment to examine how this increase in call quality impacts customer's satisfaction and loyalty towards this firm by studying two measures – churn and the Net Promoter Score. After controlling for customer heterogeneity and socio economic factors, we find that VoLTE calls do have higher quality. We also segment customers based on their lifecycle with the carrier to understand if there is any variation of this impact across the lifecycle. We contribute to the literature on predictive and causal models of customer churn by developing a framework for a natural experiment that can be utilized for similar technology upgrades.

■ TD05

05-Third Floor, GB 7

Working Paper VIII

Contributed Session

Chair: Yi Xiang, CEIBS, 699 Hongfeng road, Pudong,
Shanghai, 201206, China, yixiang@ceibs.edu

1 - On the Role of Feedback in Innovation Contests: A Theoretical and Empirical Analysis

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In this paper, we built a theoretic model of innovation contests that incorporates the feedback mechanism by which seekers reveal their private tastes to solvers. Innovation contests are characterized by asymmetric information; the seeker has private information about his tastes that is unknown to solvers. Information asymmetry leads to market inefficiencies and suboptimal behavior by solvers. We find that the effort level of solvers increases as seekers provide feedback more frequently because feedback can help reduce solvers' uncertainty about the seekers' private tastes. We show that the contest mix has a direct effect on solvers' effort level. Solvers' equilibrium effort level increases with contest reward, contest duration, and solver expertise and decrease with solver population. By endogenizing the seeker's feedback frequency, we find that feedback partially mediates the relationship between the contest mix and the effort level of solvers. Thus, the contest mix has an indirect effect on solvers' effort level through the seeker's feedback. Our analytical model suggests a natural framework for empirical analysis and for the endogeneity problem, which we resolve by employing the IV approach. After analyzing 9,771 contests hosted by Zhubajie in China, we find strong empirical support for all our analytical results.

2 - Awareness versus Positional Advertising

Yi Xiang, CEIBS, 699 Hongfeng road, Pudong, Shanghai, 201206, China, yixiang@ceibs.edu, David Soberman

An uncontroversial issue upon which most marketers agree is that advertising plays different roles. A first is to create awareness for a brand as an alternative within a category. A second is to provide information to consumers about the brand's physical and perceptual characteristics, i.e., positional information for the brand. Until now, models of informative advertising assume that advertising plays these roles simultaneously. However, there are advertising vehicles including field and rink boards, short commercials and super on TV shows; the unique role of which is to create awareness. This raises several questions. First, can a firm use awareness-only messages to compete against another that uses informationally rich messages? Second are there circumstances where awareness messages are superior to informationally rich messages? And finally, how does differentiation impact the relative effectiveness of informationally rich messages compared to awareness messages? Conventional wisdom suggests that when a small proportion of consumers care about product attributes, firms should be less willing to engage in advertising that is informationally rich. We build a model with two firms to assess this wisdom. The model posits two types of advertising: positional advertising that contains rich information about product attributes and awareness advertising that only informs about the existence of a product. The model shows that the appeal of awareness advertising is affected by both the competitor's advertising strategy and the level of differentiation in the market. To be specific, when the differentiation between firms is high, the likelihood of firms restricting their advertising to positional messages is high. Conversely, when the differentiation between firms is low, the likelihood of an asymmetric outcome (one firm uses positional advertising and the other employs awareness advertising) is high. In fact, when differentiation is low, a firm that responds to a positional advertiser with awareness advertising is more profitable. The model also shows that the likelihood of a firm employing awareness advertising is non-monotonically related to the level of differentiation in the market.

TD06

06-Third Floor, GB 8

Panel Discussion: What's Next for Online Marketing? Frontiers in Research, Teaching, and Practice

Cluster: Special Session

Invited Session

Moderator: Arvind Rangaswamy, Penn State University, 481 Business Building, The Smeal College of Business, State College, PA, United States of America, axr15@smeal.psu.edu

1 - What's Next for Online Marketing? Frontiers in Research, Teaching, and Practice

Arvind Rangaswamy, Penn State University, 481 Business Building, The Smeal College of Business, State College, PA, United States of America, axr15@smeal.psu.edu, Panelists: Eric T. Bradlow, Peter Fader, Brian Ratchford, Bernd Skiera

It has been more than 25 years since the World Wide Web burst on the scene, and it has changed marketing in many fundamental ways. And, more changes are coming as technology, business practice, and academic research continue to evolve in this space. The panelists will take a broad perspective on the developments that have taken place so far in online marketing, and more importantly, offer their insights on emerging research topics, practice implications, and new teaching resources. There will be sufficient time for Q&A following short presentations from the panelists.

TD07

07-Third Floor, GB 9

Game Theory IV

Contributed Session

Chair: Pengfei Liu, PhD Candidate, University of Connecticut, W.B.Young Building, Room 309D, ARE, 1376 Storrs Road, Storrs, CT, 06269, United States of America, pengfei.liu@uconn.edu

1 - The Role of Marketing in Charity Donation

Pengfei Liu, PhD Candidate, University of Connecticut, W.B.Young Building, Room 309D, ARE, 1376 Storrs Road, Storrs, CT, 06269, United States of America, pengfei.liu@uconn.edu, Jian Ni, Ajay Kalra

Donors deciding which charity to donate to encounter several competing options and face considerable uncertainty about the social value provided by individual charitable organizations. In a bid to attract donations in this competitive landscape, charities spend significant amount of marketing dollars to signal their social values. Potential donors also use information from the third-party watchdog (e.g. Charity Navigator) who evaluates the charities so as to provide more objective evaluations. The watchdog essentially rates each charity on two dimensions: how effectively donations are utilized and quality of governance. The governance measures, in particular, emphasize expense ratios (ratio of money spent for the cause and administrative costs) of which marketing dollars are a large component. The watchdog's ratings therefore can influence the charities'

marketing activities. We analyze this strategic interaction between the charity, the donor and the third-party watchdog using a two-dimensional signaling model in which the donors rely on both charities' marketing signal and the watchdog's rating information. We characterize when differing charities might adopt similar marketing strategies, while other times use different ones. We show that the charities who provide a higher social value may spend less marketing effort, i.e., engage in 'counter-signaling' behavior. We further explore the influence of third party ratings on social efficiency and compare the charities' equilibrium marketing strategies with/without the presence of the third-party rating. Our results have important policy and welfare implications.

2 - Tiered Competition in Pharmaceutical Markets

Tony Haitao Cui, University of Minnesota, Marketing Department, CSOM, Minneapolis, MN, United States of America, tcui@umn.edu, Preyas Desai, Huihui Wang

The market of prescription drugs in the US is estimated to be more than \$300 billion per year, most of which is characterized by insurance coverage. Insurance plans usually develop a tiered formulary for prescription drugs such that patients pay a lower copay amount for drugs on a favorable tier and a higher copay for drugs on a less favorable tier. The implicit threat of a higher-copay affects price competition among competing drugs. In this paper, we study how the tiered formulary structure affects equilibrium prices and consumers' access to drugs. We consider an insurance plan dealing with manufacturers of two competing branded drugs to provide insurance coverage to patients who differ in terms of the benefits they derive from the two drugs. In our model, the insurance plan uses the tiered-formulary to intensify the price competition between the two drugs, which in turn can reduce the insurance plan's total costs and improve consumers' access to the drugs. We identify conditions under which the insurance plan prefers to put both plans in the same tier versus putting them in two different tiers. We find that both types of tiered-formulary structures reduces equilibrium prices and total costs while improving access. This effect is stronger when the two drugs are less substitutable. When the insurance plan allows the possibility that both drugs can be in same tier improves market coverage relative to the case when the plan commits to give favorable treatment to only one drug.

3 - Network Neutrality: A Two-Sided Market Analysis

Abhinav Uppal, Doctoral Student, University of Pennsylvania, The Wharton School, 727.6, 3730 Walnut Street, Philadelphia, PA, 19104, United States of America, auppal@wharton.upenn.edu, Jagmohan Raju

Internet service providers (ISPs), such as Comcast and Verizon, have traditionally not charged content providers (CPs), such as Google and Netflix, for delivering their content to end-users. This was in line with "network neutrality", a founding principle of the Internet, prohibiting ISPs from discriminating content on the basis of its origin, type or destination. Recent departures from this principle, e.g., Comcast charging Netflix to ensure faster delivery of Netflix content, have sparked a debate in the media and politics and opened up a number of unanswered managerial, policy and research questions. In this paper we develop a model of the Internet that captures its two-sided nature while explicitly recognizing and allowing for the ability of CPs to charge end-users directly. For example, Netflix charges a subscription fee to its users. We find that when we allow for CPs to charge end-users directly, the ISP is indifferent between offering and not offering faster delivery of content to CPs for a fee. Further, we find that there are no enhanced welfare implications of a regulation enforcing network neutrality in this setting. When only one CP can charge end-users directly and the other generates revenue through advertising then the ISP is better off without network neutrality and would either charge both the CPs or only the one that does not charge end-users. In this setting, the total welfare increases without network neutrality, the CP that can charge end-users directly is always worse off but the CP that relies on advertising revenue might be better off without network neutrality.

TD08

08-Third Floor, GB 10

Strategy

Contributed Session

Chair: Minghui Ma, University of Kansas, School of Business 1300 Sunnyside Avenue, Lawrence, KS, 66045, United States of America, minghui@ku.edu

1 - Asset Accumulation and Asset Utilization: An Empirical Analysis of Brand Equity and Intellectual Capital

Jing Yang, Assistant Professor of Marketing, Emmanuel College, 400 The Fenway, Boston, MA, 02115, United States of America, yangj@emmanuel.edu

Assets and capabilities are the primary sources of profit for the firm (Grant 1991). The predominant view in prior research regarding the relationship between assets and capabilities is that the types, the amounts and the qualities of assets have a great impact on the capability of efficiently creating more assets in the future (e.g. Grant 1991; Dierickx and Cool 1989). Building upon the marketing literature of brand equity, strategy literature regarding intellectual capital, and resource-based theories, this research examines the relationships between the accumulation of market-based assets and the capabilities of utilizing these assets to create new assets. This research studies two types of market-based assets: brand equity and intellectual capital. Brand equity is "the incremental cash flow resulting from the product with the brand name compared with that which would result without the brand name" (Ailawadi et al. 2003, pp.1, Stahl et al. 2012). Intellectual capital

is broadly conceptualized as knowledge resources that organizations use for competitive advantage (Youndt et al. 2004, Zhao and Chadwick 2013). It is a multi-dimensional construct, consisting of different components, such as human capital, organizational capital and customer capital. Various statistical techniques were used to measure the constructs in the research model, such as Data Envelopment Analysis and Structural Equation Modeling. Hierarchical Linear Modeling (HLM) was used to test the research hypotheses. On the basis of a sample of US semiconductor companies, this study shows that the accumulation of market-based assets is positively associated with the capabilities of utilizing the assets to create new assets. The findings offer a variety of theoretical contributions to marketing strategy research stream, and provide actionable insights on management resource-allocation decisions.

2 - What Makes More, Better? The Effect of Firm-Level Attributes on Business Performance

Eric Eisenstein, professor, Fox School of Business, Temple University, 527 Alter Hall, Philadelphia, PA, 19046, United States of America, eric.eisenstein@temple.edu, George Chressanthis, Patrick Barbro

Scholars in marketing develop new and better techniques for allocating marketing expenditures. Implicit in this endeavor is the belief that it matters both how much and how well marketing spending is deployed. In this research, we estimate the relative contribution of the quantity and quality of marketing expenditures on business performance by using a unique, company-level dataset that contains the internal marketing expenditures of 26 pharmaceutical firms from 2005-2011. As expected, we find that merely increasing spending in support of marketing is positively related to performance. However, consistent with the notion that the quality of spending matters in addition to the spending level, organizations that possessed attributes related to "investing smarter" in the marketing function were able to obtain greater financial returns to their expenditures. Managerially, this research demonstrates the importance of formulating a strategic vision that includes investing in advanced skills, fostering a culture of innovation, and enabling execution in and sales and departments.

3 - Pay Dispersion in Top Marketing Teams

Minghui Ma, University of Kansas, School of Business, 1300 Sunnyside Avenue, Lawrence, KS, 66045, United States of America, minghui@ku.edu, Kissan Joseph

Pay dispersion in top management teams has been conceptualized as the balance of two competing considerations: inducing competitive effort via tournament-type incentives and ensuring appropriate levels of collaboration. We use this theoretical lens to examine pay dispersion among top executives employed in the marketing function. We hypothesize that firms characterized by investments in advertising and R&D require greater collaboration between top marketing executives and will therefore decrease pay dispersion. Conversely, firms situated in industries that are explicitly regulated or operating in highly concentrated markets face diminished need for collaboration and will therefore increase pay dispersion. In addition, we posit that deviations in pay dispersion from expected levels will adversely impact firm performance. In our empirical work, we obtain good support for our hypotheses except for that pertaining to the impact of concentration. Surprisingly, the adverse impacts of deviation are asymmetric: excess pay dispersion has a negative impact on firm performance whereas compressed pay dispersion has no impact on firm performance. Moreover, this effect is economically meaningful: a one standard deviation increase in excess pay dispersion negatively impacts ROA by approximately 1%. Overall, our research contributes to the limited literature on marketing executive compensation and offers explicit guidelines for compensation committees.

■ TD09

09-Third Floor, Dover AB

Meet the Editors I

Cluster: Special Session

Invited Session

Chair: Jacob Goldenberg, IDC, Natan Alterman St., Hertzelia, Israel, jgoldenberg@idc.ac.il

1 - Meet the Editors

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.

Journal of Marketing Research, Bob Meyer, University of Pennsylvania, Philadelphia, PA, United States of America, meyers

Journal of Consumer Psychology, Amna Kirmani

International Journal of Research in Marketing, Jacob Goldenberg, IDC, Natan Alterman st', Hertzelia, Israel, jgoldenberg@idc.ac.il, Roland Rust

Management Science, J. Miguel Villas-Boas, University of California, Berkeley, University of California, Berkeley, Berkeley, United States of America, villas@haas.berkeley.edu

Quantitative Marketing and Economics, Pradeep Chintagunta, University of Chicago, Chicago, IL, United States of America, pradeep.chintagunta@chicagobooth.edu

■ TD10

10-Third Floor, Dover C

Retailing IV

Contributed Session

Chair: Sina Ghotbi, University of British Columbia, 2329 West Mall, Vancouver, BC, V6T 1Z4, Canada, sina.ghotbi@sauder.ubc.ca

1 - Restaurant Diners' Reaction to Incidents of Mad Cow Disease: Stay Home, Eat Less Beef, or Life as Usual?

Sina Ghotbi, University of British Columbia, 2329 West Mall, Vancouver, BC, V6T 1Z4, Canada, sina.ghotbi@sauder.ubc.ca, Charles Weinberg, Tirtha Dhar, Ting Zhu

Product harm crises and specifically food scares affect consumer decisions and firm performance. However, empirical investigation of food scares is scant especially in the context of restaurants. In this work, using a detailed, individual-level dataset on consumption of food away from home, we examine the effect of media coverage of multiple instances of Mad Cow disease on the decision to dine out and, once in a restaurant, whether to order beef. We find that when media coverage of Mad Cow disease crises is high, people eat out less often (especially at beef oriented restaurants), decrease the number of beef orders when eating out, and increase the ordering of other meat products. Interestingly, we find that these effects only hold for well-known, nationally branded restaurants and not for local restaurants. In terms of methodological contribution, we develop a modified double hurdle model that uses the participation (i.e., dine out) information in estimation. We conclude with a discussion of managerial implications.

2 - Empirical Analysis of the Interplay Between Base and Extended Warranties in Automobile Retailing

Hyeong-Tak Lee, PhD Candidate, University of North Carolina at Chapel Hill, Kenan-Flagler Business School, CB 3490, McColl Building, Chapel Hill, NC, 27599, United States of America, Hyeong-Tak_Lee@kenan-flagler.unc.edu, Sriraman Venkataraman

In the automotive industry, base warranties are offered by auto manufacturers and come bundled with the product. Extended warranties constitute an optional additional coverage that a consumer purchases from the retailer (most often) at the point-of-purchase. Over the years, extended warranties have become a vital source of profits for automobile dealerships. While the signaling and screening roles of manufacturer base and extended warranties are well understood, surprisingly little scholarly research exists investigating how two forms of warranties interact. As a result, key questions remain unanswered, such as: (a) do attachment rates for extended warranties rise/fall after the base warranty expires, (b) do attachment rates for extended warranties vary by consumer demographics pre- and post-expiry of the base warranty, etc. Answers to these questions are important for used car dealerships that sell vehicles with and without residual base warranties. We address this research gap. We do so by leveraging a rich new database of used car transactions spanning dealerships across five states between 2009 and 2012. We employ a regression discontinuity design wherein the optimal bandwidth is estimated non-parametrically. We find that demand for extended warranties drops shortly after the base warranty expires. Our estimates suggest that the insurance motive of extended warranties outweighs the signaling motive of base warranties. Taken together, our study showcases the complementary nature of base and extended warranties.

3 - The Retail Impact of Electronic Shelf Labels (ESL)

Sourav Ray, Associate Professor of Marketing, McMaster University, 1280 Main St. W., Hamilton, ON, L8S 4M4, Canada, sray@mcmaster.ca, Mark Bergen, Daniel Levy, Li Wang

Electronic price display technologies like Electronic Shelf Labels (ESLs) offer unprecedented capabilities to the retailer in terms of managing prices and price changes. Nevertheless, their adoption and use in large supermarket retail has been neither widespread nor uniform. The rather hefty capital outlay is often a reason for this hesitance. That said, casual accounts of the technology suggest ESLs may lead to significant reduction in the variable costs and lead times associated with changing prices and encourage more effective demand discovery efforts, among other benefits. The potential of these translating into better consumer prices and offers have spurred some jurisdictions in the U.S. to exempt retailers from more stringent pricing regulations if they adopt ESL. Unfortunately, few studies systematically investigate these effects. In this paper we first present some empirical data to describe the magnitude of retail savings in the context of a specific grocery supermarket. Second, we summarize results from a couple of empirical studies to calibrate the impact on consumers. Lastly, we attempt to calibrate the impact of ESL on retailers by considering POS data in a couple of supermarket chains that implemented the technology and explore the possible drivers. The results show that while the impact on customers could be contextual, there are significant benefits to retailers to offset the large capital outlays. These retail benefits accrue both in terms of savings as well as revenues. We discuss some key strategy and policy issues that follow from these results.

4 - Consumer Return Rate Evolution over Time

Siham El Kihal, Goethe University Frankfurt,
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Christian Schulze, Bernd Skiera

In recent years, online retail sales have grown at double-digit rates and are expected to grow further. As retail managers shift their focus away from stagnant offline channels, they face the challenge of substantial product returns (35 to 50% return rates). Product returns are costly in several ways: Beyond the foregone profits, they create costs for unpacking, checking the product's condition, repacking, restocking, and issuing the refund to customers. Therefore, customer return management becomes a necessity. However, to be able to intervene early enough in the customer-retailer relationship, online retailers need to understand how consumer return rate will evolve over time. Online retailers should be able to classify consumers based on their purchase and return behavior in order to implement appropriate intervention strategies. In this paper, we study how consumer return rates evolve over time and whether there is evidence for consumer learning over time. Moreover, we analyze which consumer-specific characteristics affect heterogeneity in evolution of consumer return rates over time. Understanding consumer return rate evolution over time can help both practitioners and scholars in understanding post-purchase consumer decisions and how consumers evolve in the online retailing context, where product returns play a major role.

TD11

11-Third Floor, Atlantic

Choice Models II

Contributed Session

Chair: Berry Cox, Assistant Professor of Marketing, Stetson University,
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America, btcox@stetson.edu

1 - Health Information and Consumer Learning in the Bottled Water Market

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The demand for refreshment beverages has been shifting from carbonated soft drinks (CSDs) to bottled water in the past decade because of healthy diet concerns. This study examines the role of public information (e.g., news articles addressing the relation between sugar intake and obesity) and consumer learning in driving this shift. A random coefficient discrete choice model with Bayesian learning process is formulated to model consumers' learning of health effect from consuming CSDs and bottled water. Consumers are assumed with initial prior beliefs about the distribution of health effect of beverages and update their beliefs using information received from mass media. To estimate our model, we use brand level data of bottled water and CSDs combined with health information data collected from LexisNexis Academic. We find that, through learning, consumers perceive a higher quality for bottled water than for sugar sweetened soft drinks, which can explain the constant increase in bottled water consumption. The simulation results suggest that the knowledge of health consequence will shift consumers' preference toward healthier beverages. CSD manufacturers can capture the changing demand by either (1) reducing unhealthy ingredients (i.e., sugar) or (2) providing healthier alternatives (i.e., bottled water).

2 - Consumer Impatience and Market Structure: The Case of Online Pizza Delivery

Elisa Montaguti, Associate Professor, University of Bologna,
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Consumer impatience, i.e. a high discount of future, implies that consumers desire to acquire money or other material objects very quickly. The amount of research on consumers' perceptions of the time value of money abounds. However, hardly any papers have looked at the effect of consumer impatience on the competitive environment. In this research we study how the impatience for food consumption affects firms' entry. Using a unique dataset of online orders of delivery pizza, we show that people significantly constrain their decision set in favor of pizzerias that are very local. A number of exogenous shocks allow us to distinguish their preference for pizzerias from their preference for quick food. We find that the impatience for online delivery leads to a large number of pizzerias which would otherwise never enter the market.

3 - The Impact of Chapter 11 Bankruptcy on Consumer Demand

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Sriraman Venkataraman

Every year, thousands of firms spanning a diverse spectrum of industries file for Chapter 11 bankruptcy protection. Under Chapter 11 bankruptcy protection, the financially-distressed firm reorganizes its business in a variety of ways, including distribution-network reorganization and product-line consolidation. While bankruptcy filing may deteriorate the consumer preference for the bankrupt firm's products, improvements in the firm's retail network and product portfolio

could result in increased demand. Therefore, it is important for managers and policy makers to understand the impact of bankruptcy reorganization on market shares. This study examines the effect of bankruptcy-induced changes on consumers' product choice using a unique data set from the U.S. auto industry.

4 - Choice Models for a Segment Size of One: Marketing Nirvana?

Berry Cox, Assistant Professor of Marketing, Stetson University,
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United States of America, btcox@stetson.edu, Richard J. Swartz,
Amit Pazgal, Richard R. Batsell, P.B. Seetharaman

It is not surprising that models and methods for analyzing consumer choice behavior have found widespread application in marketing research. As the Internet continues to allow researchers to harvest increasingly detailed information about individual consumer choices, the question arises whether there are additional insights to be gained. This research continues the rich literature stream by delving deeply into choice at its most fundamental level – that of the individual. In contrast to Hierarchical Bayes Models, where individual-level parameter estimates are obtained by pooling covariance among individuals, we examine choice data with enough information to estimate both parameters and covariances for each respondent. We describe the data collection requirements for estimating individual choice preferences for Logit, Probit, and Tversky's Elimination-by-Aspects (EBA). A new methodology for estimating EBA is introduced and the predictions of Logit, Probit and EBA are compared both in-and-out of the sample. The results attempt to unravel when a researcher should consider the added complexity of EBA or Probit over the widely adopted Logit model when modeling choice at the individual level.

TD12

12-Third Floor, Bristol

Marketing Strategy II

Contributed Session

Chair: Kyung-Ah Byun, Assistant Professor of Marketing, The
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1 - At the Edge of being Good: Is the Relationship between CSP and CFP really U-Shaped?

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Soenke Albers

Since 1972, more than 200 studies investigated the relationship between corporate social performance (CSP) and corporate financial performance (CFP) without achieving a consensus about the sign and the shape so far. In line with Freeman's stakeholder theory, the majority of articles empirically proved a positive relationship while a considerable proportion found a negative link between CSP and CFP which favors Friedman's neoclassical approach. The seminal study by Barnett and Salomon (2012) for the first time empirically confirmed both theories to be complementary rather than mutually exclusive and found a nonlinear, U-shaped relationship unifying the hypothesized relationships of both theories. Companies that little invest in social performance are more profitable than companies exhibiting a medium level CSP, while a high level of CSP comes along with increasing financial benefits that exceed associated costs. However, if one plausibly assumes that the marginal returns resulting from high levels of CSP are diminishing then CFP would decrease after an optimal level of CSP. Therefore, we hypothesize that the CSP-CFP relationship has a shape of a combined U and inverted U. We find empirically support for the curvilinear relationship by testing a cubic specification based on the well-known KLD data of social performance. We further show that our results are robust among different measures of financial performance and a second rating of social performance (CSRHub).

2 - Ties that Blind: Loose Ties to Counter the Negative Consequences of Relationship Multiplexity

Ashish Sharma, Doctoral Student, University of Georgia, 132
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America, ashish82@uga.edu, Sundar Bharadwaj, Kapil Tuli

Business-to-business firms, in many instances, have multi-dimensional relationships with their suppliers or customers. Extant literature on the relationship embeddedness-firm performance and innovativeness relationship suggest that it is a double edge sword. Empirical studies and anecdotal evidence find that such multiplex ties between a supplier and a customer, acts as a rare and inimitable resource and generates better firm performance through higher sales and lower sales volatility. However, it has also been noted to give rise to customer opportunism and knowledge redundancy, negatively affecting supplier innovation and survival. Literature on tight-loose coupling indicates that loosely coupled systems provide ease of localized adaptation and enable a firm to sustain novel solutions, through preserving higher diversity, to be drawn upon in times of radical changes. This indicates that when the focal relationship suffers from resource drain and redundancy, loosely coupled relationships of the supplier with other firms could foster higher innovation, offsetting the detrimental effects of the focal relationship. This study presents results, from a unique hand collected data set of buyer-supplier relationships, on the role of loose ties with other firms (as well as other customers) as a countervailing strategy to counter the negative innovation consequences of relationship multiplexity.

3 - Sustainability of Brand Loyalty After Product Recalls: Understanding the “Chipping-Off” Effect

Kyung-Ah Byun, Assistant Professor of Marketing, The University of Texas at Tyler, 3900 University Blvd., Dept of Management & Marketing, Tyler, TX, 75799, United States of America, kbyun@uttyler.edu, Mayukh Dass, Piyush Kumar, Dale Duhan

Brand loyalty is a critical defense against product recall events as loyal consumers tend to protect a brand from negative publicity. However, such events may create a chasm in the degree of brand loyalty before and after the recall. Although the damage of product recalls on firm performance is evident in the extant literature, the interplay between brand loyalty and product recalls is underexplored. In this study, we examine the “chipping-off” effect, a consumer behavior that slows or sometimes even permanently terminate purchasing of the recalled brand, and explore how marketing programs can help minimize the effect. Using scanner data from a large grocery store chain, we examine the purchase patterns of approximately 200,000 consumers regarding 31 product recalls over the span of 32 months, and found that loyal consumers tend to delay purchasing a recalled brand beyond their regular purchase cycle or even switch to another brand. Such ‘chipping-off’ effects vary by characteristics of product recalls such as their seriousness (e.g., salmonella) and public announcements (e.g., FDA). The paper concludes by presenting a strategic approach for brand managers to sustain consumer loyalty that is damaged from product recalls.

4 - Let Your Banner Wave: Antecedents and Performance Implications of Retailers’ PL Naming Strategies

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In spite of repeated calls for more research attention (Ailawadi and Keller 2004, Geyskens et al. 2010), little is known about the antecedents and performance implications of the naming decision for different private-label (PL) tiers. Recent developments add further relevance to the issue. First, the retailer’s banner equity is increasingly recognized as an important asset, in which his PL portfolio is a key component (Lamey et al. 2014). Second, PLs are becoming a brand on their own, rather than merely an unbranded (where the name is less relevant) alternative (Gielens 2012). Third, many retailers are now developing multiple-tier (economy, standard, premium) PL portfolios, which need to be differentiated from one another by an appropriate naming decision (ter Braak et al. 2013). Basically, retailers can choose between two naming strategies. They can either opt for store-banner naming and use the store-banner name as PL brand name, or for unrelated naming, where a PL brand name is used other than the store-banner name (de Jong 2011). Which strategy may be preferred, and in what circumstances, is a question with no obvious answer. In addition, retailers’ PL-naming practices differ widely: U.K.’s Sainsbury’s, for example, uses the store-banner named PL line ‘by Sainsbury’s’ on its standard tier. French Leclerc, however, uses the unrelated ‘Marque Repère’ label. Moreover, retailers do not consistently use the same naming strategy across all tiers. Using a unique data set on the top-12 retailers in 25+ European countries, we examine the naming decision of close to 250 economy and premium tier introductions, and study two research questions: (i) What contingency factors (retailer structure, retailer imitative behavior, economic environment, and institutional environment) drive retailers to store-banner name their PLs? (ii) How do the different naming strategies affect retailers’ performance? Also, is the naming strategy for one tier more critical than for the other?

TD13

13- Fourth Floor, Harborside A

Digital Marketing IV

Contributed Session

Chair: Yufei Zhang, Michigan State University, 1725 Nemoke Trl Apt6, Haslett, MI, 48840, United States of America, zhangyu@broad.msu.edu

1 - Social Media Success Factors and Firm Performance

Sarah Germer, University of Augsburg, Universitaetsstrasse 16, Augsburg, 86159, Germany, sarah.germer@wiwi.uni-augsburg.de, Michael Paul

In 2013, an estimated number of 1.7 billion people used social media worldwide at least once a month. The rising interest in social media by consumers led to an increased use by companies, searching for ways to interact with customers, prospects, and advocates (eMarketer 2013). To justify expenses for social media, marketers need to determine the impact corporate social media activities have on firm performance and to identify the most promising ones. Research focused on the impact consumers’ social media activities have on performance (e.g., Dhar and Chang 2009) or on single elements (e.g., content) of corporate social media activities and their impact on performance (e.g., Kumar et al. 2013). What is missing is a systematically derived classification of determinants for social media success. Also, there exists no solid operationalization for any of these in a social media context. The objectives of this research are to: (1) derive activities for companies to pursue in social media; (2) propose an operationalization of these; and (3) to demonstrate their impact on firm performance (i.e., stock return). The identified success factors are accessibility, authenticity, interactivity, proactivity, and rich content. To empirically test the relationship between the success factors as independent variables and performance as dependent variable, Facebook and Twitter pages of the Fortune 500 are examined, covering a period from June 2010

until December 2014. Using vector autoregressive modeling, data are being analyzed and first results will be presented at the conference. This study is the first that provides researchers with an operationalization of social media success factors and gives marketers guidance on social media activities to choose for maximizing firm performance.

2 - Development of Multi-Item Scale for Measuring Effectiveness of Promotion Campaigns on Facebook

Neeraj Pandey, Associate Professor, National Institute of Industrial Engineering (NITIE), Vihar Lake, Powai, Mumbai, 400087, India, neerajpandey100@gmail.com

More and more organizations are adding social networking sites (SNS) into the integrated marketing communication mix to promote their products and services. Among all the SNS, Facebook is the leading promotion platform in terms of subscriber base (1.35 billion monthly active users) especially in B2C space. However the organizations are always confused about the effectiveness of promotion campaigns run on Facebook in terms of customer response and returns on investment. Hoffman and Novak (2012) in the special issue of Journal of Interactive Marketing and many authors later on emphasized the need for deeper understanding of social media in order to leverage it for marketing in general and promotion in particular. This study focused on developing multi-item instrument, named as Facebook Promotion Effectiveness Scale (FPES), for measuring effectiveness of promotion campaigns displayed on Facebook webpages. Four hundred and fifty responses were collected from select states in India. The questionnaire had qualifiers regarding usage of Facebook and sufficient exposure to advertisement on Facebook so as to select only ‘qualified’ respondents. It followed the rigorous method of scale development methodology as suggested by Gerbing and Anderson (1988); Rossiter (2002) and DeVellis (2012). FPES, consisting of variables like awareness, engagement, lead and sales, etc. and their items; enables the organizations to understand and know objectively the effectiveness of their promotion viz. advertisement, sales promotion campaigns, public relations etc.: vis-à-vis their stated objectives. Thus FPES helps organizations measure their promotion expenditure outcomes on Facebook and thereby prioritize their marketing channel for future promotion expenditure.

3 - E-Brands: How to Survive and Thrive

Yufei Zhang, Michigan State University, 1725 Nemoke Trl Apt6, Haslett, MI, 48840, United States of America, zhangyu@broad.msu.edu, Jeongwen Chiang, Chen Lin

As internet and mobile commerce increasingly dominate the contemporary retail business, the emergence of e-brands (brands that are originated and developed in the online space exclusively) is expected within many firms’ business scope. This exploratory study is a first step in defining and examining the mobile and IMC strategy of e-brands using a unique, large-scale dataset from Alibaba, which contains firm daily spending and sales, as well as individual customer order data on PC and mobile platforms. Our hierarchical model reveals several important findings: First, with higher search cost, concentrated demand, fierce competition and little product differentiation, e-brands shows interesting patterns of the marketing mix responses with respect to pre- post- promotional dip; second, we compare the performance of e-brands on PC vs. mobile platforms. While mobile enjoys higher engagement and view breath than PC, it suffers from low conversion and customer retention. We further segment and profile the customers according to their behavior on different platforms. Third, we investigate the optimal allocation on PC vs. mobile across four major advertising channels: display, sponsored search, referral, and group buy. Important managerial decisions on digital and mobile marketing are proposed.

4 - Content Drivers of Virality for YouTube Video Ads

Wayne Zhang, USC, USC, Los Angeles, CA, United States of America, actuary_zhang@hotmail.com, Gerard Tellis

YouTube has become an important medium for video ads. Advertisers are using it extensively for pre-testing and post release exposure of regular TV ads besides a medium for the sole release of other ads. One major goal of advertisers is to get their ad to go viral. This is also a topic of rapidly growing interest in marketing academia. This study attempts to understand the drivers of virality. We scrape YouTube to collect data on uploading, viewing, and social shares for 300 video ads on YouTube. We also record their day and time of uploading and their duration. We then develop an instrument to rate the content of these ads on over 60 measures or cues of content, drawn from the behavioral literature on advertising. These measure cover, argument, emotion, endorsement, surprise, branding, humor, presence of babies, animals, and sex and many other variables. We then analyze virality of YouTube shares as a function of the cues of ad content. The major results are the following. The use of argument appeal is in general negatively correlated with virality. However, when used in new product introduction, the negative effect vanishes. Emotional appeals are more effective than argument or endorsement. Video ads arousing positive and strong emotions are shared more than those that are negative or use arouse emotions. In addition, the use of surprise can be an important driver of virality. Revealing surprise at the end of the ad seems to be more effective than at the beginning. Further, there is no evidence that the length of branding in the ad affects virality. However, the location of branding matters. Late placement of brand name and logos results in better sharing propensity than early display. Pulsing the brand name though the ad does not increase virality. Using celebrities and animals can also help the spreading of video ads. These results are robust although other variable are either not significant or not robust. The authors discuss the implications.

TD14

14- Fourth Floor, Harborside B

Internet IV

Contributed Session

Chair: Roland Rust, Distinguished Univ. Prof., U. of Maryland, Smith School of Business, College Park, MD, 20742, United States of America, rrust@rhsmith.umd.edu

1 - Brand Buzz in the Echoverse

Roland Rust, Distinguished Univ. Prof., U. of Maryland, Smith School of Business, College Park, MD, 20742, United States of America, rrust@rhsmith.umd.edu, Harald van Heerde, Kelly Hewett, William Rand

Social media has created a reverberating “echoverse” for brand communication, forming complex feedback loops between corporate communications, news media, and user-generated social media. To understand these feedback loops, we process longitudinal, unstructured data from these various communications sources using computational linguistics techniques, analyze the results using econometric methods, and interview managers to deepen our understanding. By assembling one of the most comprehensive brand communication datasets in the brand communications literature with multiple types of corporate communications, news stories, and social media, we find that the echoverse exists; feedback loops can be found between all of these sources. Furthermore, the echoverse has intensified as online word-of-mouth has become more prevalent. Over time, online word-of-mouth has become more impactful on news stories, firm communications, consumer sentiment and business outcomes, while traditional consumer sentiment measures have shown less impact. The nature of brand communications has been transformed by online technology as corporate communications moves increasingly from one-to-many (e.g., advertising) to one-to-one (e.g., Twitter) while consumer word-of-mouth moves increasingly from one-to-one (e.g., conversations) to one-to-many (e.g., social media). Results question the effectiveness of traditional advertising and suggest that companies can benefit from using social media (e.g., Twitter) for personalized responses to customers, as opposed to ‘broadcast’ social media messages. In general the evolving echoverse requires rethinking brand communication strategies, with online communications becoming increasingly central.

2 - The Value of Online Reputation Mechanisms

Brett Hollenbeck, Assistant Professor of Marketing, UCLA Anderson, 1317 S Westgate Ave, Apt 204, Los Angeles, CA, 90025, United States of America, brett.hollenbeck@gmail.com

This paper explores the value of online reputation mechanisms and their effects on competition and firm revenues in the context of the lodging industry. I combine monthly tax return data on revenues for every hotel in the state of Texas from 2000-2014 with the full history of online reviews from the three leading travel bookings and reviews sites. These data are supplemented with detailed traffic, population, and oil and gas industry data to act as demand shifters. This presents the most comprehensive analysis yet conducted of the value of online word of mouth in an industry, travel, historically characterized by low consumer information. I find the value to hotel owners of brand names has fallen substantially, from roughly 35% of revenue to 15% over the past 5 years and that this is largely attributable to online reviews helping create more informed consumers. I also explore the effects this shift has had on firm entry and exit, vertical positioning, and competition. Notably, the recent availability of reviews has substantially slowed the decades long trend towards chain affiliation.

3 - The Influence of Tie Strength and Communication Environment on what People Share Online

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People share online content via email and social media such as Facebook and Twitter constantly. Understanding the factors driving such social transmission has become an important quest in marketing because empirical research has demonstrated that word of mouth (WOM) has causal impact on sales, on adoption of new product, and on firm value. Although abundant empirical research has been conducted on the impact of WOM on sales, there has been relatively little effort on exploring which factors drive the social transmission. In this study, we investigate how emotional aspects and valence of messages influence the social transmission. Furthermore, we explore how this relationship can vary depending on the relationship between communicator and recipient as well as the communication environment. Specifically, we analyze which articles make the most emailed, most shared on Facebook and most Tweeted list by using the over 8,000 New York Times articles published over four-month period. We find that emotional content is more likely to be shared with friends rather than strangers. We also find that although positive content is more likely to be shared in private communication, negative content is more viral in public communication.

4 - Quantifying the Impact of WOM Contagion over the Twitter: Is the Influencer-Seeding Strategy Effective?

Makoto Mizuno, Professor, Meiji University, 1-1 Kanda-Surugadai, Chiyoda-ku, Tokyo, 101-8301, Japan, makmizuno@gmail.com, Makoto Abe, Naoki Shinbo

It has been argued for years whether a few influential people (influencers, influentials) exist and play a critical role in the contagion of word-of-mouth (e.g. Katz & Lazarsfeld 1955, Watts & Dodds 2007). Although the expansion of social media enables researchers to investigate this question through sophisticated empirical analyses, the results seem to be mixed (e.g., Goldenberg et al. 2009; Trusov, Bodapati & Bucklin 2010; Bakshy et al. 2011). We propose to divide the question into the following sub-questions: (1) Do such influencers really exist? (2) Can marketers identify them? (3) Is their influence sustainable? (4) Is seeding them cost-efficient? Our study investigates these questions step by step. Firstly, using Twitter log data concerning iPhone, we estimate individual users' influence/responsiveness by a binomial logit model with a MCMC estimation procedure. If a few influential users are detected, the answer to question (1) is yes. If this procedure is applicable in practice, the answer to (2) is also yes. Secondly, we compare the results between two time periods to confirm the sustainability of influence. Thirdly, we conduct an agent-based simulation to investigate what kinds of seeding strategies are cost-efficient. If the fully cost-efficient seeding strategies are found via simulation under a reasonable range of parameters, the strategy of seeding a few influencers will make sense. Finally, we discuss the limitation and future directions of this study.

TD15

15- Fourth Floor, Essex AB

Developments in the Measurement and Modeling of Consumer Preferences III

Cluster: Special Session

Invited Session

Chair: Olivier Toubia, Columbia Business School, 3022 Broadway, Uris 522, New York, NY, United States of America, ot2107@columbia.edu

1 - An Intelligent Video Advertisement Response System

Li Xiao, Dr., Assistant Professor, Fudan University, Room 513, 670 Guoshun Rd., Yangpu Distri, Shanghai, 200433, China, lixiao@fudan.edu.cn

Video advertisement (ad) display system is widely used in marketing practice nowadays, e.g. the digital POS system in retail stores, and video screens installed on the seatbacks in taxis and airplanes, etc. The system usually shows a set of ads to the viewers, one after another in a predetermined sequence, and then loop back to start from the first ad, or in a randomized sequence sometimes. On some occasions, the system allows viewers to manually skip the ad, but on many other occasions not. However, the effectiveness of such system is questionable, since there is substantial heterogeneity among viewers' preferences toward various ads but the system treats every viewer with no difference. Furthermore, the viewer would skip the ad, or move the eyes away, or walk away, if the ad fails to capture his/her attention in the first few seconds. To overcome these deficiencies, we propose an intelligent video ad response system. Our proposed system would videotape viewer's responses when s/he watches the ad, use computer vision techniques and machine learning tools to automatically extract facial expression and eye gaze info from the video, match the facial expression to elements on the ad, estimate individual preferences toward ad, and make real time recommendations on what ad to play next. And we also propose a concept of dynamic preference to indicate viewer's preference towards a specific ad on a frame level. We tested the intelligent video ad response system in an empirical study, and demonstrated that our proposed system outperforms the traditional one to some extent.

2 - A Search Cost Model of Consideration Set Formation

Mike Palazzolo, University of Michigan, palazzom@umich.edu, Fred Feinberg

Consumers purchasing from a large set of alternatives often evaluate only a subset of alternatives (a consideration set) in an effort to balance the expected benefit from search (e.g., finding a high-quality product) with costs (time, etc., needed to choose from the set). Because the marginal expected benefit of information search likely decreases in the number of considered alternatives, marketing actions that encourage consideration of one alternative may simultaneously discourage consideration of another. For example, if an automobile is redesigned, a consumer may choose to consider it over another alternative she would have otherwise considered. We construct a model of consideration set formation that can account for this “consideration set substitution” by extending the random utility framework underlying the exploded logit model to incorporate search costs and decreasing marginal expected benefits from search. Our model produces a closed-form likelihood statement for which the number of calculations does not increase exponentially in the number of alternatives, breaking the curse of dimensionality. It thereby serves as an attractive alternative to consideration set formation models that abstract away from the consumer's cost-benefit trade-off (and in turn implicitly assume substitution does not occur at the consideration set formation stage), as well as more structural works that model the cost-benefit trade-off but carry a high computational cost and may be intractable for markets with many alternatives. We estimate our model on stated consideration set and observed purchase data from the automotive industry to demonstrate the importance of accounting for consideration set substitution when estimating the impact of marketing actions on consideration and choice.

3 - Numerical Methods for Choice Modeling with Many Observations

W. Ross Morrow, Analytics Scientist, Ford Motor Company,
3200 Hillview, Suite 200, Palo Alto, CA, 94034,
United States of America, wmmorro13@ford.com, Yan Fu

Companies now have access to very large amounts of revealed preference data from real purchasing occasions. In the automotive sector, for example, surveys of new vehicle buyers have tens of thousands of observations per year capturing purchase, consideration, household characteristics, purchasing conditions, motivations, and satisfaction; internal sales data for a single OEM completely covers a subset of the new vehicle market with millions of observations per year. The large number of observations available, along with the large number of potential covariates to include, necessitates careful attention to the numerical methods, computational platforms, and statistical methods used when estimating and evaluating models. The more efficiently (and reliably) model estimation takes place, the faster model selection and validation can be done. With current methods, reasonable validation exercises (e.g. simulation studies and/or cross validation) at near full scale may be impractical without parallelization. Moreover, the "Big Data" era may enable adaptive, personalized choice modeling at scale within devices or in the cloud. This talk reviews the scale of data now (or soon) available, pre-processing steps, and numerical methods for estimating models efficiently with many observations and parameters. We focus on serial estimation of models of consideration and frequentist methods for Multinomial, Latent-Class, and Mixed Logit models. We identify parallelization opportunities, but look towards real-time modeling for many customers with parallelization resources either occupied by application scale, thus unavailable to estimation, or where modeling is embedded in non-parallelized devices drawing data from the cloud. New ideas are compared to available routines.

4 - Positive Psychology and the Consumption of Information Goods

Olivier Toubia, Columbia Business School, 3022 Broadway, Uris
522, New York, United States of America, ot2107@columbia.edu,
Garud Iyengar, Alain Lemaire, Renée Bunnell

Positive psychology is the branch of psychology that focuses on the achievement of a satisfactory life. A milestone in the positive psychology movement was the development of the Character Strengths and Virtues handbook (Peterson and Seligman 2004), which identified and classified 24 positive psychological traits of human beings, e.g., Bravery, Integrity, Citizenship, Humility, Prudence, Gratitude, and Hope. Information goods usually tell stories of people, and we tend to evaluate and purchase these goods based on the human characters they feature. This leads us to predict that character strengths have the power to explain and predict the information goods consumed by people. We develop natural language processing tools to automatically identify the character strengths captured by information goods such as movies. Based on the description of a movie, we can assign an array of 24 weights or "tags" (one per character strengths) to that movie, that capture the extent to which it portrays each character strength. For example, we can identify that a given movie primarily features Bravery, Love of Learning, Creativity, etc. We have applied this tool to a dataset of 430 movies.

■ TD16

16- Fourth Floor, Essex C

Working Paper IX

Contributed Session

Chair: Neil Bendle, Assistant Professor of Marketing, Ivey Business School, Western University, 1255 Western Road, London, ON, N6G0N1, Canada, nbendle@ivey.ca

1 - Marketing Accounts

Neil Bendle, Assistant Professor of Marketing, Ivey Business School, Western University, 1255 Western Road, London, ON, N6G0N1, Canada, nbendle@ivey.ca, Xin (Shane) Wang

Financial accounts largely ignore market-based assets to protect investors from mistakes overstating the assets' values. This is a problem for marketing as decisions are driven from the financial accounts either directly, or because the financial accounts influence the structure of management reporting. Marketers may want changes in the way marketing is accounted for to justify investments and drive greater accountability but accounting standards boards exclude the needs of internal management from consideration making immediate change in accounting standards unlikely. We suggest a solution that requires no change in accounting standards. Market-based assets can be recorded in a comprehensive set of management accounts, called marketing accounts. These accounts, controlled by marketers, will aim solely to aid internal decision-making. Recording the value of market-based assets will increase accountability regarding the assets' usage. Valuing market-based assets requires significant assumptions but even imperfect models will often be very useful and should improve over time. Our research starts by considering the current state of accounting for marketing. We next outline proposed principles of marketing accounts and contrast these with financial reporting principles. The key differences suggested are that: 1) The matching principle should be more consistently applied in marketing accounts than it is applied in financial accounting standards. 2) Marketing reporting should be based upon the concept of expected value and not conservatively biased. We end by describing how marketing accounts can be implemented using currently available double entry systems.

2 - When More is More and Less is Less:**Post-Merger Returns to Marketing Investment**

Chanil Boo, UNC-CH, 300 Kenan Drive, Chapel Hill, NC,
United States of America, chanil_boo@unc.edu, William Putsis

This study empirically examines how a merger or acquisition (M&A) affects marketing investment and its subsequent impact on firm value using a dynamic GMM approach. Data from a variety of sources including the Securities Data Corporation (SDC)'s Thompson Merger and Acquisition database, COMPUSTAT of Standard & Poor's and Chicago Booth's Center for Research in Security Prices (CRSP) between 1990 and 2010 are used in the study. The empirical results show that mergers often lead to acquirers' disinvestment in marketing activity. However, for acquirers investing more than their rivals on average, both sales and stock price returns are greater in the three years immediately following a merger announcement. The authors suggest that, in this case, the greater marketing spend reveals managers' private information about their firms' prospects and alleviates concerns stemming from the merger, thereby contributing positively to firm value. Interestingly, the results are contingent on merger type. Specifically, the positive impact of marketing on performance is weaker and more quickly decreases following vertical mergers than following horizontal mergers. The authors discuss the implications of their findings for acquiring-firm managers as well as marketing researchers.

■ TD17

17-Fourth Floor, Falkland

Customer and Firm Behavior in Social Networks

Cluster: Special Session

Invited Session

Chair: Oded Netzer, Associate Professor, Columbia University, 3022 Broadway Ave., New York, NY, 10027, United States of America, on2110@columbia.edu

1 - Customer Referral Reduces the Impact of Poor Service Performance on Customer Churn

Christophe Van den Bulte, Gayfryd Steinberg Professor, The Wharton School, 3730 Walnut St, Suite 700, Philadelphia, PA, 19104, United States of America, vdbulte@wharton.upenn.edu,
Kartik Hosanagar, Nazrul Shaikh

Recent research documents that peer influence affects not only customer acquisition but also customer retention. For instance, customers acquired through a referral program have been observed to churn less rapidly than customers acquired through other means. This presumably is due to social enrichment: Having been referred by an existing customer who maintains positive relations with both the new customer and the company increases the new customer's trust in the company and strengthen his or her emotional bond with it. The present study leverages data on service performance to assess social enrichment as a possible mechanism through which peer influence affects customer churn. We ask two questions, (i) Do referral customers churn less? and (ii) Are referral customers less sensitive to poor service performance? We answer them by analyzing the churn of 5,106 customers of a leading business-to-business search marketing service provider (825 or 16% acquired through referral). The answer to both questions is yes. Our findings provide the first evidence that the lower churn of customers acquired through a referral program indeed stems from social enrichment that insulates the customer relation from negative user experiences.

2 - The Contagious Effect of Marketing Campaigns: Evidence from a Field Experiment

Eva Ascarza, Columbia Business School, 3022 Broadway,
Uris Hall 524, New York, NY, 10027, United States of America,
ascarza@columbia.edu, Peter Ebbes, Oded Netzer

Recent work in marketing has demonstrated contagious effects in new product adoption, product usage, and churn. What is less known is how contagious firm initiated marketing campaigns are; that is, when a customer is targeted by the firm with a marketing campaign that is aimed at, for example, reducing churn, how the change in her own behavior might influence her "friends/neighbors" (egos), hence creating a potential social multiplier effect for the marketing campaign. To investigate this question we run a field experiment in a cell-phone context in which the marketing campaign (i.e., treatment) is randomized among a set of focal customers. Because of the randomized nature of the firm's intervention, we obtain an exogenous source of variation in behavior (such as number of calls, length of calls, SMS, and churn) among the customers that were targeted. This exogenous shock in focal behavior allows us to quantify to what extent aspects of behavior of her social connections are also affected. We show how firms could benefit from running "socially-aware" campaigns; that is, targeting not only based on focal customers' behavior but also taking into account their level of social influence.

3 - Mobility of Top Marketing and Sales Executives in Business-to-Business Markets: A Social Network Perspective

Rajdeep Grewal, Townsend Family Distinguished Professor of Marketing, University of North Carolina, 101 Vernon Hills Court, Chapel Hill, NC, 27514, United States of America, Rajdeep_Grewal@kenan-flagler.unc.edu, Rui Wang, Aditya Gupta

In business-to-business markets, top marketing and sales executives (TMSEs) have considerable influence on organizational customer strategies. When TMSEs switch firms, a pattern of informal organizational connections results; this pattern reflects the flow of information and knowledge among firms and creates path-embedded social capital in the process and provides opportunity for firms to access external business knowledge. To model this information access opportunity, the current study considers information reach and richness, conceptualized according to the network position (i.e., centrality and brokerage) of the firm in the TMSE mobility network, which can be constructed by tracing executive movements through the work experience records of TMSEs in an industry. The ability and motivation of the firm, defined as firm-level marketing know-how (i.e., market orientation) and TMSEs' experience (i.e., time with the firm), constitute critical moderators. Data from the semiconductor industry and a motivation, ability, opportunity (MAO) framework model that corrects for unobserved heterogeneity and endogeneity suggest that path-embedded social capital facilitates value creation and firm performance; organizational ability is essential to absorb the benefits of this social capital. The findings are robust when the model accounts for decay of connections with time and also different types of connections (marketing, sales and mix of marketing and sales).

4 - Share of Wallet at Time of New Product Adoption: Social Contagion versus Heterogeneity Redux

Raghuram Iyengar, Associate Professor, Marketing Department, The Wharton School, The University of Pennsylvania, 700 Jon M. Huntsman Hall, 3730 Walnut Street, Philadelphia, PA, 19104, United States of America, riyengar@wharton.upenn.edu, Oded Netzer, Christophe Van den Bulte

Several old diffusion studies have documented that the share of wallet at the time of adoption is greater for late than for early adopters. This pattern has traditionally been explained as a consequence of social influence in new product adoption. Later adopters can learn from the experience of early adopters, so – assuming the product is not disappointing and adopters are risk averse – later adopters feel more comfortable committing a large part of their operations or category requirements to the new product. Using data on the adoption of two prescription drugs, we find that (i) the share of wallet of the new drug at the time of adoption indeed increases over time, (ii) this pattern cannot be attributed to increased peer influence over time, (iii) but, instead, stems from the facts that volume at time of adoption is rather constant and that later adopters have smaller category requirements than early adopters. This evidence provides additional evidence that adoption patterns traditionally attributed to social contagion can also be accounted for – and sometimes more compellingly so – by marketing effort or heterogeneity among adopters.

Thursday, 5:15pm - 6:00pm

TE13

13- Fourth Floor, Harborside A

You Can Get Data from the Wharton Customer Analytics Initiative

Cluster: Wharton Customer Analytics Initiative
Invited Session

Chair: Colleen O'Neill, Wharton, University of Pennsylvania, coneill@wharton.upenn.edu

1 - Wharton Data Analytics

Colleen O'Neill, Wharton, University of Pennsylvania, coneill@wharton.upenn.edu

Do you want new and interesting data for your research? The Wharton Customer Analytics Initiative (WCAI) is the world's preeminent academic research center focusing on the development and application of customer analytics methods. Through our innovative Research Opportunity program and R&D "crowdsourcing" approach, WCAI enables academic researchers from around the world to access data sets that enable them to help companies understand how to better monetize the individual-level data they collect about customers through the development and application of new predictive models. We marry our work with companies and researchers around the world with a range of co-curricular student programs that foster talent development and recruitment. Learn more at <http://wcai.wharton.upenn.edu/>

Friday, 8:30am - 10:00am

FA01

01-Third Floor, GB 1

Advertising V

Contributed Session

Chair: Abhishek Borah, Foster School of Business - University of Washington, 485 Paccar Hall, Seattle, WA, 98103, United States of America, abhi7@uw.edu

1 - An Empirical Study of Application Usage and Advertising Response on Mobile Phones

Liye Ma, Assistant Professor of Marketing, Robert H. Smith School of Business, University of Maryland, 3323 Van Munching Hall, College Park, MD, 20742, United States of America, liyema@rhsmith.umd.edu, Baohong Sun

With the rapid shift of consumer activities from Internet to mobile phones, advertising on mobile devices is expected to quadruple in five years. However, advertisers are challenged by the low clickthrough rate. Furthermore, 64% of mobile phone time is spent on using applications. Little is known on how consumers use the mobile applications and especially on how such usage interacts with their response to mobile advertisements. This calls for research to study customer decision making on mobile phones and to understand the unique contextual and time effects of mobile advertising clickthrough. In this study, we develop a model of consumers' usage decisions of mobile applications and responses to mobile advertisements. Assuming application usages are driven by the fundamental needs that evolve over time, this model allows such underlying needs and contextual factors to together influence a consumer's receptiveness to advertisements. We apply the model to a unique panel data offered by a mobile ad agent, which contains the history of both application usage and ad responses. We then run simulations to demonstrate how a targeted mobile ad delivery strategy can improve response rates by taking into account consumer's evolving underlying needs and the context of delivery.

2 - Strategic Media Selection under Simultaneous Media Exposure for Efficient Resource Allocation

Abhishek Nayak, Doctoral Candidate, IE Business School, Calle Lagasca 120, 5 int dch, Madrid, 28006, Spain, anayak.phd2016@student.ie.edu, Shameek Sinha

Recessions lead to decreased disposable income and the resulting consumer spending cuts require marketers to strategically allocate their limited advertising budgets. Though research has shown that proactive and targeted campaigns by firms are more effective than reduced advertising during economic downturns, the influence of individual mediums on consumers is unexplored. Today's consumers are subjected to 'simultaneous media exposure' and during recessions the relative and cumulative effects of these mediums change compared to stable economic times. Using consumer survey data from the US, in a multi-category analysis, we estimate the impacts of advertising mediums during recessions on purchase actions and intentions for essential and non-essential goods. We analyze the changes in media influences across three critical periods - pre-recession, during recession and post-recession, to understand the evolution in behavioral patterns. We find that distinguishing between media sources based on cost structure (high vs. low) and type (informational vs. promotional) is critical for strategic resource allocation. Insights from this research can help marketers to allocate their budgets efficiently during recessions to facilitate customer retention, acquisition and cross-selling.

3 - Another Approach to Develop Marketing Strategy for Inference-Based Products based upon Symbol Ground

Akihiro Inoue, Professor, Keio University, 4-1-1 Hiyoshi, Kohoku-ku, Yokohama, 223-8526, Japan, ainoue@kbs.keio.ac.jp, Atsuhiko Iino

The purpose of the research is to propose a new approach to develop marketing strategy for products as to which consumers evaluate the set of alternatives by inference, rather than by functional processing of attributes. In case of the purchase of personal computers, consumers are likely to process the attribute information (e.g., CPU, memory size, HD size, etc.) and develop expected values of utilities. Thus, there exist a structural relationship between the attributes and the utilities. However, sometimes, consumers do make a purchase decision making without a rational structural relationship between attributes and utilities, where the attributes function, not as the basis of the evaluation, but as the basis of inference, as implied by the symbol grounding theory (Harnad 1990). In this research, we focus on the six brands of Japanese cosmetics (e.g., Shiseido, Kose, Suntory, etc.), the six attributes (e.g., Collagen, Haluronic Acid, etc.), the six technologies (e.g., Nano, Penetration, Target, etc.), and the six effects (e.g., Moisture, Luster, Bounce, etc.). Based upon the structural equation modeling and canonical correlation analyses, we found that consumers evaluate the effects not based upon the attributes but the associations between the technologies and attributes. In other words, the decision making is not by the attribute-based utilities but by the inference-based associations. We discuss a new approach to develop marketing strategy in case of the inference-based associations.

4 - Does Offline Advertising Attract Online Investor Attention?

Abhishek Borah, Foster School of Business - University of Washington, 485 Paccar Hall, Seattle, WA, 98103, United States of America, abhi7@uw.edu, Cem Bahadir

The research on marketing's impact on firm value provides empirical evidence between a variety of marketing actions and shareholder value (e.g., Srinivasan and Hanssens 2009). However, there is limited work on the intermediate steps of the relationship between marketing actions such as advertising and investors' reactions (e.g., Rust et al 2004). This limits our ability to establish the marketing's impact on shareholder value. Against this backdrop, we study the impact of offline advertising on online investor attention with highly granular daily data. Marketing actions such as advertising can influence investor attention by either enhancing investors' interest in the firm and its potential future returns, or by playing more of an informative role and reduce investors' additional information need. In order to understand which of these processes prevail, we estimate a panel vector autoregressive model using a sample of S&P 500 firms. The data set is at the daily level and covers 5 years of daily data. We use the daily ticker search (e.g., "MSFT" for Microsoft) from Google Trends and visits to the SEC EDGAR site (e.g., accessing 10K reports) as proxies for investor attention. As the measure of offline advertising spending, we use the TV advertising spending. We estimate a panel vector autoregressive model to study the relationship between offline advertising and online investor attention. The results show that offline advertising influences online investor attention. However, the effects are contingent on the type of investor (expert vs. non-expert) and a firm's strategic emphasis on advertising.

■ FA02

02-Third Floor, GB 2

Channel V

Contributed Session

Chair: Jonathan Zhang, University of Washington, PACCAR Hall Box 353226, Seattle, WA, 98195, United States of America, zaozao@uw.edu

1 - Understanding the Impact of Media Substitution and Synergy in New Product Introduction

Vahideh Abedi, Cal State Fullerton, 800 N State College Blvd, Fullerton, CA, United States of America, vabedi@fullerton.edu

Substitutive and synergic interactions between multiple marketing media can significantly influence the marketing resource allocation strategies of the firm. However, the existing literature focuses on only one of these two types of interactions and remains silent on whether they can co-exist and when one dominates the other. We show that channels can possibly interact both substitutively and synergistically at the same time in the context of a new product introduction. We derive several insights on the implications of this co-existence and its influence in media planning decisions.

2 - Market Orientation and CSR: Performance Implications

Timothy Kiessling, Bilkent University, University Drive, Ankara, Turkey, kiessling@bilkent.edu.tr, Lars Isaksson

Corporate Social Responsibility (CSR) has become of great interest to marketing researchers as CSR is now integrated as part of the marketing strategic plan of most multinational corporations. CSR has become a strategic tool (not only an ethical concept) as firms recognize that the customer value proposition and CSR are integrated with the focus on how to differentiate the firm from the view of the customer. Market orientation (MO) theory is our foundation for the research as it explains how organizations adapt to their customer environment to develop competitive advantages. MO is a business philosophy which addresses how organizations adapt to their customer environment to develop competitive advantages through closer ties or increased customer loyalty. Along with MO we develop theoretically Customer Orientation (CO) and Customer Interaction (CI) to support the conclusion that CSR will provide greater firm performance. The customer should be viewed as a co-creator of value in the relationship which is the foundation for the CO variable. CO is focused on the customer similar to service dominant logic where current customers' needs and wishes are identified for further augmentation. The firm needs to have an active interaction and dialog with its customers which is the foundation of the CI variable. This interaction can develop a dialog and deliver undiscovered market information about the customer, marketplace, and trends. We anticipate that due to the current trend of the importance of CSR to customers that firms that implement a CSR marketing program will have higher performance.

3 - Relational Incentive Contracts: An Experimental Investigation of Payment Schemes

Taylan Yalcin, Assistant Professor, Chapman University, One University Dr, Orange, CA, 92866, United States of America, yalcin@chapman.edu, Brice Corgnet, Cristina Nistor

Relational incentive contracts are informal relationships that arise between trading partners when formal contracts may be impossible to enforce or too expensive to specify. Both parties in a relational contract will stay in the relationship as long as they benefit from fulfilling their promises rather than renegotiating on them. As such, the future value of the relationship becomes very important as a driver of current and expected behavior. Some examples of relational contracts include principal-agent work relationships or goods exchanges between firms. Theoretical literature focused on investigating the optimal payment scheme that induces optimal effort in principal-agent employment relationships and considered a simple yet representative model for all possible relational contracts. The main result is that a payment scheme based on a fixed

wage and a nonlinear discretionary bonus will induce optimal effort for a worker employed by a firm. This result contradicts the practice most businesses use when trading goods in a channel. In fact, to the best of our knowledge, there is not a single example in the literature of two businesses which transact repeatedly in a relational contract and use a "fixed payment plus discretionary bonus" type of scheme. We use experiments to investigate the discrepancy between the predictions of recent theory models and the practices of most businesses. In a controlled lab experiment, we allow sellers and buyers to repeatedly trade goods and have the option to enter into relational incentive contracts to improve the quality of their products. We vary the payment schemes available across conditions in order to determine what level of effort is induced. We also investigate the strength and length of the relationships formed under each payment scheme. Our results suggest that in reality firms are getting close to the same level of quality for their products by employing linear payment schemes.

4 - Managing O2O – Modeling Customer Dynamic Channel Preferences with Diverse Product Mix

Jonathan Zhang, University of Washington, Paccar Hall, Box 353226, Seattle, WA, 98195, United States of America, zaozao@uw.edu, Scott Neslin, Chun-Wei Chang

Many retailers have both online and offline channels. While online shopping has been growing in popularity because of its convenience, and retailers enjoy the lower operational cost of selling online, we posit that offline channels offer tactile experiences that facilitate consumer learning about the buying experiences from the retailer, and how its products would fit into their lives. This learning is especially crucial for product categories that have a more individual "fit" component. Using longitudinal transactional data from a multi-channel national outdoor product retail chain, we use a multivariate hidden Markov model (HMM) to empirically investigate how customers learn and migrate between online and offline channels. We categorized all products into "fit" (e.g. clothing) and "non-fit" (e.g. accessories) categories, and find that offline channel buying and "fit" category buying experiences both facilitate consumer learning. Specifically, the HMM identifies two dynamic states – an "exploratory" or unfamiliar state characterized by lower purchase amount, higher returns, and longer inter-purchase time; and an "comfortable" or familiar state where customers are more likely to buy online, buy more, and buy more frequently. The firm's marketing efforts have differential effects in the two states. Hence, offline channel could serve as an acquisition purpose, whereas online channel could be used for retention. We also find that longest tenured customers are much slower to migrate to the online channel. Thus, contrary to the traditional relationship marketing view that longer tenured customers should be more profitable, we find that in a setting with retail channel innovations, "old habits die hard" and the longest-tenured customers would incur higher selling costs.

■ FA03

03-Third Floor, GB 3

Consumer Behavior IV

Contributed Session

Chair: Ronald Larson, Associate Professor, Western Michigan Univ, 1903 West Michigan Ave, Schneider Hall, Marketing Dept, Kalamazoo, MI, 49008, United States of America, ron.larson@wmich.edu

1 - Testing the Contribution of Religiosity for Explaining Food Attitudes

Ronald Larson, Associate Professor, Western Michigan Univ, 1903 West Michigan Ave, Schneider Hall, Marketing Dept, Kalamazoo, MI, 49008, United States of America, ron.larson@wmich.edu

Many researchers have worked to develop religiosity or spirituality scales. These measures have been linked with internet usage, media trust, shopping behavior, store and brand loyalty, interest in fair-trade products, environmental concerns, criminal acts, and health. Some have suggested that religiosity or spirituality could be considered a sixth dimension of personality. This research tests common religiosity and spirituality factors to learn if they can help explain some food preferences. A national survey of 750 adults in the U.S. included 34 value statements that formed six religiosity or spirituality factors. Respondents also rated their attitudes toward eight food issues with seven-point Likert scales. Binary logit regressions using demographics were used to predict the probability of "top-two-box" responses for each food issue. For most of the regressions, adding the religiosity or spirituality factors significantly improved model fits.

2 - Understanding Attention Bias under the Three-Stage Choice Process Framework

Yi Li, PhD Candidate, HEC Paris, 1, rue de la Libération, Marketing Department, HEC Paris Jouy en Josas, 78350, France, yi.li2@hec.edu, Selin Atalay

Process tracing research has identified an attention bias during the choice process: individuals pay more attention to the ultimately chosen option compared to other alternatives in the choice set. Understanding the cause of this phenomenon makes it possible to predict individuals' choices even before they are announced. Two perspectives in the literature offer explanations to this attention bias, each holds a different view on when and how attention bias emerges in the choice process (Shimojo et al. 2003; Glaholt and Reingold 2010). This study adopts a stage-based choice perceptual and connecting the attention bias with the underlying cognitive process in each stage. Under the framework of a three-stage choice process (Russo and Leclerc 1994), across two eye-tracking experiments involving choices between multiple unfamiliar brands and using dwell analysis methodology, we demonstrate that attention bias does not emerge in the

orienting stage, where individuals familiarize themselves with the alternatives. The attention bias emerges in the evaluating and comparing stage: more attention allocated to the ultimately chosen option is caused by the selective information processing, which aims at reducing the overall cognitive effort. In the verifying stage, attention bias persists and increases its magnitude only in the preferential choices (i.e., choose what you like). In this stage, an influence of liking on attention drives the attention bias. Our findings offer a more comprehensive explanation to the attention bias. By linking this visual attention phenomenon to the cognitive process, we reveal the dynamic nature of the attention bias. Moreover, we reconcile the existing two explanations and show that they can jointly explain the attention bias, in different stages.

3 - Consumers' Preferences as to Consumption Timing: An Examination of Discounting Rates in Deferring Consumption versus Expediting Consumption

Atsuhiko Iino, PhD Student, Keio University, 4-1-1 Hiyoshi, Kohoku-ku, Yokohama, 223-8526, Japan, a_68451325@z6.keio.jp, Akihiro Inoue

Consumers are constantly faced with decision-making about the timing of their consumptions. These decisions involve tradeoffs between cost and benefits. For example, regarding delivery options for purchases, consumers need to make a decision in between a fast-and-more expensive delivery and a lengthier-and-cheaper delivery. In recent years, because of the increasing growth in e-commerce and also because of the online-payment services, the situations where consumers have to face the temporal choices have been increasing. Our research focuses on these different responses in terms of the timing of consumption. Prior research has demonstrated that when people postpone outcomes, they believe as if they have higher discount rates for shorter periods than for longer periods, often referred to as present-biased preferences or hyperbolic discounting (e.g., Strotz 1955; Thaler 1981). We propose that the temporal framing of a consumption decision (namely, defer versus expedite) will lead to different sensitivity of preferences in terms of the timing. Under the postponing framing, consumers will be more present biased and will exhibit declining rates of discounting with longer time horizons, consistent with prior research (e.g., Thaler 1981). However, under the expediting framing, this pattern will be attenuated. We examine this proposed interactive effect and use it to understand the psychological drivers underlying inter-temporal decisions. We conjecture that the mental representations associated with the two temporal framings (i.e., not only more concrete but also feasibility representations in the postponing frame than in the expediting frame) may explain why consumers might be more present biased in delay than in expedite decisions.

4 - How Much Did I Like It? Examining Mood-Based Biases in Consumer Reviews

Dongling Huang, Rensselaer Polytechnic Institute, 110 8th Street, Troy, NY, United States of America, huangd3@rpi.edu, Yu Wang, Judy Ma

Consumer reviews are prominent sources of information in today's marketplace that can facilitate or hamper the success of products and services. Ideally, firms with high quality products and services should receive more favorable reviews from consumers. However, there is no guarantee that reviewers are objective when evaluating products and services. While biases in consumer reviews can result from various factors, this study focuses on one type of bias, unintended temporal subjectivity. More specifically, we examine how a consumer's temporary status –namely, affective state– may bias his or her retrospective judgment of a product or service. Using data from the hotel industry and laboratory experiments, we empirically examine the impacts between consumers' temporary affect states at the time of consumption and the time of review on reviews. We find that the positivity of consumer reviews is indeed impacted by mood, proxied for by weather and sensory conditions, at both stages. Moreover, we find evidence of an interaction effect: changes in mood from the time of experience to the time of review have a significant impact on how positively consumers judge the experience. Our findings have important implications for producers and retailers with regards to soliciting consumer reviews.

FA04

04-Third Floor, GB 4

Customer Relationship Management V

Contributed Session

Chair: Ke Li, Assistant Professor, Northern Michigan University, 918 Cleveland Ave, Apt 11, Marquette, MI, 49855, United States of America, kli@nmu.edu

1 - Customer Relationship Management: From Conversion to Churn to Winback

Ke Li, Assistant Professor, Northern Michigan University, 918 Cleveland Ave, Apt 11, Marquette, MI, 49855, United States of America, kli@nmu.edu, Eric T. Bradlow

This research investigates how different factors influence customers' decision making during the three stages of CRM (Customer Relationship Management), namely customer conversion, retention and winback using semiparametric Bayesian competing risk proportional hazard model. With the dataset from a large telecommunication company which consists of records of over a million customers, our proposed model captures the dynamics of customer relationship management by incorporating the effects of customer characteristics, firm's marketing communications, customer self-reported deactivation reasons, as well as the linguistic variables from the text mining of the call center notes on customer's decision making of whether to convert from trial to paid customer,

whether to churn, and whether to reactivate their service with the company after churn. Our approach applies Dirichlet process mixture model to capture unobserved customer heterogeneity. The correlations among three stages of CRM as well as among different deactivation reasons are also accounted for. The study finds that the effect of each factor changes throughout the three decision-making processes and explores the mechanism behind it. We discuss how our research framework can assist firms to develop different strategies to market to, retain and regain customers based on the analysis of their customer databases.

2 - Examining the Role of Winback Offers in the Likelihood and Timing of Reacquired Customer Defection

Angeliki Christodouloupoulou, Doctoral student, Georgia State University, Tower Place 200, Suite 204, 3348 Peachtree Rd NE, Atlanta, GA, 30326, United States of America, achristodouloupoulou1@gsu.edu, Agata Leszkiewicz, Pulak Ghosh, V Kumar

Churn is a concern to most customer oriented firms. Predicting who is most likely to defect, as well as when and why, is fundamental for efficient churn management. When acquisition opportunities are limited, it may be beneficial for firms to attempt to win back their lost customers. Addressing the issues which underlie defection, the customer will be more likely to come back to the firm. Furthermore, if these efforts heal the damaged relationship with the firm, there is a chance that the customer will not defect for the same reason in his/her second lifetime. While the literature focused on the prediction of multiple reasons for churn in the first lifetime based on the competing risks (CR) framework, formerly proposed methods do not account for the existence of a winback offer and its effect on likelihood and future reasons-to-churn of reacquired customers. To address this gap, the authors propose a Mixture Cure Competing Risks (MCCR) model, in which a targeted winback offer serves as a "cure" for one of different defection motives. We provide a comprehensive framework for joint estimation of the second lifetime duration, multiple churn probabilities, and customers' heterogeneity in response to different winback offers. The proposed model is tested using a rich data set from a US-based telecommunications provider, which includes monthly customer activities and firm's marketing efforts for both the first and the second lifetime behavior.

3 - The Impact of Transaction and Relationship Focused Marketing Actions on Buying Behavior in B2B Market

Kihyun Hannah Kim, Georgia State University, 3348 Peachtree Rd, Tower Place 200, Suite 204, Atlanta, GA, 30326, United States of America, kkim21@gsu.edu, V Kumar

Firms spend a large amount of resources on their customers in Business to Business (B2B) markets as the firm and customer interact more closely and frequently. To cultivate a strong buyer-seller relationship, B2B firms contact their customers individually and provide customized and personalized marketing. However, there are two major challenges that arise when allocating marketing resources toward B2B relationship development. First, we need to conceptually and empirically identify the differential effects of marketing actions that create (a) relational value, and (b) transactional value to the customer. Further, it is critical to recognize that the above effects are actually (a) different for each customer due to unobserved customer heterogeneity and (b) subject to change overtime. Second, in order to optimally allocate marketing resources to the customers, B2B managers need to have a clear understanding of the mechanism of how customers evaluate quality of interactions between customers and the firm which is mostly unobserved by the firm. Specifically, it is critical to understand how B2B customers update their prior quality perceptions and beliefs. Therefore, using data from a B2B service firm, we (1) empirically model dynamic direct and interaction effects of transactional and relational focused marketing actions on customer purchase behavior, (2) uncover the evolving nature of the customer perceptions of quality using purchase data, (3) study the moderating effect of customer perceptions of quality on the effect firm's marketing actions on customer purchase behavior, and (4) provide an optimal marketing resource allocation model that enables marketers to customize marketing resources and improve firm's financial performance.

4 - The Role of Seasonality in CLV Estimation

Patrick Bachmann, University of Zurich, Andreasstrasse 15, Zurich, 8050, Switzerland, patrick.bachmann@business.uzh.ch, Markus Meierer, René Algesheimer

Valuing customers is key to the success of any firm. It enables marketers to identify and target 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 a non-contractual business setting, 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. The question why this is the case has not been answered. A possible explanation is that standard probabilistic customer attrition models neglect seasonality, even though most transactional datasets exhibit such a pattern. Time-varying covariates would allow controlling for seasonality in probabilistic customer attrition models. Recently, such an extension has been presented for discrete noncontractual business settings. However, an implementation of time-varying covariates for the continuous non-contractual business setting is not available. We propose an approach to model time-varying covariates within the Pareto/NBD model. Then, we apply our model as well as the standard implementation of the Pareto/NBD model to four real-world datasets and evaluate their aggregate- and individual-level performance. 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 estimating these models.

■ FA05

05-Third Floor, GB 7

Working Paper X

Contributed Session

Chair: Ming Gao, Assistant Professor, School of Economics and Management, Tsinghua University, Haidian District, Beijing, 100084, China, gaom@sem.tsinghua.edu.cn

1 - Effects of Micro-Transactions on Pricing and Product Strategies

Tianxin Zou, PhD Student in Marketing, Olin Business School, 1 Brookings Drive, Saint Louis, MO, 63130, United States of America, tzou@wustl.edu, Baojun Jiang

In many industries, consumers have time-varying demand or need for the product or service quality. However, firms have not allowed the customers to frequently alter the subscribed level of service or product quality as those needs change, mainly due to the high transaction costs and the long time lag needed to process the consumers' requests. With advances of mobile and information technologies, many firms now have the ability to alter a customer's service quality on demand and the transaction costs for processing small payments for both the firms and the consumers have significantly dropped. Firms have begun to an increasing level of "micro-transaction" capability, by which we mean that they can allow for and process a customer's request for short-term (e.g., daily or hourly) service upgrade in real time, and efficiently manage these micro-transactions. This paper provides an analytical model to examine the effects of a firm's micro-transaction capability on its optimal pricing and quality decisions. We find that when consumers' needs for a product vary substantially over time and the difference between the consumers' expected valuations is large enough, micro-transaction will strictly improve the firm's profit. Our analysis also reveals that the firm will increase the quality of its high-end product/service and reduce the quality of its low-end product when it covers the whole market, but it will increase the quality levels of both products if it serves only part of the market.

2 - Platform Pricing in Mixed Two-Sided Markets

Ming Gao, Assistant Professor, School of Economics and Management, Tsinghua University, Haidian District, Beijing, 100084, China, gaom@sem.tsinghua.edu.cn

When a consumer can appear on both sides of a two-sided market (2SM), such as a user who both buys and sells on eBay, the platform may want to bundle the services provided to two sides. We develop a general model for such "mixed" 2SMs, and study when a monopolist platform would have an incentive to bundle and what the optimal pricing strategy is. The answers to these questions are expressed in simple and testable formulas using familiar price elasticities of demand, which embody the bundling effect, and price-cost margins adjusted for network externalities, which incorporate "two-sidedness". Given the optimal separate prices for two sides, the platform will be more inclined to introduce a bundle discount for joining both sides either when the bundle demand is more elastic, or when the total demand is less elastic, no matter if these elasticities are measured with the price for side 1 or side 2. In particular, bundling may be profitable even when the bundle demand is less elastic than the demand for either side. The magnitudes of these elasticities are moderated by the adjusted price-cost margins to jointly determine the incentive to bundle, exhibiting a seesaw pattern where the impact from different sides are separable. The optimal pricing rule for mixed 2SMs generalizes the familiar Lerner formula that applies in non-mixed 2SMs, where the optimal adjusted price-cost margin on each side may be higher or lower than the inverse price elasticity of demand, contingent on a comparison between how well the platform performs on the opposite side and in the intersection of two sides. Comparative statics and potential applications are also discussed.

■ FA07

07-Third Floor, GB 9

Game Theory in Marketing

Cluster: Special Session

Invited Session

Chair: Jeffrey D. Shulman, University of Washington, Michael G. Foster School of Business, United States of America, jshulman@uw.edu

1 - A Model of Retargeting

Monic Sun, Boston University, 595 Commonwealth Ave, Boston, MA, United States of America, monic@bu.edu, Juanjuan Zhang, Jeanine Miklos-Thal

Retargeting has grown increasingly popular over the recent years and empirical research has emerged to document its effectiveness in different purchase scenarios. There is, however, virtually no theoretical study on how retargeting affects seller profits. We present an analytical model of the effect of retargeting. The key tradeoff is as follows: although retargeting helps a seller reach consumers who are likely interested in the product, it also serves to remind consumers that they perhaps did not like the product enough to buy at the previous purchase opportunity. We investigate the implication of this tradeoff for sellers' optimal retargeting strategies.

2 - How Cross-Tariffs on an Elicit Good Affect Markets of Other Goods

Amirreza Fazli, University of Washington, United States of America, fazli@uw.edu, Jeffrey D. Shulman

Caremark, one of the largest Pharmacy Benefit Managers in the US, has required customers to make extra payments on any prescriptions filled at a pharmacy selling cigarettes. Whether such a penalty is effective in shrinking the illicit market and how it impacts other affected markets are the focus of this research. We develop an analytical model to analyze the effects of a cross-tariff penalty in which a firm is penalized in its primary market for participation in an illicit market. The results show that under certain conditions, symmetric firms can choose asymmetric strategies in their choice of whether to operate in the illicit market. Introducing asymmetry to the model, we find that cross-tariffs can actually increase profitability of competing firms. Interestingly under certain conditions the profit of the inferior firm can even be higher than the superior firm. Our results have implications for regulators and marketers dealing with illicit goods.

3 - Why Does Not the Firm Provide Low Quality Input to the Rival?

Michelle Lu, McGill University, Canada, yi.lu@yale.edu, Jiwoong Shin, Dae-Hee Yoon

We analyze the channel competition where the upstream input provider is also a rival of downstream competition in the product market. For example, Samsung is providing LCD panels to Sony who is the main rival in LCD TV market, and also provides key components for iPhone to Apple who is its major competitor in the cellular phone market. This paper analyzes the competitive interactions between firms' pricing strategy in the downstream market and its investment motives to increase the total market size. If the upstream supplier knows that it is competing with a rival in the downstream product market, it has the incentive to distort its upstream market such that it may maintain its competitive advantage in the profitable downstream market. However, our analysis shows that it is sometimes in the best interest of the firm to provide a high quality inputs for the rival firms in the downstream market to induce the higher investment from the rival firms to boost the total retail demand by sharing the costs of market expansion.

4 - Salesforce Contracting under Supply Uncertainty

Tinglong Dai, Johns Hopkins University, Carey Business School, Baltimore, MD, United States of America, dai@jhu.edu, Kinshuk Jerath

We consider a scenario in which a firm hires a salesperson to market a product with uncertainty in both demand and supply. For instance, consider a producer's problem of marketing an agricultural product. At the beginning of the growing season, the producer only has expectations on the yield (i.e., future product availability); at the end of the season, the yield outcome is known. The producer may hire the salesperson either during or after the growing season. We build a principal-agent model of the above situation and study the optimal structure and timing of the contracts, and obtain a number of interesting results. If the firm contracts with the salesperson before the yield uncertainty is resolved, the compensation package will have to be specified for every possible inventory and demand outcome. On the other hand, if the firm contracts after the yield uncertainty is resolved, the yield is revealed, and the compensation will only be contingent on the demand outcome. We find that bonus contracts are optimal in both cases, and the bonus may be higher if the yield is lower. In terms of timing, as the probability of high yield increases, the firm may be more inclined to wait until after the yield outcome is revealed before contracting with the salesperson. When it is difficult to infer marketing effort from observing the sales outcome, it may be in the best interests of the firm to contract with the salesperson before the inventory information becomes available.

■ FA08

08-Third Floor, GB 10

Working Paper XII

Contributed Session

Chair: Debasis Pradhan, Associate Professor, Xavier School of Management, XLRI Jamshedpur, Circuit House Area (East), Jamshedpur, Jh, 831001, India, debasis@xlri.ac.in

1 - Is the Adoption of Mobile Shopping in an Emerging Market Different? Examining Role of Moderators

Debasis Pradhan, Associate Professor, Xavier School of Management, XLRI Jamshedpur, Circuit House Area (East), Jamshedpur, Jh, 831001, India, debasis@xlri.ac.in, Duraipandian Israel

Due to the development of wireless technologies and penetration of smartphones, mobile commerce is witnessing an upsurge. China already has the largest pool of mobile device users (360 million) and India has the largest number of new mobile adopters every month (about 3 million) that is expected to reach 450 million by 2020. Therefore, it is no surprise that shopping through mobile phones in emerging markets is gaining popularity and its importance as a potential research area is being realized by academicians now than ever before. Barring a few studies, not many have shed light on the customers of emerging markets and their adoption behavior. Our model posits that perceived ease of use, perceived usefulness, and perceived enjoyment are positively related to attitude towards mobile shopping. We have hypothesized that perceived ease of use leads to perceived usefulness which in turn results in formation of positive attitude towards mobile shopping (indirect effect). We also hypothesize that, in addition to the direct effect of ease of use on attitude towards mobile shopping, the former is expected to have an indirect impact on attitude towards mobile shopping through perceived enjoyment. We hypothesize mobile self-efficacy as a moderator in the relationship between perceived ease of use attitude towards mobile shopping. Consumer attachment is conceptualized as a moderator between perceived enjoyment and attitude towards mobile shopping. Perceived risk is posited to moderate the relationship between perceived usefulness and attitude towards mobile shopping. We discuss the results obtained from a survey of adult consumers (n=511).

2 - Sales Forecasting by Utilizing Big Data from both Internal and External Sources

Kai Yao, Student, Guanghua School, Peking University, Changchunyan 61, Building 207, Beijing, China, jasonyaopku@gmail.com, Yuxin Chen, Meng Su

Firms such as online retailers typically have plenty information on the visits and transactions made by their own consumers at their own sites. Yet their efforts of applying Big Data technology in sales forecasting is limited by the lack of information from external sources, i.e., firms usually do not know the activities of the consumers at other firms. Some third party data collectors have seized the opportunities by providing firms with consumer behavior (including visits and purchases) information from external sources. A challenge, however, is that the value of such external data is largely unknown. In this paper, we propose a novel framework and conduct a series of tests to examine the value of consumer behavior information from external sources as supplement to firms' internal data in the context of sales forecasting. The empirical results suggest that higher forecasting accuracy is usually achieved by combining data from both internal sources and external sources than utilizing internal data alone, yet the values of external data vary by their sources and may not increase monotonically with the size of the data.

■ FA09

09-Third Floor, Dover AB

Models on Information and Media Economics

Cluster: Special Session

Invited Session

Chair: Pinar Yildirim, University of Pennsylvania, The Wharton School, Philadelphia, United States of America, pyild@wharton.upenn.edu

1 - Informative Advertising with Discretionary Search

Pedro Gardete, Assistant Professor, Stanford University, Knight Management Center, 655 Knight Way, Stanford, CA, 94305, United States of America, gardete@stanford.edu, Liang Guo

We consider a model of strategic information transmission where a firm can communicate its quality to consumers through informative advertising. Our main result is that informative advertising claims can be credible even when the firm faces consumers with ex ante homogeneous preferences. A fundamental assumption of our model is that whether the product is available for purchase is independent of consumers' information acquisition efforts (i.e., search is discretionary). This assumption, in conjunction with the pricing problem of the firm, provides incentives for truth-telling. When quality is common knowledge, increases in quality lead to a higher market price. However, firm profit and consumer welfare are non-monotonic in product quality. The firm may be worse off with a better product because of increased consumer search and resulting

preference heterogeneity. Consumers may also become worse off with a higher quality product when the option value of searching is low because in this case the firm raises price quickly in order to target consumers who do not search. Finally, when product quality is unknown but credible information is available, consumers become worse off with the probability of facing a high type firm because this firm is able to extract value from trade most effectively.

2 - Product Similarity and Entry in the Movie Industry

Yanhao (Max) Wei, University of Pennsylvania, Department of Economics, Philadelphia, PA, 19104, United States of America, yanhao@sas.upenn.edu

As we learn from our triumphs and mistakes, managers learn the potential of a new product from the successes and failures of similar products in the past. Focusing on the U.S. motion picture industry, this paper studies how this learning process affects product entry decisions. I construct the product similarity network using the Amazon.com recommendation system. Preliminary regressions suggest that the performances of similar movies are well correlated beyond through the observed characteristics (e.g. genre, actor). Producers tend to emulate prior successful movies, particularly so with high budget movies in an effort to reduce risks. I develop and estimate a model where potential movies arrive over time and producers make shoot-it-or-discard-it decisions. Producers are uncertain about consumer preferences thus how a potential movie will be received, but they may learn from the receptions of the past similar movies. While following past successes (exploitation) offers solid returns with less risks, making originals (exploration) provides more uncertainty which opens the door to enormous returns. I use the model to (i) quantify the importance of learning, (ii) study how producers balance between exploration vs. exploitation, and (iii) study what kinds of product similarity network may form under various conditions.

3 - Matching Pennies in the Campaign Trail

Pinar Yildirim, University of Pennsylvania, The Wharton School, Philadelphia, PA, United States of America, pyild@wharton.upenn.edu, Camilo Garcia-Jimeno

In this paper we propose a new way of thinking about what it means for the media to constrain politicians' behavior in an electoral democracy. We suggest that the relationship between the media and politicians in a campaign is shaped by both a dimension of alignment of preferences, and a dimension of misalignment, which leads to a strategic environment resembling a matching pennies game. As a result, making inferences about politicians' ideologies or policy stances based on media reports is not possible without taking explicit account of how each player's behavior affects the other. Based on this observation we develop a simple structural model of bipartisan races where the media makes reports about the candidates, and candidates make decisions along the campaign trail regarding the type of constituencies to target with their statements and speeches. We show how data on media reports, electoral results, and poll results, together with the behavioral implications of the model, can be used to estimate its structural parameters. We implement this methodology on US Senatorial races for the period 1980-2012. These parameters are useful, among other things, to predict the evolution of races during the campaign trail, and to understand the forces shaping candidates speech during campaigns.

■ FA10

10-Third Floor, Dover C

Retailing V

Contributed Session

Chair: Murali Mantrala, Professor of Marketing, University of Missouri, Trulaske College of Business, 403 Cornell Hall, Columbia, MO, 65211, United States of America, mantralam@missouri.edu

1 - Does Income Inequality Matter in Marketing? A Large-Scale Look at Consumer Product Availability

Rafael Becerril Arreola, University of South Carolina, 1014 Greene Street, Columbia, SC, United States of America, rafael.becerril@moore.sc.edu, Randolph Bucklin

Income inequality in the US has significantly increased in recent years, challenging marketers to rethink their strategies. The popular press reports that manufacturers and retailers are reconfiguring their product lines and assortments. However, the academic literature lacks a broad-based, empirical assessment of the impact of inequality on marketing. We conduct a large-scale analysis of consumer product categories in the US to study the impact of inequality on product availability. To this end, we analyze scanner data on store-level UPC availability across the U.S., aggregated to the county level. The scanner data spans 860 CPG product categories sold across 1,742 US counties during the 2007 to 2012 period. Demographic data includes the Gini index, instruments for Gini, and extensive demographic variables as controls. We use these datasets in a panel regression analysis on county-level, category-specific, UPC counts to establish temporal causation. We find that increased income inequality generally leads to fewer options available to consumers on the shelves in their market area. A 0.1 change in the Gini index is associated with a 4% loss in product availability, as measured by UPC counts. The "elasticity of inequality" on availability is estimated to be -0.19. In addition, the relationship is an inverted-U: the maximum availability occurs at a low inequality level (Gini=0.38 with the US average at 0.43) and a rapid drop in availability occurs at higher inequality levels. The findings may support better informed product line and assortment decisions and suggest the potential for welfare loss due to reductions in product availability.

2 - Channel Blurring and Promotion-Induced Competition between Supermarkets and Drugstores

Arjen van Lin, VU University Amsterdam, De Boelelaan 1105, Amsterdam, 1081HV, Netherlands, a.van.lin@vu.nl, Els Gijbrecchts

In this paper, we study promotion-induced competition between supermarkets and drugstores, resulting from increased channel blurring and category overlap between the two channels. Specifically, we measure the relative effectiveness of price cuts and feature advertising on drug category sales, and the within- and cross-channel effects of these promotional instruments. Generalizing across household-level purchase data from five categories carried by both supermarket and drugstores, the findings suggest that, because they are visited more frequently than drugstores and their store flyers are read more often, supermarkets gain more from price cuts and feature ads than drug chains. The results also suggest that channel competition is highly asymmetric: supermarkets' promotional sales gains come from rival supermarket chains and, to a lesser extent, drugstores, while drugstores' promotional sales lift is primarily at the expense of supermarkets. Managerial implications are discussed.

3 - An Investigation of the Role of Category Centrality on Sales Dynamics

Dalal Ahmad, PhD candidate, Texas Tech University, 703 Flint Avenue, Lubbock, TX, United States of America, dalal.ahmad@ttu.edu, Dale Duhan, Dennis Arnett, Mayukh Dass, Piyush Kumar

Category management has drawn increasing attention due to its importance in achieving retailing profits. Extant literature on category management has mainly focused on understanding how category roles, characteristics, and variations due to promotional activities affect category sales. However, we have limited understanding on how category's popularity (i.e. category centrality) among other categories from co-purchase behavior within a market basket affects sales dynamics. In this research, we use functional data analysis to (1) investigate the dynamics of category sales, (2) explore how various purchase characteristics such as market basket size, market basket value, category size, category price, private labels, and price promotions impact sales dynamics, and (3) examine the moderating role of category centrality on sales dynamics. We examine these research questions using 270 product categories from 147 weeks of scanner data collected from a national grocery chain. We conclude the paper with managerial implications, and insights for category management.

4 - An Empirical Analysis of Space-Time Network Effects in Groupon's Evolution

Murali Mantrala, Professor of Marketing, University of Missouri, Trulaske College of Business, 403 Cornell Hall, Columbia, MO, 65211, United States of America, mantralam@missouri.edu, Bernd Skiera, Yeji Lim

In this research, we develop and empirically investigate models of the growth of a two-sided e-commerce platform over space and time. The focus is on the first two years of the daily deals website, Groupon. Our goal is to draw lessons from Groupon's initial growth history that would help scholars as well as promoters of other similar ventures better understand the relative strengths, effects, and evolution of key forces driving growth as visualized in the Groupon business model. More specifically, the evolution of such a platform firm's revenues depends on the growth of both sides of its market (retailers and consumers) and their interactive effects. In the case of Groupon which launched in the city of Chicago, and successively expanded its presence to other major metropolitan centers of the United States, there are three types of effects that potentially were drivers of its phenomenal growth: (1) same-side (retailer on retailer and consumer on consumer) temporal network effects; (2) same side intercity or spatial spillover effects; and (3) cross-side (retailer on consumer, and consumer on retailer) network effects. So far, however, the relative importance of these effects in driving Groupon's initial growth has not been examined. In this presentation, considering the nature of the two-sided platform, we propose and estimate novel simultaneous equations-based spatiotemporal regression model of the evolution of the two sides of Groupon's market. Our results indicate that all network effects influenced Groupon's growth but spatial spillover effects became more important than same-side and cross-side network effects over time.

FA11

11-Third Floor, Atlantic

Choice Models III

Contributed Session

Chair: Sri Devi Duvvuri, Assistant Professor, University of Washington Bothell, 219 Beardslee Building, Bothell, WA, United States of America, sdduvvuri@uwb.edu

1 - Assessing Design-Induced Artifacts in Stated Choice Models

Kyuseop Kwak, University of Technology, Sydney, UTS Business School, P.O Box 123, NSW, 2007, Australia, Kyuseop.Kwak@uts.edu.au, Paul Wang

Stated choice models based on the random utility framework are becoming increasingly popular in marketing and applied economics literature (Louviere et al. 2000; Train 2009). In real-world stated choice studies, the required choice design often contains a large number of choice sets that are necessary to describe the choice alternatives. However, respondent's comprehension level drops

significantly as the number of choice sets and the complexity of the choice task increase (DeShazo and Fermo 2002; Swait and Adamowicz 2001). To minimize respondent fatigue, a large choice design is often divided into several blocks or versions with a small (preferably 16 or fewer) choice sets per version (Kuhfeld 2010; Louviere et al. 2000). Each respondent is then randomly assigned to one of the versions to complete the choice task. The primary purpose of this study is to identify and assess the effects of such blocked choice design on consumer preference heterogeneity. The need to account for preference heterogeneity has motivated researchers to develop various modeling approaches. Among the most commonly used are mixed logit (Train 2009), hierarchical Bayesian approaches (Rossi et al. 2005), and latent class models (Kamakura and Russell 1989). We use a large choice study data and Monte Carlo simulation to show how design constraints affect the analysis outcome in stated choice models. We compare the relatively new scale-adjusted latent class model of Magdison and Vermunt (2007) and the generalized multi nominal logit model of Fiebig et al. (2010) with the traditional ways to decompose heterogeneity and reduce confounds with various sources of error variability.

2 - Sequential Estimation and Design of Choice Experiments

Zsolt Sandor, Sapientia University, Faculty of Economic and Human Sciences, Piata libertatii 1, Miercurea Ciuc, HA, 530104, Romania, zsosan@gmail.com, Laszlo Illyes

We propose a method of jointly estimating and designing a choice experiment. According to this method first we collect choice data based on a reduced number of starting choice sets. Then we repeatedly alternate between estimating the parameters and constructing one choice set, for which we obtain a choice response. Construction of the single choice sets is performed by an exhaustive search over all possible choice sets and choosing the best according to a design error criterion widely employed in the literature. Since we compute this design criterion based on the last estimate of the parameters, this method avoids the well-known difficulty that the design criterion depends on the unknown parameters to be estimated. We illustrate the proposed method by simulation experiments conducted for the simple logit model and compare it to commonly used efficient design methods that assume a prior value of the unknown parameters. We compare the mean squared error of the estimates obtained from the two procedures. We find that under several scenarios the sequential design method performs better. The difference in performance is significantly larger when the prior value of the parameters is farther from their true value and when the number of different choice sets in the design is relatively low. In these situations the sequential design needs about 30% fewer responses in order to yield estimates with similar mean square errors as the other method.

3 - Multivariate Analysis of Consumer Preference Structures Across Multiple Categories

Sri Devi Duvvuri, Assistant Professor, University of Washington Bothell, 219 Beardslee Building, Bothell, WA, United States of America, sdduvvuri@uwb.edu

That consumers' purchase behavior varies across categories is being documented actively by the marketing science community. The variation in such behavior can be attributed to the heterogeneity in consumer preferences across categories as well as the nature of categories (e.g., substitutes). In this research, we implement a model specification that helps deduce how the nature of a category influences a consumer's preference structure for that category and other related categories. Over and above critically evaluating the results from this model, we also derive marketing metrics that would help with deducing the (i) effectiveness of a retailer's pricing and promotional policies, and (ii) suggest directions for improving customer relationship management. We use scanner panel data from several categories to estimate the model. Given the complex nature of the modeling approach, we use Hierarchical Bayesian methods (MCMC) to obtain model parameters.

4 - Alternative Way of Identifying Attribute by Covariate Interactions in Choice Models

Paul Wang, University of Technology, Sydney, UTS Business School, P.O Box 123, NSW, 2007, Australia, paul.wang@uts.edu.au, Kyuseop Kwak

Incorporating preference heterogeneity across different consumers into a choice model has been well studied (Keane 1997; Allenby and Rossi 1998; Train 2002; Louviere et al. 2008; Fiebig et al. 2010). When there is heterogeneity that cannot readily be explained, one analytical approach is to incorporate it into a random effects model, e.g., Mixed Logit or Probit. Alternatively, the amount of unobserved heterogeneity can be significantly reduced by incorporating observable individual characteristics, also known as covariates. Such covariates may include socio-demographic variables such as gender and income, psychographic variables such as personality, and behavioral variables such as usage level. Theoretically speaking, an effective way to account for preference heterogeneity across different consumers is to incorporate attribute by covariate interactions into the choice model (Louviere et al. 2000; Train 2003). In practice, however, this modeling approach can be difficult to implement because of the large number of attributes and covariates involved. Finding meaningful interactions from all possible interactions can thus be a very challenging task. We introduce an effective way to identify attribute by covariate interactions in discrete choice models. This is important because modeling such interactions is an effective way to account for systematic preference heterogeneity across different consumers. Using a simulated data set to mimic a well-known phenomenon of selective attention to design attributes, we tested our proposed approach in the banking service context. Our proposed approach was successful in detecting the attribute by covariate interactions implied by the data generation process and was found to outperform both full and stepwise interaction models.

■ FA12

12-Third Floor, Bristol

Marketing Strategy III

Contributed Session

Chair: Anindita Chakravarty, Assistant Professor, University of Georgia, 121 Brooks Hall, Athens, GA, 30602, United States of America, achakra@uga.edu

1 - Emergence of Supply Chain Risk Management as an Aid to Value Creation

Ganesh Prasad Neupane, PhD Candidate/Student, NHH Norwegian School of Economics, Helleveien 30, 5045, Bergen, 5045, Norway, ganesh.neupane@nhh.no

Advances in supply chain risk management capability have enabled increased coordination, collaboration and integration in terms of demand, supply, product, and information management across firms, which can potentially lead to higher operational efficiency and effectiveness. In this study, I build upon prior literatures in transaction cost economics (TCE), resource based views (RBV), and supply chain risk management (SCRM) to posit that the supplier firms' supply chain risk management capability makes them ready to agree on governance mechanism, that is relatively efficient and effective than what is prescribed by the standard transaction cost economics. This capability motivates firms to risk environmental uncertainty and substantial specific investment in order for attaining sustainable competitive advantage. Dataset from industrial supplier firms are used for the testing purpose. SCRM ability could view a specific resource of the firm, which bears the resource attributes: valuable, rare, imperfectly imitable, and non-substitutable. Following this logic, I argue that 'SCRM capability' may perhaps become a firm specific resource that can bring changes in inter-organizational relationships. In this study, I plan to examine, how this capability affects coordination and adaptation activities of firms, following the current trend of contracting research that has been increased to focus less on contract structure as an instrument for safeguarding economic risk and more on how contract structure affects coordination and adaptation.

2 - The Impact of Partnering New Product Development (NPD) in Emerging Markets on Shareholder Value

Venkatesh Shankar, Texas A&M, 240B Wehner 4112 TAMU, College Station, TX, 77843, United States of America, vshankar@mays.tamu.edu, Nicole Hanson

In recent years, global firms, such as Adobe Systems, Pfizer, Verizon Communications, and Proctor & Gamble, have been increasingly looking to large emerging markets, such as India and China, for new product development (NPD). Emerging markets are attractive because they offer potential partner firms with a highly specialized and trained R&D workforce at low costs. Many global firms partner with local firms in emerging markets to develop new products. However, little is known about the effectiveness of partnering NPD. What is the effect of the announcement of partnering NPD in emerging markets on short-term abnormal returns? What are the determinants of this effect? We develop a conceptual framework and hypotheses related to these important questions and test them using a uniquely compiled dataset of 90 publically traded North American-headquartered global companies who utilized partnering NPD in India during 1990-2013. Our analysis reveals important insights on the effect of partnering NPD on shareholder value. Mentioning cost savings as a reason for partnering leads to negative abnormal returns, but highlighting the quality of local employees leads to positive abnormal returns. However, past profitability moderates these main effects in the opposite direction. Financial leverage has a negative effect on the short-term abnormal returns to a partnering NPD announcement. However, the interaction of financial leverage and cost savings orientation has a positive effect on short-term abnormal returns. We discuss the significant theoretical and managerial implications of these findings.

3 - Antecedents and Consequences of Firm Learning from Recalls

Anindita Chakravarty, Assistant Professor, University of Georgia, 121 Brooks Hall, Athens, GA, 30602, United States of America, achakra@uga.edu, Guiyang Xiong, Alok Saboo

There has been an increasing number of product recalls in recent years, according to the Consumer Product Safety Commission (CPSC) and the GlobalRecalls Portal. Considering the substantial damage of product recalls, it is meaningful to examine whether and how firms learn from their past recalls in order to prevent future recalls from happening. We focus on the following issues in this study. First, we investigate how (1) the actual severity of a product recall (e.g., number of consumer injuries caused by the product) and (2) the severity perceived by the stock market investors (i.e., firm stock price change upon recall) drive firm learning after the recall. Using the CPSC database for recalls across several industries, we find that, the effect of actual recall severity on the firm's post-recall improvement in marketing capability is fully mediated by investor reactions. In other words, the stock market reacts based on the product's actual harm to consumers, and the level of the firm's learning from the incident is in turn dependent on how much the investors punished it, but not directly dependent on how much the consumers were harmed. We also find that the firm's learning from stock market reactions to the recall varies according to past financial performance of firms as well as the extent of change in the CEO's cash bonus in the previous years. Finally, the level of learning from the recall does reduce the time to the next recall significantly.

■ FA13

13- Fourth Floor, Harborside A

Banner Advertising

Contributed Session

Chair: Bernd Skiera, Chaired Professor of Electronic Commerce, Theodor-Adorno-Platz 4, Frankfurt, 60323, Germany, skiera@skiera.de

1 - Wearout, Wariness, or Weariness? Measuring Potential Negative Consequences of Online Ad Volume

Inyoung Chae, INSEAD, Inyoung.Chae@insead.edu, Fred Feinberg, Hernan Bruno

The promise of online advertising involves better targeting and control over ad exposures. Yet unwarranted assumptions about advertising response and inability to identify effective placement contribute to great waste in advertising. Extant models of advertising typically assume that the marginal effect of ad exposure is non-negative (i.e., that advertising is at worst harmless), precluding the possibility that consumers may be overwhelmed or annoyed by 'excessive' advertising. We investigate heterogeneous consumers' responses to online advertising stock and differential effectiveness across various online publishers, and develop a flexible model that can accommodate different response shapes over the latent advertising stock and the timing of the individual exposures. Here, Adstock consists of repeated exposures weighted differentially across online publishers. A dataset containing individual-level online ad exposures and associated view-through behavior empirically reveals five classes of customers with distinct response shapes. In some cases, we observe the traditional increasing response with diminishing returns, while others exhibit a response function that either stabilizes (weary) or even decreases after a threshold (wary). We identify the heterogeneous Adstock shapes from users' general online behavior, such as their usage frequency and browsing breadth across distinct websites. Moreover, the model captures differential effects across publishers: the most effective publisher is 10 times more effective than those 40 places down. Moreover, the variation in effectiveness is robust across different latent-class specifications. Our analysis also casts doubt on the naïve notion that the bigger sites make the most effective publishers. Finally, we propose a superior advertising allocation schedule based on empirical findings from the model.

2 - Retargeting in Context: How Motive Congruence Drives the Effectiveness of Personalized Online Ads

Alexander Bleier, Assistant Professor, Boston College, 140 Commonwealth Ave, Fulton 448, Chestnut Hill, MA, 02467, United States of America, bleiera@bc.edu, Maik Eisenbeiss

Firms track consumers' shopping behaviors in their online stores, to provide individually tailored banners, in a method known as retargeting. A field experiment shows that this form of ad personalization increases click-through rates to similar extents for banners that appear on motive congruent and incongruent websites. By contrast, view-through, a consumer's return to the online store in response to a banner that was not clicked, is only higher for personalization when ads and their display websites cater to the same motives. On motive-incongruent websites, personalizing banners actually decreases their view-through effectiveness. Two follow-up lab studies uncover how perceptions of ad informativeness and intrusiveness drive these results depending on consumers' experiential or goal-directed Web browsing modes.

3 - Consequences of Retargeting as Remedy against an Interrupted Online Shopping Momentum

Isabelle Kes, Technische Universität Braunschweig, Mühlenpfordtstraße 23, Braunschweig, 38100, Germany, i.kes@tu-bs.de, David Woisetschlaeger, Alexander Eiting

Despite the fact that sales in e-commerce have increased tremendously in the last five years (e-marketer 2013), the estimated loss per year due to users aborting their online shopping process is projected at 1 billion Euro in Germany alone (Zimmer 2008). Psychological studies have proved that similar situations in offline situations function as an interrupted shopping momentum (Dhar et al. 2007). A shopping momentum is a phenomenon known from physics or sports that implies a self-boosting spiral process (Adler 1981) that increases the purchase likelihood. Dhar et al. (2007) proofed a first completed checkout to initiate a shopping momentum. According to recent studies in several contexts, both short- and long-term momenta exist (e.g. Lehmann et al. 2011). These studies agree that momenta can be interrupted, what in general might have a negative impact on the final outcome of a process (e.g. Lambrecht et al. 2010). In case of an interrupted online shopping momentum, retargeting might be a mean to react to such interruptions. Retargeting combines personalized recommendations based on consumer internal browsing of a firm's website with the use of external browsing data to track consumers across the web and to bring them back to the priority visited website (e.g. Lambrecht, Tucker 2011). Our approach is three-folded: Firstly, it aims to proof the existence of the shopping momentum and its characteristics also in online retailing with the help of three lab experiments. Secondly, it shows if retargeting is an effective short-term mean to close interruptions in the online shopping process, and finally analyses long-term effects of retargeting. To answer the second research question we conducted a field experiment including users receiving no, standardized, and personalized ads. We jointly model buying and advertising processes with a multilevel simultaneous equations event history model. Our results show that retargeting is an adequate means to re-entering the momentum. Still, the extent of effectiveness depends on when in the process the user interrupts. Finally, we used a Bayesian dynamic linear model (DLM) (West et al. 1985) to investigate long-term effects of retargeting on customer loyalty and onsite behavior with the help of daily behavioral data of 5 months. On basis of several results management and research implications are derived.

4 - Profit-Maximizing Pacing for Budget Allocation over Time in Real-Time Display Advertising

Marc Heise, Goethe-University Frankfurt,
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Real-time advertising (RTA) is considered a revolution for online display advertising because it enables advertisers to buy single impressions at individual prices in real-time auctions, instead of bulk-buying impressions at fixed prices via pre-negotiated contracts. The ability to change the bid at any point in time allows advertisers to allocate the campaign budget considering the time of the day and, thus, the profitability of the respective time slot (intra-day optimization). But inconsistencies in historical campaign data and the lack of skills in data analytics lead to advertisers' perception that intra-day optimization is too costly and difficult. Instead, advertisers use so-called even pacing heuristics (EP) that aim at spending the campaign budget evenly throughout a day, by increasing bids when the campaign is underspending, which usually happens at night when traffic is low. Yet, advertising effectiveness (e.g., click rates) tends to be low at night. Thus, EP bids higher for less profitable impressions. Moreover, campaign budgets that are higher than what a profit-maximizing advertiser without budget constraints would spend (optimal profit) force EP to submit too high bids in comparison to the optimal bid. This article analyzes how much EP's profit deviates from the optimal profit. The authors propose a new method for profit-maximizing pacing (PMP) that accounts for the advertiser's budget constraint but sets bids, which reflect differences in advertising effectiveness over time. Using a simulation study and four empirical data sets, the authors find that EP's profit deviates from the optimal profit by -23% to -89%. Interestingly, too high budgets only yield to high deviations from the optimal profit for EP, not for PMP.

FA14

14- Fourth Floor, Harborside B

Mobile Marketing

Contributed Session

Chair: Tingting Fan, Assistant Professor, 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 - PRC, tingtingfan@baf.cuhk.edu.hk

1 - Distraction or Enrichment? Understanding the Impact of Augmented Reality Environments

Reetika Gupta, Associate Professor, ESSEC Business School, 2 One North Gateway, Singapore, Singapore, reetika.gupta@essec.edu, Syagnik Banerjee

As the world is fast approaching the era of Internet-of-Things (IoT), consumers are using new technological tools to extract information from and navigate in physical spaces around them. Wearable technologies such as Google Glass and independent mobile applications allow consumers to interact with physical objects around them and project virtual information into the user's physical environment, blending the real and virtual into an augmented reality (AR) environment for the consumer. Currently, limited AR cases are made possible by mobile phone apps – for example, Ikea, through one of its mobile apps, allows consumers to place furniture in their homes helping them determine if the furniture is a good fit. Drawing on the theory of narrative transportation (e.g., Green and Brock, 2000; Laer, de Ruyter, Visconti and Wetzels, 2014), we theorize and show that 1) mobile app enabled AR environments (as compared to non-AR environments) through the process of narrative transportation heightens the consumer's presence in the environment, positively influencing the usability of the format 2) the increased presence and usability of AR environments are influenced by the decision-making mindset of the consumer (pre-decisional vs. postdecisional) and 3) AR environments are more aligned with hedonic products versus experiential products. The findings provide insights into how and why AR environments could pose to be distracting or enriching, leading to varying task performance outcomes. From a managerial standpoint, the results of this research suggest that if marketers can assess the decision-making orientations of the consumer, they can customize the design of AR environments best suited to current marketing contexts.

2 - "Pull" Mobile Coupons: Scanning for Discounts at the First Moment of Truth

Paul Mills, PhD Candidate, Kent State University,
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pmills7@kent.edu, Cesar Zamudio

How coupon distribution through mobile devices can play a role in retail marketing is of interest to researchers, manufacturers and retailers. Prior research has focused on coupons that are 'pushed' to consumers (i.e., where the marketer initiates coupon selection and delivery). Our research investigates an alternative "pull" mechanism in which consumers initiate coupon selection and delivery by scanning grocery items using their smartphone. Upon scanning, consumers are presented with coupons for the scanned product and for a set of related products as well. A field experiment in a grocery store allowed us to collect data over time comprised of scanning, brand, and quantity decisions, as well as coupon information. In addition, a behavior-based price discrimination mechanism was introduced by varying the value of each coupon according to a customer's

purchase history. This paper examines preliminary results from 186 supermarket shoppers who scanned a total of 2,128 products, and redeemed 1,183 coupons. Although extant research has expressed concerns about mobile marketing adoption by older shoppers, we found the mean age of adopters to be quite high, at 47.6 years. Scanning and coupon redemption behavior was found to vary considerably across 5 product categories investigated. Finally, purchase behavior over time suggests that consumers respond to the behavior based price discrimination algorithm on the basis of price differences across promoted products.

3 - Communication on Mobile Phones versus Online Social Networks: Complements or Substitutes?

Tingting Fan, Assistant Professor, 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 - PRC, tingtingfan@baf.cuhk.edu.hk, Peter Golder, Eitan Muller

People communicate on two major platforms: mobile phones and online social networks. With mobile phones, consumers can talk, send text messages, and email others; with online social networks, consumers can post pictures, write blogs, and chat with friends. With all these communication tools, an interesting question arises: how does the communication on mobile phones influence the communication on online social networks, and vice versa? We call this externality the "cross-platform effect." This cross-platform effect is understudied probably because of the lack of behavioral data on cross-platform usage. Mobile phone service providers only know people's communication on mobile phones but not people's communication on online social networks; whereas managers of online social networks only know people's communication on online social networks but not people's communication on mobile phones. To address this limitation, we formed a panel of consumers and collected longitudinal survey data of their communications on two platforms – mobile phones and an online social network. We build an individual-level simultaneous equation panel data model that controls for the different sources of endogeneity. We find that at the platform level, the cross-platform effect is negative, suggesting mobile phones and online social networks are substitutes. But on the communication feature level we find both positive and negative cross-platform effects. For example, we find that voice calls on mobile phones motivate people to write blogs and post photos on online social networks; whereas chatting with friends on online social networks hurts the use of text messaging on mobile phones. In addition, we find that the cross-platform effects differ for heavy vs. light users. For heavy users, communication on online social networks reduces their communication on mobile phones. However, for light users, communication on online social networks enhances their communication on mobile phones. Our findings have managerial implications for mobile marketing and social media marketing.

4 - The Geography of Mobile Marketing

Jeil Young Lee, PhD candidate, The State University of New York at Buffalo, School of Management, Buffalo, NY, United States of America, jeilee@buffalo.edu, Jeonghye Choi, Minakshi Trivedi

Location-based mobile marketing provides unique opportunities for retailers to connect with their customers in a proximity driven real time context (enterprise-apps-today 2014). Through such location-based shopping apps, a mobile shopper can receive more relevant and customized information from nearby retailers leading to increased mobile commerce, thereby creating benefits for both retailers and their customers. With the increased use of mobile messaging as a key marketing tactic (Shankar et al. 2010), it becomes critical to understand how retailers are using this media and more importantly, how customers are responding to this service. Currently, retailers are using their shopping apps in different ways. While large retailers such as Wal-Mart and Target manage their own branded shopping apps, small to medium sized retailers promote their products or services through online platforms such as Groupon (Storefront Social 2013). Given this, we examine the impact of user's location-related factors on mobile shopping app browsing behavior and how this varies given the nature of the retailer. We model shopping app category choice with retail region characteristics, and app usage time with user's own mobility characteristics. Our results suggest that daily deal app users show local searching behavior, while traditional retailer app users show relatively spontaneous usage behavior near the store location. We expect our findings will enable retailers to integrate user's location information and more strategically target their customers.

■ FA15

15- Fourth Floor, Essex AB

Mobile Ads and Consumer Insights

Cluster: Special Session

Invited Session

Chair: Xueming Luo, Charles Gilliland Distinguished Professor of Marketing, Temple University, Department of Marketing, Philadelphia, PA, United States of America, luoxm@temple.edu

Co-Chair: Andrew Reinaker, PhD Student, Temple University, Department of Marketing, United States of America, reinaker@temple.edu

1 - Weather and Mobile Ads

Andrew Reinaker, PhD Student, Temple University, Department of Marketing, Philadelphia, PA, United States of America, reinaker@temple.edu, Chenxi Li, Chen Zhang, Xueming Luo

Marketers are constantly on the lookout for better ways to connect with their customers. This study examines the role of environmental weather conditions in consumers' likelihood to purchase a mobile ad promotion using large-scale field data with over 10 million customer interactions. Given the opportunity, marketers prefer to deliver product information and promotions to customers that are best situated to perceive the positive benefits of the product and are in the best position to buy. By controlling for location effects and other potential confounds, we find that individuals experiencing sunny weather are more likely to positively evaluate the benefits of a persuasive mobile ad. Conversely, the mobile promotion is less effective when viewed during inclement weather conditions. One potential strategy available to marketers is to adjust the message content of their promotions to complement the current state of their customers.

2 - Behavioral Science Research on and with Mobile Devices

Peter Zubcsek, Assistant Professor of Marketing, University of Florida, Gainesville, FL, 32611, United States of America, Peter.zubcsek@warrington.ufl.edu, Alan Cooke

Traditional tools used to investigate consumer behavior are typically constrained in terms of the factors (time, location, etc.) that researchers can control and/or manipulate. We are developing a collaborative research system, mLab, which will circumvent many of these constraints. The solution is a client-server platform wherein the client applications run on smartphones. The system utilizes mobile technology, enabling researchers to interact with participants over time, controlling when, where and under what conditions participants receive particular questions. I will discuss the advantages of and challenges pertaining to our novel methodology and present preliminary results on data collected via the mLab platform.

3 - How Mobile Commerce is Different from PC Commerce

Chen Lin, Assistant Professor of Marketing, Michigan State University, N303 Business College Complex, 632 Bogue, East Lansing, MI, United States of America, linc@broad.msu.edu, Jeongwen Chiang

This research takes the first step in defining and examining mobile commerce vs. traditional e-commerce (P-commerce) using an unique dataset that contains both firm daily spending and sales, as well as individual customer data on PC and mobile platforms. We further discuss mobile promotional strategies and mobile customer behavior. Finally, we propose a field experiment to study the optimal allocation on PC vs. Mobile across four types of advertising channels: sponsored search, display, referral and group buy.

4 - Mobile App Deep Engagement

Chenxi Li, PhD Student, Fudan University, China, lichenxi89@gmail.com, Andrew Reinaker, Xiaoyi Wang, Xueming Luo

Mobile apps allow users to be connected digitally and enjoy a smart life. While offering tremendous consumer benefits and business opportunities, most apps are either abandoned or used infrequently after initial downloads and install, thus generating minimal sales revenue. The key to success in mobile apps is customer deep engagement with consumption duration, spillover usage, and sustained in-app purchase. This study tests how marketers can leverage product interest and persuasive value appeals to boost customer deep engagement in mobile apps.

■ FA16

16- Fourth Floor, Essex C

Working Paper XI

Contributed Session

Chair: Meisam Hejazi Nia, PhD Candidate, University of Texas at Dallas, 800 W Campbell rd | School of Management, Richardson, 75080, United States of America, meisam.hejazinia@utdallas.edu

1 - Impact of Attribution Metrics on Return on Keyword Investment in Paid Search Advertising

Alice Li, Assistant Professor, Indiana University, 1309 E. Tenth St, Office 2133, Bloomington, IN, 47405, United States of America, aliceli@indiana.edu

This paper analyzes the impact of attribution metric used for imputing conversion credit to search keywords on the overall effectiveness of keyword investments in search campaigns. Recently, firms have been experimenting with different attribution metrics to assign conversion credits to search keywords appearing in their consumers' journeys to purchase. These attributed credits affect a firm's future bidding decision and budget allocation for keywords and, in turn, determine the overall return-on-investment of search campaigns. Using a six-month panel data of several hundred keywords from an online jewelry retailer, we empirically model the relationship among the advertiser's bidding decision, the search engine's ranking decision, and the consumer's click-through rate and conversion rate, and analyze the impact of the attribution metric used on the overall return-on-investment of paid search advertising. Our analyses account for the simultaneity and endogeneity in the decisions made by the advertiser, the search engine and the consumers. The focal advertiser changed the attribution metric from last-click attribution to first-click attribution half-way through the data window, thus providing us data from a natural experiment. This allows us to estimate the impact of the two alternative attribution metrics on budget allocation that, in turn, influences returns realized for keyword investments under different attribution regimes. Given the mix of the keywords bid by the advertiser, the results show that the first-click regime leads to lower overall revenues and this reduction in revenue is stronger for the more specific keywords. In a policy simulation exercise, we find the advertiser would be able to increase its overall revenue by more than 5.7% by appropriately changing the attribution metric to better account for the real contribution of keywords.

2 - Social Learning and Diffusion over the Pervasive Products: An Empirical Study of an African App-Store

Meisam Hejazi Nia, PhD Candidate, University of Texas at Dallas, 800 W. Campbell Rd., | School of Management, Richardson, TX, 75080, United States of America, meisam.hejazinia@utdallas.edu, Brian Ratchford

The mobile app market reached 64 billion downloads with \$18 billion revenue in 2012 up from 8.2 billion downloads with \$5.2 billion revenue in 2010. The revenue of this market comes from two sources: the price of utilitarian apps and the advertising revenue of the hedonic ones, both fueled from the app adoption. The key agent of this market is an app-store platform that matches the app-developers/publishers with the consumers. The app-store platform has a lot of information about the mobile app-downloads of each individual, so it may be able to design various targeting policies to maximize the sum of its app's diffusion. Many factors can drive the app adoptions, including: social learning, or interrelatedness of consumer's preferences, popularity signals, and utilitarian or hedonic intrinsic value of each mobile app. In this study, we combined a macro diffusion model, with a micro structural choice model to propose an approach that allows an app-store platform to identify the customer segments to target its consumers at the micro level. In particular we use an Unscented Kalman Filter (UKF) to recover the density of influential and imitators within the population from a diffusion macro model. To identify the potential influential and imitators at the micro level, we then use the filtered latent imitators' density as a proxy for the level of the social learning signals in a mixture normal multinomial micro choice model of the mobile app categories. We use the estimated choice model to prescribe the optimal level of the app-store platform's viral marketing intervention to maximize the expected adoption of the mobile apps on the app-store platform. At the micro level, we identify five segments of mobile app users, including imitators, differentiators, popularity concerned, utilitarian, and hedonic users. We find that the main driver of the adoption of the mobile apps, as a type of pervasive goods, is imitator's trial of the mobile apps, in contrast to the imitation driver of the classical economy goods such as the radio-heads, the home PCs, and the 3 color TV's. We find that on average the consumers value the utilitarian mobile apps more than the hedonic ones, so it may not be a surprise that the utilitarian mobile apps use the paid revenue model rather than the freemium ones. Last but not least we find the trial pulsing of the mobile apps, an optimal strategy to maximize the expected mobile app-adoption. We discuss various managerial implication of this study.

Friday, 10:30am - 12:00pm

■ **FB01**

01-Third Floor, GB 1

Advertising VI

Contributed Session

Chair: Yaniv Dover, Assistant Prof., Tuck School of Business, 100 Tuck Hall, Hanover, NH 03755-9000, Hanover, NH, 03755, United States of America, yaniv.dover@dartmouth.edu

1 - Optimal Advertising and Pricing in a Market with Counterfeits

Jinghui Qian, Rotman School of Management, 573, 105 St. George Street, Toronto, On, M5S 3E6, Canada, jinghui.qian12@rotman.utoronto.ca

Extant models concerning counterfeits assume that observers are either fully able to or unable to distinguish counterfeits from authentic goods. In contrast, we incorporate the possibility that some knowledgeable consumers could spot counterfeit goods. Consumers' ability in spotting counterfeits depends on the quality difference between counterfeits and authentic goods. We study how an international brand firm should develop its marketing strategy (advertising and pricing) when it enters a local (emerging) market where its products might be counterfeited and consumers derive utility from both intrinsic quality and status signaling. We find (perhaps surprisingly) that although counterfeit goods free ride the advertising of the brand firm and steal the market share of the authentic products, the brand firm may still advertise more than it would do without counterfeits when a fraction of consumers can detect the counterfeits. In particular, advertising in the market with counterfeits will increase if the production of the counterfeit producer is more disadvantageous or consumers' ability in spotting counterfeits is stronger. Furthermore, our analysis shows that the equilibrium price of the authentic product could be much higher (and therefore, the product becomes more exclusive) in the market with counterfeits than that in a market without counterfeits. Higher price helps to separate the authentic products from the counterfeit ones and lower the equilibrium quality of the counterfeit products. This study contributes to the literature by enhancing understanding of firm's advertising and pricing in emerging markets where counterfeits are usually rampant.

2 - Consumer Choice of Complex Products:

The Role of Expected Learning Opportunities

Stefan Ferrara, University of Hamburg, Esplanade 36, Hamburg, 20354, Germany, stefan.ferrara@uni-hamburg.de, Verena Hauschildt, Karen Gedenk, Mark Heitmann

When companies develop a new product, they need to decide on its complexity, i.e., on the number of features the product contains. It is not obvious whether more features help or hurt: they offer more capabilities and social value, but make the product more difficult to use. We suggest an additional driver of consumers' choice between more or less complex products: learning opportunities. Consumers may be more likely to buy a more complex product now in order to learn using some new features and not lose track of technological developments. This new mediator implies new moderators of the effect of the number of features on consumer choice: We expect the content (e.g., advertisements) and context (e.g., the editorial context of advertisements) of marketing activities to moderate the effect of the number of features on product choice via learning opportunities, such that learning opportunities should be more salient when marketing content or context activates thoughts about learning opportunities or strengthens a consumer's future focus. In a first study, we show that learning opportunities indeed mediate the effect of the number of features on choice. We plan to study several moderators in future experiments. Our research has important implications for how companies can enhance sales of complex products with advertising.

3 - Amplifying Digital Advertising Effectiveness through Published Sales Rankings

Yaniv Dover, Assistant Prof., Tuck School of Business, 100 Tuck Hall, Hanover, NH 03755-9000, Hanover, NH, 03755, United States of America, yaniv.dover@dartmouth.edu, Scott Neslin

Digital platforms increasingly and ubiquitously provide real-time market-level information regarding the popularity of products. These developments suggest an important role for advertising. In particular, the objective of the advertising becomes not so much to produce an immediate sale, but to generate the market-level information that when displayed on websites, in turn drives sales. We will examine this dynamic for the case of digital advertising and product popularity rankings (i.e., to what extent is the impact of advertising amplified by the generation of product popularity rankings). Using a unique, high-resolution, cross-country data set for a mobile app, we study several aspects of the effect of published real-time rankings on advertising efficiency. We develop a multi-equation model of product sales, product rank, and advertising, and estimate it using three-stage least squares. First, since the app company only advertises through social media (Facebook), we exploit this opportunity to perform the first test known to us of whether digital advertising can be effective over a social network site. Second, we test whether the ranking mechanism acts as an amplifier. Third, using empirical simulations we test the hypothetical effect that such a ranking mechanism could have on the distribution of market shares in a

market of mobile apps with heterogeneous advertising efficiencies. We find that: (1) Advertising over social media can be effective; (2) Published sales rankings is an important multiplier for advertising effectiveness; and (3) That due to the second finding, having the rankings mechanism in place can considerably increase the dispersion of market shares within a market.

■ **FB02**

02-Third Floor, GB 2

Channel Strategy

Contributed Session

Chair: Erik Bushey, Assistant Professor of Marketing, Marshall University, 1 John Marshall Dr., CH 410, Huntington, WV, 25755, United States of America, bushey@marshall.edu

1 - The Effect of Construal Level on Choices of Small Online Shopping Mall

Ji Yoon Kim, Research Professor, Korea University, Ip611, anam-Dong, Seongbuk-Gu, Seoul, Korea, Seoul, Republic of, jiyoon77@korea.ac.kr, Sang Yong Kim, Kyounghee Chu, Hee Chan Park, Jin Won Lee

This study aims to present a niche strategy for small online shopping malls to survive against large famous shopping malls dominating the e-commerce market. According to the construal level theory, each individual interprets an object, including things, event, action and person, depending on the psychological distance between the object and themselves. Thus, they may sense the object to be in a low level, as opposed to when it is in a distant way. The abstract understanding of an object focuses more on the core information in a content-free manner, whereas the low-level construal is rather concrete and detailed-oriented in a context-relevant manner. By using this construct, we validate how construal levels of consumers affect their alternative choice of small online shopping. We demonstrate that the effect of store attributes on online choices of an alternative is relatively weaker among consumers with high construal level compared to those with low construal level by various types of categories and contexts. This research implies that customer's construal tendency is useful tool for online shopping malls in identifying the type of customers relatively easier or making it less difficult to attract customers, depending on the level of their reputation. Thus, strategically targeting this group of people with high -level construals can help small online shopping malls that lack store reputation to mitigate their competitive disadvantage.

2 - Providing Demand-Stimulating Service by a Manufacturer to Retailers

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The purpose of this research is to examine the implications and strategies of providing demand-stimulating service by a manufacturer to the downstream retailers. In comparison with the benchmark scenario without the manufacturer-provided service, our research indicates that such service can benefit not only the retailer who receives the service but also the other retailer who does not receive it. The other retailer can achieve a higher profit, even in the presence of a negative service externality, where some of its customers may be switched away due to the service. Moreover, we find that choosing a uniform wholesale price across retailers by the manufacturer can lead to a decreased profitability for the other retailer who does not receive the service from the manufacturer, even if the service externality is positive in the retail market.

3 - Trust, Privacy and Information Disclosure in Relationship Versus Interest-Based Online Social Networks

Margherita Pagani, Associate Professor, Emlyon Business School, 23, Avenue Guy de Collongue, Ecully, 69134, France, pagani@em-lyon.com, Alessandro Ferrari

Online Social Networks (OSNs) constitute a goldmine for marketers and advertisers to gain insights about different social, cultural and demographic groups' interests and for exploiting a market segmentation that is based on user-generated content and information. Social media are the natural ground for the flourishing of profiling, data mining, identification of common patterns for users' classification, and micro-targeted marketing activities, whereby the OSN can track the users' interests and behavior to tailor the most effective ads to the right consumer profiles. Consumers who want to enjoy these services often need to disclose personal information to Internet businesses. But it is difficult for consumers to subsequently control how their personal information may be used by Internet businesses. Thus, an increasing number of consumers are becoming anxious about their information privacy, which is defined as the ability to control the collection and subsequent use of personal information. Purpose of the paper is to investigate the effect of trust that users feel towards the OSN of reference on the relationship between privacy concerns and the personal information disclosure. We consider two types of OSNs, namely relationship-based and interest-based OSNs and we theorize that the level of trust that users feel towards the specific OSN mediates the negative influence of privacy concerns on information disclosure. We test our model on a sample of 624 users across US, EU and Asia. We cross-validate these results distinguishing between relationship-based and interest-based OSNs. Implications for contextual advertising and social commerce are discussed.

4 - The Effects of Category Captainship in the Presence of Store Brands

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The use of category captains (CC) and the carrying of store brands are two marketing strategies which are both growing in popularity among retailers. Retailers are eager to experiment with both, as both are capable of increasing retailers' leverage in negotiations with manufacturers. As the implementation of both of these practices continues to spread across many types of product categories in practice, so too does the probability that retailers will soon face decisions regarding the joint implementation of both practices in a single category. While there has been no shortage of academic research studying the successful implementation of both category captainship and the introduction of store brands, there as of yet has not been any research into their joint implementation. Using a game theoretical model we find that the usefulness of category captainship for retailers who are looking to outsource both their category management responsibilities as well as the production of their store brands depends largely on the willingness of the manufacturers to market store brands as they are told. In our model, if the manufacturers are willing to let the retailer decide how its store brands are to be marketed, then the retailer is willing to use a CC; if not, then the retailer is only willing to use a national brand manufacturer as CC for a limited number of conditions. When this occurs we explore the possibility that the retailer may ask the external manufacturer to enter into the bidding process for category captainship. It is commonly argued that while category captainship may be harmful to members of the channel, the channel as a whole as well as consumers should expect to benefit from category captainship. While we do find evidence of category captainship leading to increases in both category profit and consumer surplus, the type of low quality product being carried determines how frequently these gains can be expected. If the low quality products being carried are line extensions instead of store brands, consumers are much more likely to see increases in their surplus. If instead the low quality products being carried are store brands, when CCs are unwilling to produce store brands modeled after the NCC's brand, under the majority of conditions both the category and the consumers suffer.

■ FB03

03-Third Floor, GB 3

Consumer Behavior V

Contributed Session

Chair: Kathleen Cleeren, Maastricht University, P.O Box 616, 6200 MD, Maastricht, Netherlands, k.cleeren@maastrichtuniversity.nl

1 - The Role of Homophily and Popularity within Communication Behavior on Online Dating Platforms

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The Internet provides new ways to find a partner via online dating platforms. Since the choice of potential partners on these platforms is tremendous, it is interesting which characteristics attract other platform members and lead to popularity on the platform, measured by a high in-degree centrality. As a consequence of the huge choice of potential partners, it is imaginable that platform members refer to simplifying mechanisms, like homophily, when choosing with whom to get into contact with. Therefore, the aim of this study is the analysis of communication behavior on an online dating platform. We are interested in characteristics influencing popularity as well as mechanisms affecting communication and contact behavior. For this, we observe communication on an online dating platform which aims to build long-term relationships. We analyze user characteristics on an individual level as well as on a dyadic level in order to compare characteristics of potential couples. We observe a high in-degree centrality for high educated non-smoking women without children and pets. Moreover, we identify homophily as a driver of response behavior. Nevertheless, heterophily may not be neglected. It has a significant influence when looking at marital situation and children.

2 - Category Sales, Consumer Psychographics and Web Browsing Behavior

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In this research, we explain category sales using consumer psychographics and demographics. Prior research examining category structure analysis and category management analysis used product-based factors to explain sales, but did not include consumer factors. In this research, we use demographic factors, consumer psychographic factors, and media contact behavior to explain category sales of individual households. Our data are supplied by INTAGE Inc., which is the largest market research company in Japan. We examine 33 food categories and 4 non-food categories, create three usage segments ('non-buyer', 'light', 'heavy') using data from 2nd quarter of 2013, and estimate household category sales volume of heavy users for the 4th quarter of 2013. Three types of Poisson regression models are estimated to explain individual consumer's category sales volume. Our results show that not only demographics, but also psychographic and media contact behavior are effective in explaining category sales volume. Also, we model

category purchase incidence for the 'light' segment to identify the factors that effect whether or not to buy the category. Compared to the sales volume model results, TV commercial viewing becomes effective in explaining whether or not to buy, but it does not explain category sales volume. Through these analyses, we identify the importance of consumer factors in explaining category sales, and the difference between whether to buy and how much to buy.

3 - Financial Decision Making Among the Underprivileged: A Few Propositions Based on Consumer Psychology

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The underprivileged face a very different reality as compared to the financially resourceful. They face humiliation, social ostracism, and financial exclusion among other impediments to well being, resulting in great mental anguish and a pervasive sense of psychological ill being. This in turn is reflected in their choices and decision making. Consequently, developing products for this segment of consumers necessitates a good understanding of the psychological aspects underlying their choices and decision making. Our understanding of the psychology of financial decision making among the underprivileged, a field dominated by economists and sociologists, is limited, and can benefit greatly from research in consumer psychology. In this paper propositions based on the psychological aspects and the behavioral economics of financial decision making among the underprivileged are developed. It is proposed that mental simulation leads to greater proportion of choice of a larger microloan when flexibility in the repayment schedule is provided. Theoretical, managerial, public policy, and consumer welfare implications are discussed.

4 - The Impact of Nutritional Health Claims on SKU Choice

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Hannes Datta, Kelly Geyskens, Peter Verhoef

In line with health organizations' strategies to fight obesity, the current marketplace reveals a mounting emphasis on health claims (e.g., "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 increase the choice probability, while negatively framed health claims reduce SKU choice. However, substantial heterogeneity in effects across brands and categories exists. Therefore, we explore the moderating impact of brand and category characteristics.

■ FB04

04-Third Floor, GB 4

Customer Relationship Management VI

Contributed Session

Chair: Farnoosh Khodakarami, PhD Candidate, University of North Carolina at Chapel Hill, 300 Kenan Center Dr., Campus Box 3490, Chapel Hill, NC, 27599, United States of America,
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1 - The Joint Impact of Revenue-Based Loyalty Program and Promotions on Consumer Purchase Behaviors

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Leonard Lee

Despite the large stream of academic research in loyalty programs, most prior research on the impact of loyalty programs on purchasing activity has been conducted in the context of frequency reward programs. In this research, we study the dynamics of consumer purchasing under another commonly used program structure - revenue-based loyalty programs (RBLPs). In RBLPs, customers get points based on their total spending and they can redeem points for rewards once their points inventory reaches certain thresholds. Our main objective is to examine the dynamic impact of the design features of the loyalty programs, including point structure, reward structure (timing and tiers), membership requirement and expiration, and their interaction with firm's promotion activities on consumer purchasing. We use a data set from a department store that launched a RBLP about three years ago. This RBLP imposes requirements for a customer to become a member and to maintain her membership; it has multiple point redemption thresholds for obtaining reward vouchers, with different dollar amounts associated with these thresholds and there is also an individual-specific time horizon for a member to accumulate

points and redeem points for vouchers. We find that promotions and especially RBLP are effective in driving store traffic. If we compare promotions with RBLP, it appears that the RBLP is better in maintaining customers' spending. In terms of the design features of the RBLP, we find the existence of point pressure and time pressure for obtaining vouchers and especially for membership auto-renewal. In addition, we find that the membership requirement and expiration can motivate customers to purchase more. Also, customers may be more or less price/promotion sensitive, depending on their states in the loyalty program. This suggests that, to better leverage both loyalty programs and sales promotions, the firm could send customized promotions based on the data collected from the loyalty program.

2 - Consumer Search, Purchase, and Reward Redemption Behavior across Loyalty Programs

Farnoosh Khodakarami, PhD Candidate, University of North Carolina at Chapel Hill, 300 Kenan Center Dr., Campus Box 3490, Chapel Hill, NC, 27599, United States of America, Farnoosh_khodakarami@kenan-flagler.unc.edu, J. Andrew Petersen, Rajkumar Venkatesan

Many firms across various industries offer loyalty programs with point-based reward systems to encourage customer retention. Many customers simultaneously participate in a number of loyalty programs. However, due to data limitations, research in CRM and specifically with regard to loyalty programs is often studied within the frame of a single firm. There is little research about a customer's interaction across firms and loyalty programs. The goal of this research is to investigate how activities with a firm impact the customer's behavior at that firm as well as how these activities spillover onto that customer's behavior with competing firms. We specifically analyze how a customer's search, transaction, and loyalty point accumulation and redemption behavior vary with time across firms. To do this, we use a novel dataset from a mobile app provider which partners with firms and allows customers to manage relationships with loyalty programs across those different firms. The dataset includes a random sample of 1,553 customers from the mobile app that have interacted with more than 15 local restaurants over an 18-month period, from October 2011 to March 2013. Our preliminary findings suggest that a customer's behavior evolves within a loyalty program at a firm over time and that a customer's behavior with the loyalty program at one firm (e.g. a customer redeems a reward) impacts that customer's search, transaction, and redemption behaviors at competing firms. In other words, there is a spillover effect in customer behaviors across loyalty programs across firms.

3 - Loyalty Programs: The Complete Collection-Redemption Cycle

Mihaela Alina Nastasoiu, Ivey Business School, 1255 Western Road, London, Se, N6G 0N1, Canada, mnastasoiu.phd@ivey.ca, Salvador Navarro, Mark Vandenbosch, Neil Bendle

Our research develops a unified framework for the complete cycle of points collection and rewards redemption in consumer loyalty reward programs (RPs). While previous research has concentrated mostly on rewards that are granted automatically to program members (such as accession to a superior status tier), we focus on a typical program, which allows consumers to decide the redemption moment, as well as the size of the reward. We focus on redemption because it is a key aspect of RPs, as it sets in motion the two main mechanisms that make RPs effective: creating switching costs or points pressure and the rewarded behavior effect. The problem is interesting because participants in these programs show a preference for substantial balances, which hamper redemption, but may not necessarily hamper the efficacy of RPs. The data that we use is ideal for addressing explanations such as consumers protecting their points balance in order to accede to a superior status tier, idiosyncratic unobserved need timing for the reward, redemption constraints or lack of involvement with the program. The proposed model asserts that consumers derive utility both from the rewards they claim and from the balances they keep. The estimated structural parameters are used to provide a lower bound for the effectiveness of the RP as well as to provide insights into policies that can improve it (e.g. best time to offer a promotional redemption period, encouraging consumers to treat the accumulated loyalty points more like cash or more like a special type of currency).

4 - Examining the Moderating Effect of Type of Membership on the Relationship between Time of Rewards and Customer Loyalty

Dong Young Kim, Korea University Business School, Anam-dong 5-ga, Seongbuk-gu, Korea Univ. Hyundai Motor Hall #517, Seoul, 136-701, Korea, Republic of, kdy8899@korea.ac.kr, Sang Yong Kim

Many hotels place a great importance on a membership program in order to keep their customers staying loyal and patronizing the property instead of searching for new customers. There are two forms of membership in a hotel: a) paid membership requiring an annual membership fee from customers and providing them immediate rewards every time they visit the property; and b) free membership providing delayed rewards by redeeming points they accumulated. There are researches examining the relationship between time of rewards (immediate vs. delayed) and customer loyalty with various moderating variables. However, there is a lack of research exploring how type of membership (paid vs. free) would affect the relationship between time of rewards and customer loyalty. Therefore, this study investigates how type of membership moderates the relationship between time of rewards and customer loyalty. Firstly, we investigate the main effect of time of rewards and type of membership. Secondly, we analyze the interaction of these two variables measured in the first step and see how the levels of customer loyalty are different in each membership.

■ FB05

05-Third Floor, GB 7

Working Paper XIII

Contributed Session

Chair: Jane Gu, Assistant Professor of Marketing, University of Connecticut, 2100 Hillside Road, Unit 1041, Storrs, CT, 06269, United States of America, jane.gu@business.uconn.edu

1 - Dynamic Pricing in Experience Good Markets with Demand Uncertainty

Yu-Hung Chen, Washington University in St. Louis, 6605 Clayton Ave, Apt 311, St. Louis, 63139, United States of America, yu-hung.chen@wustl.edu, Baojun Jiang

This paper develops a dynamic model to examine how a firm with a new, non-durable experience good should use its pricing strategy to signal its high quality in the market with demand uncertainty. Our analysis shows that when there is no demand uncertainty, the high-quality firm prefers to pool with the low-quality firm, due to the high signaling cost required to separate given that both types of firm are assumed to have the same costs. However, we find that, when the fraction of high-valuation consumers in the market is uncertain, the high-quality firm may prefer to separate from the low-quality firm. Intuitively, demand uncertainty gives the firm an additional dimension to separate. We identify two types of separating outcomes. First, the high-quality firm can separate from the low-quality firm by skimming pricing, i.e., setting a high initial price to target fewer customers making it unprofitable for the low-quality firm to mimic. Second, the high-quality firm can separate by penetration pricing, i.e. setting a low initial price to target all consumers, hence removing the firm's ability to learn the demand distribution, which deters the low-quality firm from mimicking. We also find that under some conditions, the high-quality firm's profit may be higher in the market with demand uncertainty than one without because demand uncertainty lowers the high-quality firm's signaling cost for revealing its high quality. By contrast, demand uncertainty always makes the low-quality firm worse off.

2 - Consumer Pseudo-Showrooming and Omni-Channel Product Placement Strategy

Jane Gu, Assistant Professor of Marketing, University of Connecticut, 2100 Hillside Road, Unit 1041, Storrs, CT, 06269, United States of America, jane.gu@business.uconn.edu, Giri Tayi

Modern consumers frequently switch between online and offline channels when they navigate through various stages of the purchase process, which motivates multi-channel sellers to develop omni-channel strategies that optimize their overall profit. Our study examines the important role of consumer "pseudo-showrooming," or the consumer behavior of inspecting one product at a seller's physical store before buying a related but different product at the same seller's online store, in driving a profitable omni-channel product placement strategy under which the multi-channel seller carries a larger product assortment at the online store than at the physical store. We develop a stylized model in which a multi-channel firm offers two horizontally differentiated but related products and consumers are uncertain about their fit with either product. A consumer's fit uncertainty with a particular product can be fully resolved after the consumer has inspected that product in person, or be partially resolved after the consumer has inspected the other related product. Our analysis shows that compared to selling both products through the dual channel, the firm obtains a greater profit by selling only one product through the dual channel and the other through the online channel exclusively, with the effect of inducing consumer pseudo-showrooming for the online exclusive product, if the fit probability of products and consumers' cost for returning a misfit product are both in the intermediate range. Moreover, we find that over a large range of parameter values, consumers also enjoy a greater total surplus when the firm adopts the product placement strategy that induces consumer pseudo-showrooming, suggesting an interesting "win-win" situation. We further show that when the fit probability of products is low, the multi-channel seller's profit from facilitating consumer pseudo-showrooming is greater than the total profit of two independent single-product sellers, one selling its product solely through the online channel and the other selling its product through the dual channel. Lastly, we show that when the firm offers two products of different vertical qualities, it garners the most benefit from consumer pseudo-showrooming by selling the higher-quality product through the online channel exclusively. Collectively, our study offers a compelling demand-side explanation to the commonly witnessed practice of multi-channel sellers to offer products online exclusively even when offline selling is feasible.

■ **FB06**

06-Third Floor, GB 8

Decision Neuroscience II (Behavioral Insights)

Cluster: Special Session

Invited Session

Chair: Vinod Venkatraman, Temple University,
vinod.venkatraman@temple.edu,**1 - Framing the Future First: Neural Mechanisms of Increased Consumer Patience**Eric J. Johnson, Columbia University, Bernd Figner, Crystal Reeck,
Amy R. Krosch, Jason Steffener, Elke U. Webber, Tor D. Wager

Consumers select rewarding short-term options that undermine long-term goals, yet framing choices as decisions to accelerate compared to delay consumption encourages patience. Query Theory, a model of preference construction, explains this asymmetric discounting, yet current neuroscientific models of intertemporal choice³⁻⁴ do not explain acceleration versus delay differences in choice. The present research studied the mechanisms underlying asymmetric discounting using process tracing methods and fMRI. Study 1 (N = 200) replicated standard asymmetric discounting effects^{2,5-6} ($p < .001$). Using MouseLab Web, analyses revealed several process differences. For example, when options were framed as acceleration decisions, participants were more likely to choose patiently when they engaged in attribute-based, rather than alternative-based, comparisons ($p < .001$). Query Theory posits that differences in memory queries during preference construction underlie differences in choices. We hypothesized that neural regions implicated in prospection (querying memory and simulating events) and control (managing impulses) would be differentially engaged by decision frames. In Study 2, participants (N = 20) completed an adapted intertemporal choice paradigm³ while undergoing fMRI. Delay-framing increased activation in regions implicated in prospection compared with acceleration-framing. Additionally, greater activation was observed in delay-framing in regions implicated in self-control, consistent with the notion that delay-framing is associated with greater temptation and exertion of control. Finally, the medial prefrontal cortex, an area implicated in simulating future events and processing rewards, not only predicted participants' choices but also significantly mediated the effect of option framing on choice. Our results provide neural evidence that acceleration-framing increases patience without enhancing demand on control regions. Framing the future first is a simple yet powerful intervention that can reduce consumer impulsiveness.

2 - An Efficient Neurobiological Representation of Utility Rationally Accounts for Inconsistency in Choice BehaviorPaul Glimcher, Professor, New York University, 4 Washington
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Biological studies of how human brains have revealed the neural correlate of utility: subjective value. But these studies have also revealed that precision in neural representation is costly. This raises a new essential tension in understanding inconsistent choice behavior. To achieve perfect transitivity is costly, and may often cost more than it is worth. In this paper I show data indicating that the neural representation of subjective value is "efficient" in an information theoretic sense and that this efficiency can account for many well known "irrationalities".

3 - Predicting Advertising Success: New Insights from Decision NeuroscienceVinod Venkatraman, Temple University, Khoi Vo, Russ Winer,
Angelika Dimoka

Organizations spend millions on advertisements and are always seeking the key drivers of advertising success. While traditional advertising research has focused on rational and conscious processes through consumer self-reports, recent advances in neuromarketing methods emphasize the importance of understanding the role of emotions and non-conscious processes. Here, we seek to systematically evaluate the role of different methodologies in predicting the effectiveness of commercials (measured using market response models). Using a unique experimental protocol to assess subjects' responses to 30-second TV ads, we capture many measures of advertising effectiveness across six commonly used methods (traditional self-reports, implicit, eye-tracking, biometrics, EEG, and fMRI). Using time-series data on sales and Gross Ratings Points for the same TV ads, we then attempt to relate individual-level response neurophysiological measures when participants viewed the ads to their aggregate, market-level elasticities. We show that fMRI measures explain the most variance in advertising elasticities beyond the baseline traditional measures. Notably, activity in the ventral striatum is the strongest predictor of real-world, market-level response to advertising. Our findings clearly demonstrate the potential of neurophysiological measures to complement traditional measures in improving the predictive power of advertising success models. This study also demonstrates the potential of decision neuroscience applied to marketing research and practice, by extending existing measures, helping enrich marketing theories, and improving models of marketing success. Acknowledgements: This study was funded by the Advertising Research Foundation and its sponsors.

■ **FB07**

07-Third Floor, GB 9

Pricing I

Contributed Session

Chair: Jinzhao Du, PhD Candidate, Duke University, 100 Fuqua Drive,
Durham, NC, 27708, United States of America, jinzhao.du@duke.edu**1 - Modeling the Effect of Customer Satisfaction on Price Elasticity**
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Prices and pricing occupy a central role in marketing and economics. Due to impact of price on demand and, ultimately, profits, managers are very interested in understanding pricing. Researchers in marketing have developed a number of methods for measuring price elasticity from choice data in the marketplace or in a lab setting. Consequently, there are many academic studies which report price elasticity estimates. A meta-analysis of 80+ studies in 2005 found that price elasticity was higher for durable goods and lower in mature markets. Marketing managers are interested in the conditions under which price elasticity is low. In such cases, firms can more easily raise prices without unduly hurting sales and profits. One important determinant of customer price sensitivity is customer satisfaction. Andersen (1996) suggests that highly satisfied customers are more likely to tolerate a price increase. However, since the measures of price tolerance and satisfaction in that study are collected simultaneously, it is possible the reported results are due to single source bias, e.g., halo-effects. In this study, we employ the method developed by Kanetkar (2012) to estimate price elasticity at the firm level for a sample of public firms. The underlying estimation model is based on the neoclassical theory of the firm. Price elasticity is estimated using quarterly data from COMPUSTAT. Combining these estimates with customer satisfaction scores from the ACSI, we examine how price elasticity varies across industry sectors, industry growth rates and levels of customer satisfaction.

2 - Quality Disclosure via Strikethrough PricesEric Schmidbauer, Assistant Professor, University of Central
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Axel Stock

Firms often communicate the prior period's price in addition to the current price. We model this as a disclosure game in the context of a product line extension in which a firm can choose to truthfully reveal the past price of its product. When some consumers are uninformed of the quality of the firm's current offerings the prior period price can be informative in that higher prior prices indicate higher current quality. We investigate the conditions under which a firm will choose to disclose prior prices and whether it might set an artificially high price in one period so that it can benefit from charging a 'sale price' in the next period.

3 - Pricing in Two-Sided Media MarketsJinzhao Du, PhD Candidate, Duke University,
100 Fuqua Drive, Durham, NC, 27708, United States of America,
jinzhao.du@duke.edu, Woochoel Shin, Wilfred Amaldoss

Media markets are characterized by significant and opposing cross-side effects from consumers and advertisers. In this paper, we investigate how these cross-side effects shape a platform's pricing strategy and profits. Contrary to some of our intuitions, competing platforms offer customized prices when the heterogeneity in consumers' dislike for advertising is small but set a uniform price when the heterogeneity is large. When advertisers can multihome, we observe a shift in a platform's pricing strategy. In particular, as the heterogeneity in consumers' dislike for advertising increases, platforms initially adopt customized prices, then a uniform price and later revert back to the customized prices. Moreover, if both advertisers and consumers multihome, even though one might expect competition to intensify, we observe both platforms choose the strategy that we would observe only in a monopoly.

4 - An Empirical Test of Price Theories in the Market for Seasonal GoodsGonca Soysal, Assistant Professor, UT Dallas, 800 W Campbell Rd,
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Three theories have been proposed in the literature to describe the reason behind sharp price declines observed over a product's short lifecycle in seasonal goods markets: (1) Prices decline as a result of firm's uncertainty about the level of demand at the start of the season, (2) Prices decline as a result of inter-temporal price discrimination, (3) Prices decline as a result of decreasing opportunity costs due to product perishability. We examine and derive empirically testable implications of each theory and assess whether these theories have empirical support in the fashion apparel market using data from a US specialty apparel retailer. The results indicate that inter-temporal price discrimination and product perishability both contribute to the observed price declines. We do not find direct empirical support on the impact of initial retailer uncertainty about the level of demand on observed price declines.

■ FB08

08-Third Floor, GB 10

Working Paper XV

Contributed Session

Chair: Mark Ratchford, Assistant Professor Or Marketing, Vanderbilt University, 401 21st Avenue South, OGSM, Nashville, TN, 37203, United States of America, Mark.Ratchford@owen.vanderbilt.edu

1 - The Emotional Pathways to Escalation of Commitment

Sunil H. Contractor, Johns Hopkins University, 100 International Drive, Baltimore, MD, 21202, United States of America, Sunil.Contractor@jhu.edu, Thomas W. Leigh, Piyush Kumar

In this paper, we propose a new, emotions-based, explanation for the relationship between personal agency and escalation of commitment and show that disappointment and regret mediate the relationship. We also demonstrate that information about a superior foregone outcome can be used to design de-escalation strategies. However, we find that the effect of the interplay between these two antecedents of escalation is contingent on the attractiveness of a potential terminal outcome of the chosen option and the relative magnitude of the interim outcome of the foregone option. These findings complement the cognitions-based explanations for escalation of commitment and also help reconcile some of the seemingly-inconsistent findings regarding the role of personal agency across the escalation and emotions literatures. They also suggest that mechanisms to manage the intensity of the relevant emotions can be used to design de-escalation strategies in personal and organizational decisions.

2 - Partner Poaching in Managerial Decisions on Strategic Alliances

Mark Ratchford, Assistant Professor Or Marketing, Vanderbilt University, 401 21st Avenue South, OGSM, Nashville, TN, 37203, United States of America, Mark.Ratchford@owen.vanderbilt.edu, Dipankar Chakravarti, Atanu Sinha

In this paper, we experimentally examine managerial behavior in forming strategic alliances given the presence of existing alliances among two or more firms. We employ a custom-designed computer game in which managers of firms in a hypothetical industry have an incentive to form resource-based coalitions that optimize profits. Across three studies, we show that managers often systematically avoid breaking or "poaching" an existing coalition that includes an attractive potential partner, even if doing so is economically advantageous. However, this tendency may be mitigated when the existing coalition is perceived as a powerful threat or when no other viable partnership options exist. The findings provide behavioral insights into managerial decisions on strategic alliances and endogenous coalition formation in cooperative games.

■ FB09

09-Third Floor, Dover AB

Meet the Editors II

Cluster: Special Session

Invited Session

Chair: Praveen Kopalle, Professor, Dartmouth College, 100 Tuck Hall, Hanover NH 03755, United States of America, praveen.kopalle@dartmouth.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

Marketing Science, Preyas Desai, Spencer R. Hassell Professor, Fuqua School of Business, 100 Fuqua Drive, Durham, NC, 27708, United States of America, desai@duke.edu

Journal of Marketing, V Kumar, Regents Professor; Richard and Susan Lenny Distinguished Chair Professor in Marketing; Executive Director, Center for Excellence in Brand and Customer Management, Georgia State University, 3348 Peachtree Road, Tower Place 200 Suite 204, Atlanta, GA, 30326, United States of America, vk@gsu.edu

Journal of Consumer Research, Praveen Kopalle, Professor, Dartmouth College, 100 Tuck Hall, Hanover, NH, 03755, United States of America, praveen.kopalle@dartmouth.edu

Journal of Retailing, Murali Mantrala, Professor of Marketing, University of Missouri, Trulaske College of Business, 403 Cornell Hall, Columbia, MO, 65211, United States of America, mantralam@missouri.edu

Journal of Service Research, Katherine (Kay) Lemon, Boston College, Boston, MA, United States of America

■ FB10

10-Third Floor, Dover C

Sales Force I

Contributed Session

Chair: Andrew Crecelius, University of Missouri, 438 Cornell Hall, Columbia, MO, 65211, United States of America, andrew.crecelius@mail.missouri.edu

1 - Exploring the Interaction between Salesperson Networking Behaviors and Marketing Communications

Andrew Crecelius, University of Missouri, 438 Cornell Hall, Columbia, MO, 65211, United States of America, andrew.crecelius@mail.missouri.edu, Srinath Gopalakrishna

The popular press as well as the academic literature (e.g., Wolff and Moser 2009) highlight an individual's networking behavior as being instrumental in forming advantageous network relationships. However, no extant academic research has examined networking behaviors of salespeople and linked those behaviors to outcomes. This is surprising since salespeople are regularly exhorted to build their networks to improve performance. Given the salesperson's role as a frontline representative of the firm, we present a framework conceptualizing networking behaviors as a form of marketing communication executed by the salesperson at the front lines – that is, a salesperson spreads awareness about him/herself and the firm through actions executed via his/her network. In this conceptualization, networking behaviors create social capital analogous to the way brand advertising creates goodwill. Drawing on information integration theory, we hypothesize synergistic interactions between salesperson networking and multiple forms of marketing communications. This study combines survey and archival data involving sales agents from a large Midwestern auto insurance company. We utilize three years of monthly data on multiple advertising media (that vary across agents) and agent performance based on quotes / conversion of quotes to develop time series-based indicators of agent advertising effectiveness in terms of new customer acquisition. We then link multiple dimensions of networking, as well as several covariates, to advertising effectiveness. Our results have implications for the training of agents regarding effective networking and the optimal allocation of advertising dollars contingent on various agent networking strategies.

2 - When Salespeople Manage Customer Relationships: The Effects of Adverse Selection and Moral Hazard

Minkyung Kim, Ph.D Student, Yale University, 165 Whitney Avenue, New Haven, CT, 06511, United States of America, minkyung.kim@yale.edu, K Sudhir, Kosuke Uetake

Firms often use salespeople to acquire and retain customers by incentivizing them through bonuses to obtain desired customer acquisition and retention targets. While incentive bonuses are intended to increase acquisition and retention effort, the effort benefit may be offset by agency effects—adverse selection and moral hazard. For example, adverse selection can happen if acquisition targets lead to dilution in the quality of acquired customers or retention targets lead to more conservative customer acquisition (adverse selection). Moral hazard can occur if acquisition targets lead to reduced monitoring and lower retention of acquired customers (moral hazard). We examine this question using a unique dataset from a large microfinance institution in Mexico. Our data includes detailed salesforce compensation information and loan-level information, which allows us to track the salesperson and customer behavior over the loan lifecycle. We find evidence of both adverse selection and moral hazard offsetting the positive impact of compensation on firm revenues. The paper contributes to the literature on customer relationship management in that it recognizes the customer lifetime value is endogenously affected by salesforce compensation policies.

3 - Modeling Salespeople's Role in Consumer Choice: Evidence from an Auto Dealer

Bicheng Yang, Olin Business School, Washington University in St. Louis, St. Louis, MO, United States of America, yangbicheng@go.wustl.edu, Tat Chan, Raphael Thomadsen

Consumer choice models normally assume that a consumer knows the utility she can get from each alternative in her choice set, and she picks the one that provides the highest utility. However, in industries where consumers have uncertainties about the potential alternatives, the consumer may rely on a salesperson's help to make decisions. As a result, there is leeway for salespeople to influence consumer choices. The salespeople's incentives will be formed by both the consumer heterogeneity and the sales commission on each item. In our paper, we develop a model of salesperson-driven consumer choice based on different informational assumptions, and estimate our models using data from a major regional auto dealer in an Asian country. We find strong evidence that salespeople can influence consumer choice. In addition, we show that the current commission level of the dealer is suboptimal and there is room to improve profit.

4 - Dynamics of Textual Cues as Influence Strategies during B2B Sales Negotiations

Sunil Singh, PhD Student, University of Missouri-Columbia, 403 Cornell Hall, Columbia, MO, 65211, United States of America, sks262@mail.missouri.edu, Jagdip Singh, Detelina Marinova

Increasingly, B2B sales are conducted using mediated mediums. However, little is known about how B2B salespeople use mediated mediums during sales negotiation. The present study addresses this gap by (1) identifying, categorizing and coding textual features of email communications that correspond to different influence strategies, and (2) assessing the effectiveness of influence strategies as implemented in email communications for generating sales outcomes (e.g., contract award). We test the proposed model by analyzing data from 48 email B2B sales negotiations over the course of 2 years based on a retrospective, 360-degree capture of emails centered on the lead sellers designated to coordinate contract negotiations with specific buyers. This includes emails exchanged between the salesperson and: (a) the buying organization, (b) salesperson's supervisor(s), and (c) internal employees. The empirical analysis provides support for the incidence as well as the dynamic impact of influence strategies on sales outcomes. The results indicate that influence strategies are effective in winning contracts only when used in combination with other strategies but not in isolation. For instance, a combination of "promises" and "assertiveness" increases the likelihood of a contract award. However when used in isolation, both "promises" and "assertiveness" remain ineffective. Implications for research and practice are discussed.

■ FB11

11-Third Floor, Atlantic

Choice Models IV

Contributed Session

Chair: Gary Russell, Professor of Marketing, University of Iowa, Tippie College of Business, Iowa City, IA, 52245, United States of America, gary-j-russell@uiowa.edu

1 - Capturing Cross-Product Category and Inter-Temporal Decision Patterns from Large Consumer Data

Feihong Xia, University of Pittsburgh, Mervis Hall, 249, Pittsburgh, PA, 15260, United States of America, fex8@pitt.edu, Rabikar Chatterjee, Jerrold May

A returning question facing firms and managers is if and how to react to competitive attacks. While prior research defined competitive attacks homogeneously, this article distinguishes between strategic and tactical actions initiated by competitors. We study these actions in the setting of personal selling, whose division of decision making between upper- and lowermanagement is uniquely suited to identify these actions. By relating sales force activity to sales using time series methods, we find significant differences between both action types. In particular, we find that strategic actions lead to stronger short- and long-term reactions due to the higher firm commitment signaled by these actions. Second, we find that while the decision to react to competing strategic actions is always sound, this is not the case for tactical actions. For the latter, in 43% of the cases of retaliation and 59% of the accommodation cases reactions are unwarranted. Improving lower management training and providing additional decision support could help improve this decision making process. Finally, we show that responses to strategic actions are mainly driven by firm performance and marketing effectiveness drivers, while tactical actions are driven by the desire to achieve immediate sales goals. This leads to different reactions to the same situation depending on the firm level at which the decision to react is made. These findings show that firms should evaluate lower-level management less on immediate sales goals, and stimulate their long-term value orientation.

2 - Elimination-by-Aspects as a Generalization of Nested Logit and Cross-Nested Logit Models

Kamel Jedidi, Professor, Columbia Business School, Columbia Business School, Uris Hall, 5th floor, 3022 Broadway, New York, NY, 10027, United States of America, kj7@columbia.edu, Rajeev Kohli

Multinomial logit, nested logit, cross-nested logit and EBA are shown to be models of increasing generality obtained using the same error theory. The feature common to these models is the use of a common probabilistic method for obtaining a lexicographic ordering of attributes or aspects. We present an empirical application illustrating these relations.

3 - Measuring Substitution and Complementarity Among Offers in Menu Based Choice Experiments

Tetyana Kosyakova, Goethe University Frankfurt, Gruenewaldplatz 1, Frankfurt, 60323, Germany, kosyakova@econ.uni-frankfurt.de, Thomas Otter, Christian Neuberger

Choice experiments designed to extend beyond the classic application of choice among perfect substitutes have become popular in marketing research. In these experiments, often referred to as menu based choice, respondents face choice sets that may comprise substitutes, complements, and offers that provide utility independently, or any mixture of these three types. The inferential challenge posed by data from such experiments is in the calibration of utility functions that accommodate a mix of substitutes, complements, and "independent" offers. Moreover, while a prior understanding of the product categories under study may, for example, suggest that two offers in a set are essentially perfect substitutes, this may not be true for all respondents. To address these challenges,

we combine Besag's autologistic choice model (Besag 1972,1974) with a flexible hierarchical prior structure. We explain from first principles how the autologistic choice model improves on the multivariate probit model, and on models that include cross-price effects in the utility function. We develop Bayesian inference for the autologistic choice model, including its intractable normalizing constant. Finally, we find empirical support for our model in a menu based conjoint experiment investigating demand for game consoles and accessories and we illustrate implications for optimal pricing. Besag, J. E., 1972, Nearest-neighbour systems and the auto-logistic model for binary data. *Journal of the Royal Statistical Society. Series B (Methodological)*, 34 (1):pp. 75–83. Besag, J. E., 1974, Spatial interaction and the statistical analysis of lattice systems. *Journal of the Royal Statistical Society. Series B (Methodological)*, 36(2):pp. 192–236.

4 - Predicting Bundle Preference using Configuration Data

Gary Russell, Professor of Marketing, University of Iowa, Tippie College of Business, Iowa City, IA, 52245, United States of America, gary-j-russell@uiowa.edu, I-Hsuan Chiu

Understanding consumer preference for bundles is a key element of effective new product design. Traditional conjoint analysis is a possible research tool, but the conjoint data collection task imposes significant cognitive strains on consumers. In a configuration study, consumers are asked to create an ideal bundle from a given menu of various products. The resulting choice data pose two challenges for researchers. First, as the size of the menu grows, the number of possible bundles grows geometrically. Second, because each consumer only configures one ideal product bundle, researchers have only one choice observation per consumer. In this research, we develop a modeling framework that deals with the challenges of configuration data, but which also provides clear insights into consumer preference segmentation. We show analytically that the population choice model consistent with configuration data takes the form of a multivariate logistic (MVL) model with parameters reflecting consumer preference heterogeneity. We apply the methodology to configuration data on bundles of power tools. Using inference on the consumer preferences, we develop a method of creating a segmented product-line strategy for product bundles. Our research highlights both the benefits and the challenges of using configuration data to analyze bundle preference.

■ FB12

12-Third Floor, Bristol

Marketing Strategy IV

Contributed Session

Chair: Sourindra Banerjee, Asst. Prof. of Marketing, Warwick Business School, University of Warwick, Coventry, CV4 7AL, United Kingdom, sourindra.banerjee@wbs.ac.uk

1 - Firm-Level Drivers of Cross-Functional Cooperation: The Effect of Shared Goals and Reward Systems

Niklas Thieme, RWTH Aachen University, Kackerstr. 7, Aachen, 52072, Germany, thieme@time.rwth-aachen.de

Cross-functional cooperation is the simultaneous occurrence of cooperation and competition in intra-firm relationships. As marketing departments are increasingly collaborating with other functions to continuously adapt to changing market demands, the concept has gained rising attention in marketing literature. Cross-functional cooperation has been shown to improve overall firm performance and knowledge sharing. This study analyzes the effect of different reward systems on cross-functional cooperation and how the relationships are moderated by superordinate goals between functions. Using survey data of 300 managers from R&D and marketing, the hypothesized effects are empirically tested using partial least squares structural equation modeling. Results show empirical evidence that performance-based rewards foster intra-firm cooperation. Analyses of effects of reward structures that are based on outcomes or processes show ambiguous results for different cooperative interactions. Superordinate goals foster collaboration and simultaneously hamper competition, resulting in decreased levels of cooperation. The paper advances understanding of firm-level drivers of cross-functional cooperation and helps practitioners to manage cooperative relationships in their cross-functional projects more effectively.

2 - The Impact of Corporate Ownership and Management on Innovation

Sourindra Banerjee, Asst. Prof. of Marketing, Warwick Business School, University of Warwick, Coventry, CV4 7AL, United Kingdom, sourindra.banerjee@wbs.ac.uk, Gerard Tellis, Jaideep Prabhu

A great deal of research in management and economics examines the adversarial relationship between ownership and control on firm outcomes. Far less research examines how ownership and control work together to improve firm outcomes. To overcome this gap, we study how the most common forms of ownership (family, state, foreign and widely-held) interact with professional versus non-professional management (i.e., control) to drive two major outcomes for firms: how many innovations they generate and how much value they capture from these innovations. We develop a theory about how risks and resources drive firms with different types of ownership (family, state, foreign and widely-held) and management (professional or non-professional) to focus on different levels of innovation, and generate varying levels of value from them. We test our hypotheses using panel data from 2001 to 2011 on major Indian firms in the banking, oil and gas, power, metal and capital goods sectors. We use a count of new product announcements and abnormal returns from new product announcements to measure innovations generated and the value captured from

innovation respectively. The results show that, on average, firms with greater state ownership capture less value from innovation; however, firms with greater state ownership that are led by professional CEOs capture more value from innovations. Our results also show that, on average, firms with greater widely held ownership generate less innovation and capture less value from innovation; however, firms with greater widely held ownership that are led by a professional CEO generate more innovation and capture more value from innovation. Some implications for policy and practice are: state owned and widely held firms should encourage professional management; the privatization of state owned firms will boost the innovation output of firms; and reducing widely held ownership will boost innovation output and increase the value captured from innovation.

3 - A Model of Cause-Related Marketing

Sreya Kolay, University of California, Irvine, Paul Merage School of Business, Irvine, CA, 92697, United States of America, skolay@uci.edu

Cause-related marketing (CRM) is the practice of linking purchases of a product to donations made to charitable causes. Popularized initially by American Express' hugely successful Statue of Liberty Restoration program in 1983 where it offered to donate a cent to the renovation of the Statue of Liberty for each use of its charge card and a dollar for each new card issued in the U.S. during the fourth quarter of 1983, this practice has become increasingly popular over time. More recent examples include the Buy Red Campaign (with Gap, Starbucks, Apple as participant brands), Yoplait's Save Lids to Save Lives Campaign, TOMS Shoes' "One for One Campaign". An examination of the various cause-related marketing actions by firms reveals a wide range of practices. They include price-based CRM policies wherein a firm pledges to donate a certain percentage of revenues or profits for every purchase made, or quantity- or unit-based CRM policies wherein the firm pledges to donate a unit of its own product for every unit purchased. In this paper, we develop an analytical model to explore the following questions: (i) When, and more specifically, for what kind of products is CRM profitable? (ii) Which type of CRM is most profitable under what market circumstances? (iii) How do the various types of CRM policies differ in terms of impact on society? In a market of consumers who have varying degrees of affinity for charitable activities, we show how the quality of the product determines when the firm may want to engage in CRM, and more specifically, whether in price-based CRM or unit-based CRM policies. Furthermore, we demonstrate cases where a more profitable type of CRM policy may be associated with a lower amount of donations or lower amount of social welfare compared to other types suggesting a conflict of interest between the firm and recipients of the charitable donations as well as society as a whole.

■ FB13

13- Fourth Floor, Harborside A

Customer Relationship Management III

Contributed Session

Chair: Paramveer Dhillon, Massachusetts Institute of Technology, 77 Massachusetts Avenue, E62-489, Cambridge, MA, 02139, United States of America, dhillion@mit.edu

1 - All You Need is "R": Estimating the Pareto/NBD Model using Only Recency Data

Paramveer Dhillon, Massachusetts Institute of Technology, 77 Massachusetts Avenue, E62-489, Cambridge, MA, 02139, United States of America, dhillion@mit.edu, Peter Fader, Bruce Hardie

There is no doubt that the Pareto/NBD model and its variants such as the BG/NBD and BG/BB have proven to be very popular and powerful tools for conducting customer-base analysis tasks in noncontractual settings for academics and practitioners alike. Among the many benefits that these models offer is their use of simple summary statistics – namely recency and frequency – instead of requiring the full transaction history for each customer. In some settings, it may be difficult to get reliable frequency data. One common example involves survey-based measurement of longitudinal behavior: it has been known for decades that customers can recall the last time they bought/used a certain product or service, but frequency estimates are subject to a variety of biases, some quite strong. With such a setting in mind, we demonstrate how the parameters of the Pareto/NBD model can be estimated using nothing more than recency data. Capitalizing on some backwards-recurrence relationships for the Pareto/NBD, we show that the frequency information can effectively be "integrated out" of the model specification, resulting in a specification that offers all of the conceptual and computational benefits of the original Pareto/NBD but using nothing more than customer-level recency data (as well as the time of each customer's "birth"). We lay out the key mathematical details and demonstrate the effectiveness of this new method on simulated and real datasets.

2 - Counting your Nonstationary Customers

David Harman, Univ. of Iowa, Dept. of Marketing, S252 John Pappajohn Business Bldg, Iowa City, IA, 52242, United States of America, david-harman@uiowa.edu

Stochastic customer lifetime value (CLV) models like the Pareto/NBD often make the assumption that customer or household transactions follow a memoryless, stationary Poisson process. However, there are many categories of non-contractual consumer goods where the stationary transaction assumption is violated, particularly categories with seasonal purchasing patterns. Additionally, marketing interventions are often nonstationary either in execution or in the way a customer experiences them, e.g. periodic catalog mailings. One method to account for nonstationary incidence rates in a stochastic process model is to change the formulation of the underlying process itself, such as using an Erlang-k

process where the Poisson case is included when $k=1$; another approach is to include time-varying covariates in the model. In this study, I propose hierarchical Bayes CLV model that incorporates both methods to model nonstationary transactions. Using donation data from a non-profit that exhibits a strong seasonal pattern, and through the use of periodic reevaluations of expected future transactions, I demonstrate how accounting for nonstationary transactions provides more consistent estimates of CLV compared to existing CLV models.

3 - Sequential Allocation for Customer Acquisition

Eric Schwartz, University of Michigan, Ross School of Business, 701 Tappan Street Office R5468, Ann Arbor, MI, 48109, United States of America, ericmsch@umich.edu, Liangbin Katie Yang, Peter Fader

To acquire customers, firms allocate resources (e.g., dollars, sales calls) across a range of channels, segments, etc., but they are uncertain about which ones are best. Over time they learn about their customers and sequentially reallocate their resources to earn a better return on acquisition spent. The purpose of this study is to improve firms' "earning while learning" process for acquisition to increase the overall (current and future) value of their customer base. We frame the sequential acquisition decisions as a multi-armed bandit problem, comparing a set of acquisition policies to assess their ability to acquire from the "right" sources of customers. While typical acquisition policies assess segments in a "backward-looking" manner (e.g., value of customers previously acquired), we introduce several "forward-looking" ones, such as a forecast of expected customer lifetime value (ECLV) for each segment. We find that these forward-looking policies significantly improve profitability of the customer base, but a firm can be too forward-looking, i.e., ECLV is often not the best policy. Using synthetic data representing a wide range of settings, we identify two sensible database characteristics to decide when to use which policy, thus providing clear and specific advice to guide a manager's decision about dynamic spending patterns for optimal customer acquisition.

4 - V(CLV): Examining Variance in Models of Customer Lifetime Value

Peter Fader, Professor of Marketing, University of Pennsylvania, Wharton School, 3730 Walnut Street, Philadelphia, PA, 19104, United States of America, faderp@wharton.upenn.edu, Daniel Zantedeschi, Shane Jensen, Daniel McCarthy

While accurate point estimation of customer lifetime value ('CLV') has been the target of a large body of academic research, few have focused on the variance of CLV ('V(CLV)'), even though academics have long known that V(CLV) affects firms on many fundamental levels. Virtually no formal forward-looking statistical procedures have been derived to estimate or validate V(CLV). For the first time, we analyze V(CLV) for the Beta Geometric / Beta Binomial ("BG/BB") model, a well-validated stochastic model for buyer behavior in non-contractual settings. We calculate then test a number of variance measures, motivating the development of a new variant we call the BG/sBB. The BG/sBB extends the popular "recency-frequency-monetary value" ('RFM') framework to include "clumpiness" ("RFM-C"), as advocated by Zhang, Bradlow and Small (2013). Our new model provides much more accurate predictions of future purchases than the BG/BB. We highlight the importance of V(CLV), how marketing analysts may apply our framework to their model of customer behavior, and discuss behavioral implications, as well as broader implications for customer and firm valuation.

■ FB14

14- Fourth Floor, Harborside B

Internet VI

Contributed Session

Chair: Leo Paas, Massey University, Private Bag 102904, North Shore Mail Cen, Auckland, 0745, New Zealand, L.J.Paas@massey.ac.nz

1 - Choice of Fixed versus Flexible Goals in Crowdfunding

Srabana Dasgupta, SFU, 8888 University Drive, Simon Fraser University, Burnaby, BC, V5A 1S6, Canada, srabanad@sfu.ca, Jason Ho, Robert Krider

Popular crowdfunding platforms like Kickstarter and Indiegogo serve primarily as marketing channels for project founders to reach out to donors or early adopters of specific ventures (patronage and reward-based crowdfunding models, as identified in Mollick (2014)). Similar to the uses of other promotion media and/or platforms, a project founder needs to optimize over a range of important decision variables in a crowdfunding platform, for example setting the funding goal, choosing different reward levels, and estimating the delivery date, on top of crafting the most effective sales pitch. A decision variable particularly unique to the context of crowdfunding is the choice between a fixed vs flexible funding model. Under a fixed funding ('all or nothing') model, if the project ends up not reaching or exceeding the pre-set funding goal, the funders would not need to fulfil their pledges. On the other hand, a flexible funding model allows a founder of a project failing to reach the funding goal to keep the pledged amounts from the funders. Representing different risk levels for funders, the two funding models would potentially affect funders' reactions to the funding goals, reward levels, and other campaign characteristics and in turn influence the project founders' optimal decisions in those variables. Using a data set from Indiegogo, which allows founders to choose between the fixed or flexible models, we examine the main and moderating effects of the funding model choice on the success of the crowdfunding projects.

2 - An Investigation of Online and Offline Consumer Search Effectiveness in Automobile Industry

Aidin Namin, Marketing PhD Candidate, UT Dallas, 800 W Campbell Rd, SM 32, Richardson, TX, 75080, United States of America, aidin.namin@utdallas.edu, Brian Ratchford

While online and offline search for automobiles and the relationships between search source and ultimate car choice have been studied in the literature; there still is a gap in investigating how efficiently online and offline sources of search and the search channels within each category contribute to the consumer's ultimate automobile choice. We employ a model of Stochastic Frontier to measure the efficiency of search sources in creating consumer's gain from search for automobiles. Our model allows the outputs to be subject to random shocks. Using survey data on consumer automobile search from both online and offline sources and the final choices of cars made by the consumers, we measure and compare the effectiveness of search sources for different consumer demographic groups. We measure consumer search outcomes through factors such as Consumer Reports (CR) Test Score of car bought, List price of purchased car, CR reliability score of purchased car, CR Reader satisfaction score of purchased car, and CR Test gas mileage of purchased car. The inputs are different channels of online and offline search for cars and the time spent by the consumer searching at each search channel. Our results provide useful information for both the consumers and also the car manufacturers and dealers. Consumers can use the findings in deciding on the automobile search source which would help them the most in achieving the outputs given the demographics group they belong to. Car manufacturers and dealers can benefit from the findings in targeting and also in providing information to consumers from different demographic groups through the right search source to influence their choice for cars.

3 - Friend or Foe: How Does Social Network Activity Affect News Consumption?

Ammara Mahmood, Cass Business School, 106 Bunhill Row, London, United Kingdom, ammara.mahmood.1@city.ac.uk, Catarina Sismeiro

Using clickstreams of users at a major news website, together with data on users' Facebook activity and the actions of their friends online, we study if social networks complement or compete with content websites. In the case of the content website we study, our results suggest a positive net impact of social networks although a complex pattern seems to exist: though friends might attract traffic to the website (promotional effect), that traffic is directed and comprises fewer pages viewed (competition effect). On the other hand, being active on Facebook seems to hinder site visitation (competition effect), but once a site visit takes place users are associated with more intense content consumption (promotional effect). These results are robust to possible endogeneity, homophily, temporal effects, and individual heterogeneity. We further conclude that more friends, and in particular more active friends, might not always create value for content websites and present further results regarding users browsing patterns.

4 - Instructional Manipulation Checks for Assessing and Enhancing Respondent Attention in Online Panels

Leo Paas, Massey University, Private Bag 102904, North Shore Mail Cen, Auckland, 0745, New Zealand, L.J.Paas@massey.ac.nz, Meike Morren

Online panels, such as M-Turk, SmartSurvey, SurveyMonkey and QualTrics, are commonly used amongst academics and practitioners. Even though many results are obtained using these panels, accuracy is questionable. Respondents may not report their opinions, but skip through the survey without dedicating sufficient attention to the question content. Such a strategy often results in straight-lining: repeatedly selecting the same answer category. In our experiment, we included a quality check to detect and reduce such attention problems. Across three experiments we find that approximately 1/3 of the respondents fails to follow a quality check instruction. We present tools that reduce this failure rate to 1/5.

■ FB15

15- Fourth Floor, Essex AB

Mobile Coupons and Networks

Cluster: Special Session

Invited Session

Chair: Xueming Luo, Charles Gilliland Distinguished Professor of Marketing, Temple University, Philadelphia, PA, 19122, Department of Marketing, United States of America, luoxm@temple.edu

Co-Chair: Nathan Fong, Assistant Professor, Temple University, 1801 Liacouras Walk, Alter Hall 517, Philadelphia, PA, 19122, United States of America, nmfong@temple.edu

1 - Geo-Conquesting Mobile Promotions

Nathan Fong, Assistant Professor, Temple University, 1801 Liacouras Walk, Alter Hall 517, Philadelphia, PA, 19122, United States of America, nmfong@temple.edu, Zheng Fang, Xueming Luo

As consumers spend more time on their mobile devices at various locations, a focal seller's natural approach is to target potential customers in close proximity to its own location. Yet own location targeting may be vulnerable to cannibalization of profits on infra-marginal sales. This study demonstrates the effectiveness of competitive locational targeting, where a retailer promotes to

consumers near a competitor's location, and characterizes the conditions under which it works. The analysis is based on a randomized field experiment in which mobile promotions were sent to customers at three similar locations (competitive, focal, and neutral) in shopping malls. The results suggest that competitive locational targeting has the potential to take advantage of heightened demand that they would not otherwise capture and, thus, generate incremental sales without cannibalization of profits. Competitive locational targeting showed increasing returns to promotion discount depth, indicating the presence of threshold effects. In comparison, targeting a retailer's own (focal) location showed decreasing returns to deep discounts, indicating saturation effects and the cannibalization of profits. These findings are important for practitioners because managers can use competitive location targeting to exploit the incremental sales for higher profits, while preserving margins on sales to consumers near their own locations. Locational targeting has enormous potential as a competitive weapon that allows a retailer to maintain a presence anywhere – including on a competitor's doorstep.

2 - Social Promotions and Mobile Networks

Yuchi Zhang, Temple University, Philadelphia, PA, United States of America, yuchizhang@gmail.com, Jing Zhou, Hanson Wang, Xueming Luo

Mobiles are about people connected in the networks. This paper will report findings from three studies. In study 1, field data suggest that mobile network degree and entropy matter for customer retention rates. In study 2, field survey reveals the reasons why customers choose to not stay with the mobile company and the network lapses. In study 3, field experiment indicate that with the right network degree and entropy, managers can leverage social promotions to boost mobile purchases.

3 - The Effectiveness of Sensor-Induced Instore Mobile Promotions: A Randomized Field Experiment

Dominik Molitor, LMU Munich, Germany, molitor@bwl.lmu.de, Philipp Reichhart, Martin Spann, Anindya Ghose

The underlying nature of smartphones enables companies to serve location-based promotions to consumers by applying new ways of mobile targeting. For example, smartphone-embedded technologies such as Bluetooth Low Energy (BLE) allow targeting consumers in the vicinity of stores as well as in stores. Based on a randomized field experiment using the BLE technology, this study measures the causal impact of contextual store-level promotions on consumers' store choice and as well as their probability to engage in unplanned purchases. In addition, we examine when and why store-level promotions are effective in increasing store traffic and conversions. This study thus contributes to the understanding of how unplanned store visits and purchases can be triggered by spatially different forms of mobile targeting.

■ FB16

16- Fourth Floor, Essex C

Working Paper XIV

Contributed Session

Chair: Hyunwoo Lim, Assistant Professor, Ajou University, 4 Averill Cres, Toronto, ON, M2M2A9, Canada, hyunwoo.lim06@rotman.utoronto.ca

1 - The Effects of Publicity on Demand: The Case of Anti-Cholesterol Drugs

Andrew Ching, University of Toronto, Rotman School of Management, Toronto, ON, Canada, andrew.ching@rotman.utoronto.ca, Hyunwoo Lim

Over the past ten years there has been increased recognition of the importance of publicity as a means of generating product awareness. Despite this, previous research has seldom investigated the impact of publicity on demand. We contribute to the literature by (i) proposing a new method for the interpretation of publicity data, one that maps the information in news articles (or broadcasts) to a multi-dimensional attribute space; (ii) investigating how different types of publicity affect demand; and (iii) investigating how different types of publicity interact with firms' own marketing communication efforts. We study these issues for statins. We find that publicity plays an important role both for expanding the market for statins and for determining which statins patients/physicians choose. We also find evidence that publicity can serve as either a substitute or a complement for traditional marketing channels depending on the complexity of the information type. These results suggest that managers should be aware of the interactions between publicity and traditional marketing channels in order to better determine how to allocate their marketing expenditures.

2 - Signaling in Online Credit Markets

Kosuke Uetake, Assistant Professor, Yale University, 165 Whitney Ave. Rm. 5477, New Haven, CT, 06520, United States of America, kosuke.uetake@yale.edu, Kei Kawai, Ken Onishi

This paper studies how signaling can facilitate the functioning of a market with classical adverse selection problems. Using data from Prosper.com, an online credit market where loans are funded through auctions, we provide evidence that reserve interest rates that borrowers post can serve as a signaling device. We then develop and estimate a structural model of borrowers and lenders where low reserve interest rates can credibly signal low default risk. Announcing high reserve interest rates increases the probability of receiving funding at the cost of higher expected interest payments conditional on obtaining a loan. Borrowers regard this trade-off differentially, which results in a separating equilibrium. We

compare the credit supply and welfare under three alternative market designs: a market with signaling, a market without signaling, and a market with no information asymmetry. Compared to the scenario with no signaling, we find that allowing borrowers to signal can increase the credit supply by as much as 13.5% for the median borrower for one of the credit grades. We find that signaling increases total welfare in one of the four credit grades we examine, but decreases total welfare in the rest.

■ FB17

17-Fourth Floor, Falkland

New Trends in Structural Modeling in Marketing I

Cluster: Special Session

Invited Session

Chair: Przemyslaw Jeziorski, University of California-Berkeley, 2220 Piedmont Ave, Berkeley, CA, 94720, United States of America, przemekj@haas.berkeley.edu

1 - Mobile Money in Tanzania

Przemyslaw Jeziorski, University of California-Berkeley, 2220 Piedmont Ave, 94720, United States of America, przemekj@haas.berkeley.edu, Nicholas Economides

In developing countries with sparse retail banking branches, mobile telecom networks have emerged as major providers of financial services, bypassing traditional banks. Using individual-level mobile money transaction data in Tanzania, we find that the vast majority of these transactions can be classified as either (i) transferring money to others, (ii) transporting money for short distances, or (iii) storing money for short to medium periods of time. We find that the demand for long-distance transfers is less elastic than for short-distance transfers, suggesting that the mobile networks compete with traditional cash transportation by bus drivers, in addition to competing with each other. Using the revealed preferences for transportation and storage transactions, we monetize the economic damage caused by a high level of crime. We estimate the willingness to pay to avoid walking with cash an extra kilometer and to avoid storing money at home for an extra day to be 1.1% and 1% of an average transaction, respectively. We propose a Pareto superior price discrimination scheme where cash-out fees that follow a transfer are set to zero, while otherwise cash-out fees are set a bit below transfer fees.

2 - Informational Shocks and the Effects of Physician Detailing

Bradley Shapiro, University of Chicago, Chicago, IL, Bradley.Shapiro@chicagobooth.edu

The effects of pharmaceutical advertising to physicians, or detailing, is a major area of interest for both regulators and firms. As billions of dollars are spent on detailing, understanding its effect is crucial to profit maximization. Regulators worry that detailing is illegally focused on off-label prescribing or distorts spending to expensive drugs. Finding exogenous variation to estimate effects is difficult, as sales reps determine their own details to maximize incentive-based bonuses which should be correlated with the underlying responsiveness of the physicians to detailing. Further, data limitations have previously kept the content of detailing and its effects as a black box. I estimate the effect of detailing in the anti-psychotic category using two studies that disseminated information that changed the nature of competition, providing good news for two products- one generic and one brand. These large information revelations led to large advertising responses of the branded firm of sales reps to physicians who had previously not been detailed before and left detailing to specialists and frequently visited physicians largely unchanged. I use this variation and physician level data to estimate the causal effect of detailing and how that effect varies based on the content of the detail. Detailing effects are significant, though smaller than has been found in previous literature, with the average effect of a visit being to increase prescriptions by 0.06. Most of this effect can be attributed to on-label prescribing. Visits that included the presentation of a clinical study were fifteen times as effective than those that did not and visits that included a meal were four times as effective as those that did not. Applications to structural models are discussed.

3 - Value of Search Aggregators

Anita Rao, University of Chicago, Chicago, IL, Anita.Rao@chicagobooth.edu, Selin Akca

Search aggregators like Kayak, Orbitz and Expedia add value to consumers by providing a comprehensive list of available options (e.g. all airline routes that serve a given origin-destination pair along with their schedules and price). Consumers often use aggregator websites to find their best match but then book directly on the individual website, for which the aggregator receives no payment. In the absence of an aggregator, a consumer would have to search multiple airline websites and a firm might not get as many transactions. We aim to quantify the value that search aggregators give consumers and individual websites by utilizing a unique feature of the airline industry – Southwest airlines is not part of any aggregator. Consumers with Southwest in their consideration set have to make an extra search to get a comprehensive list: this feature enables us to quantify the value-add that aggregators give consumers as well as individual airline companies.

4 - Intra-Firm Variation in Bargaining Outcomes

Pranav Jindal, Penn State University, 479 Business Building, University Park, PA, 16802, United States of America, pranav.jindal@psu.edu, Peter Newberry

Prices are often negotiated in B2B and B2C contexts. These negotiations crucially depend on the key account manager or the sales representative a downstream firm or consumer interacts with. This paper studies the effect of heterogeneity among sales representatives in determining bargaining outcomes. Using data on sales of home appliances at a large retailer, we find that heterogeneity in sales reps is more important than consumer heterogeneity in explaining negotiation outcomes. Further, after accounting for consumer heterogeneity, the relative bargaining power of the sales representatives varies between 0.2 and 0.8. Utilizing a demand model, we focus on how retailer profits change if the sales representatives are better trained, or strategically allocated to consumers.

5 - Robust New Product Pricing

Kanishka Misra, University of Michigan, 701 Tappan St, Ann Arbor, MI, 48109, United States of America, kanishka@umich.edu, Benjamin Handel

We study the pricing decision for a monopolist launching a new innovation. At the time of launch, we assume that the monopolist has incomplete information about the true demand curve. Despite the lack of objective information the firm must set a retail price to maximize total profits. To model this environment, we develop a novel two-period non-Bayesian framework, where the monopolist sets the price in each period based only on a non-parametric set of all feasible demand curves. Optimal prices are dynamic as prices in any period allow the firm to learn about demand and improve future pricing decisions. Our main results show that the direction of dynamic introductory prices (versus static) depends on the type of heterogeneity in the market. We find the following: (1) When consumers have homogeneous preferences, introductory dynamic price is higher than the static price; (2) When consumers have heterogeneous preferences and the monopolist has no ex-ante information, the introductory dynamic price is the same as the static price; and, (3) When consumers have heterogeneous preferences and the monopolist has ex-ante information, the introductory dynamic price is lower than the static price. Further, the degree of this initial reduction increases with the amount of heterogeneity in ex-ante information.

Friday, 1:30pm - 3:00pm

■ FC01

01-Third Floor, GB 1

Brands I

Contributed Session

Chair: Qi Sun, Assistant Professor, Shanghai University of Finance and Economics, 777 Guoding Road, Shanghai, 200433, China, sun.qi@mail.shufe.edu.cn

1 - The DNA of Healthy Brands in Education Industry: What is their Perceived Brand Image

Abas Mirzaei, Doctor, Macquarie University, Balaclava Road, 2109, Sydney, NS, 2109, Australia, abas.mirzaei@mq.edu.au, David Gray, Helen (Elham) Siuki

Savvy customers, intense competition, advances in technology, and so many other influences have been resulted in a much more challenging and competitive marketplace. Regardless of being for profit or non for profit, companies must face the challenges and adapt their strategies accordingly in order to stay relevant and healthy. Branding as an effective strategy to communicate with customers and create competitive advantage has been applied over the years in a variety of different industries and in recent years in education sector. Education as a global business sector has gone beyond the local borders, and universities around the world are competing to recruit more international students, and to experience a sustained growth which guarantees their brand health. Despite the importance of brand building strategies, the question of how brand image and meaning is perceived in higher education still remains unclear. In this study we first apply a new objective measure of brand health to evaluate the extent to which brands are healthy or unhealthy. We then examine how healthy brands are perceived compared to unhealthy brands. Employing the content analysis technique, we use two university review websites that contain international students view about different universities, to examine the perceived brand image across healthy and unhealthy brands. Finally we develop effective strategies for healthy and unhealthy brands considering their perceived brand image.

2 - The Effects of Product Design on Demand and Marketing Effectiveness: The Role of Segment Prototypicality and Brand Consistency

Yan Liu, Assistant Professor, Texas A&M University, 4112 TAMU, 220 Wehner Building, College Station, TX, 77843-4112, United States of America, yliu@mays.tamu.edu,
Subramanian Balachander, Haipeng Chen, Jiaoyang Li

Physical appearance of product is difficult to quantify and therefore its impact on demand has not been studied in the classic consumer choice models. In this study, we adopt a morphing technique recently developed in the behavioral literature to measure design features and investigate their effects on demand as well as the effectiveness of marketing. We focus on two objective measures of design: segment prototypicality (SP) and brand consistency (BC), defined respectively as the degree to which a product resembles the typical design in its product segment and brand portfolio. Using a random-coefficient logit model, we analyze a unique, large dataset consisting of 202 car models from 33 brands sold in the U.S. from 2003 to 2010. We find that market share is an inverted-U shaped function of both SP and BC. In addition, SP intensifies price sensitivity whereas BC muffles it. In the meantime, advertising is more effective for cars with a brand-consistent design. Three counterfactual studies illustrate substantial gains in profits when firms leverage these findings to adjust design and marketing activities.

3 - Cross-Category Indulgence: Why Do Some Premium Brands Grow During Recession?

Sergio Meza, Assistant Professor, University of Guelph, 50 Stone Road, Guelph, Canada, smeza@uoguelph.ca, Tanya Mark, Jan Bulla, Colette Southam

Reports about luxury categories and premium brands growing during recession are multiple. This marketplace behavior, however, is counterintuitive to what traditional economics would predict. The authors propose and test a theory to explain why demand for premium brands may grow despite a contraction in the economy. They define cross-category indulgence as the strategy of moving across categories (in contrast to moving within category) to satisfy the desire to indulge while dealing with budgetary constraints. The authors first test this theory with a simplified analytical model and then validate it empirically using a unique dataset that compares dining in with dining out. They find support for cross-category indulgence, and rule out other possible explanations for the increase in demand for a premium brand. The authors discuss that premium brand managers that understand this marketplace behavior and create opportunities for their brand to be the leader in their category may experience an increase in demand even during a recession.

4 - Brand Name Types and Consumer Demand: Evidence from China's Automobile Market

Qi Sun, Assistant Professor, Shanghai University of Finance and Economics, 777 Guoding Road, Shanghai, 200433, China, sun.qi@mail.shufe.edu.cn, Fang Wu, Shanjun Li, Rajdeep Grewal

Although the names of brands are among their most valuable elements, the impact of organizational brand-naming decisions on product sales remains largely unexplored. In this research, we investigate the impact of one element of brand names, i.e., brand name type, on sales. With data from the automobile market in China, we develop and use a discrete choice model for differentiated products to investigate the impacts of brand name types on consumer demand from phonetic-semantic and foreign-domestic perspectives. Following the literature, we categorize brand name types for the automobile market in China into four types: abstract, phonetic, phonosemantic, and semantic names. We find significant impacts of brand name type on sales: Chinese consumers on average most prefer vehicle models with semantic brand names (10% more sales than abstract brand names) but least prefer phonosemantic ones (7% less sales than abstract brand names). We also find that the influence of brand names on sales varies across country-of-origin of models, customer segments, and consumer groups: Chinese consumers (1) have highest preference for semantic brand names among domestic models but lowest preference for semantic brand names among foreign brands; (2) highest preference for semantic brand names among non-luxury vehicle models but lowest preference for semantic brand names among luxury vehicle models; and (3) have increased preference for phonetic and phonosemantic brand names as their affluence increases.

FC02

02-Third Floor, GB 2

Competition I

Contributed Session

Chair: Yi Wang, Research Associate, Emory University, 3600 Kaliste Saloom Road, Apt. 422, Lafayette, LA, 70508, United States of America, wy817emoryphd@gmail.com

1 - Dynamics of Consumer Demand for Proprietary Software in the Presence of Open Source Software

Yi Wang, Research Associate, Emory University, 3600 Kaliste Saloom Road, Apt. 422, Lafayette, LA, 70508, United States of America, wy817emoryphd@gmail.com, Abhishek Kathuria, Benn Konsynski

Over the last two decades, the software industry has witnessed the outstanding growth and adoption of the Open Source Software (OSS). Industry analysts claim that the market share of Proprietary Software (PS) has been shrinking because of the competitive pressure from OSS. Nevertheless, many PS vendors, such as IBM,

Oracle, etc., are surprisingly active participants in OSS development and community, which could be particularly instrumental in helping their PS sales. Therefore, it remains largely unclear as to the net impact of OSS entry on the demand for PS. The resolution to this central tension in the extant literature has immense theoretical implications for the research on competitive rivalry as well as managerial implications for PS vendors regarding their product and pricing strategies. To the best of our knowledge, this study provides a first empirical investigation to fill this lacuna in the current literature. We draw on the market cannibalization-expansion theory in the literature of competitive rivalry entry, and argue that the net impact of OSS entry on the demand of PS depends on the dynamic interaction of these two countervailing forces. We are particularly interested in (1) how the impact of OSS entry on the demand for PS varies across different software categories, and (2) how consumer heterogeneity differs across different software categories. In order to address our research questions, a unique and comprehensive dataset is gathered, consisting of the market level data of the entire software population from 1995 to 2010 with approximately 100,000 PS software and 130,000 OSS software. We follow Gowrisankaran and Rysman (2012) and propose a dynamic model of demand for differentiated products to quantify the effect. Our preliminary results reveal that the entry of OSS does hurt the demand of PS in some software categories, such as Multimedia, Security, but not others, such as Office Suite, Communication. We suggest several underlying mechanisms through which the growth-driving effect of OSS entry on PS could be realized, i.e., excessive switching costs, OSS entry captures consumer segments untapped by PS, and OSS entry expands demand for PS through sampling effect.

2 - Generating Competitive Intelligence with Limited Information: A Case of Telecommunications Industry

Insu Park, Doctoral Student, Georgia State University, 3348 Peachtree Road, NE, Tower Place 200, Suite 204, Atlanta, GA, 30326, United States of America, ipark8@gsu.edu, V. Kumar, Alok Saboo

Competitive intelligence is a critical component in developing and implementing organizational strategies. Whereas firms may easily obtain aggregate market level competitive information, resource allocation decisions need to be made at individual product-market level. Firms face significant challenges in acquiring detailed information about their competitors across various products and geographic markets. Literature on market orientation that touts competitor orientation as a critical component fails to provide a systematic approach of generating competitive intelligence using limited information available to managers. To address this gap, we build on the literature on goal programming to develop and implement a systematic approach to generate competitive intelligence at product-market level that can be updated continuously as new information becomes available. We frame the problem of generating competitive insights as a matrix balancing problem, where the matrix represents the market structure with products, markets, and competitors as the dimensions of the matrix, and develop a decision support system for firms to generate and update the product-market matrix over time. We use data from variety of sources such as internal data, consumer surveys, industry reports, and annual reports to develop a set of linear restrictions and use a mathematical programming approach to update the product-market matrix. We demonstrate the proposed approach using data from a large telecommunication firm that operates across multiple products and geographies, and competes with different competitors across these markets. The proposed approach can be easily extended to other industries or market situations.

3 - Competitive Reactions to Personal Selling: The Difference between Strategic and Tactical Actions

Niels Holtrop, University of Groningen, P.O. Box 800, Groningen, Netherlands, n.holtrop@rug.nl, Jaap Wieringa, Maarten Gijsenberg, Philip Stern

A returning question facing firms and managers is if and how to react to competitive attacks. While prior research defined competitive attacks homogeneously, this article distinguishes between strategic and tactical actions initiated by competitors. We study these actions in the setting of personal selling, whose division of decision making between upper- and lower-management is uniquely suited to identify these actions. By relating sales force activity to sales using time series methods, we find significant differences between both action types. In particular, we find that strategic actions lead to stronger short- and long-term reactions due to the higher firm commitment signaled by these actions. Second, we find that while the decision to react to competing strategic actions is always sound, this is not the case for tactical actions. For the latter, in 43% of the cases of retaliation and 59% of the accommodation cases reactions are unwarranted. Improving lower management training and providing additional decision support could help improve this decision making process. Finally, we show that responses to strategic actions are mainly driven by firm performance and marketing effectiveness drivers, while tactical actions are driven by the desire to achieve immediate sales goals. This leads to different reactions to the same situation depending on the firm level at which the decision to react is made. These findings show that firms should evaluate lower-level management less on immediate sales goals, and stimulate their long-term value orientation.

■ FC03

03-Third Floor, GB 3

Consumer Behavior VI

Contributed Session

Chair: Jose Domingo Mora, Assistant Professor of Marketing, University of Massachusetts-Dartmouth, 285 Old Westport Rd., Charlton College of Business, North Dartmouth, MA, 02747, United States of America, jmora@umassd.edu

1 - Social Network-Based Aesthetic Style Recommendation System for Personalized Retail

Yusan Lin, PhD Candidate, Penn State University, 301D Grubb, White Course Apartments, University Park, PA, 16802, United States of America, yusan@psu.edu

Personalized retailers have grown to become the new form of online shopping. They claim to recommend more customized products to the consumers based on consumers' preferences they learned from surveys. Since large amount of recommendation systems are already designed based on users' activity logs and Collaborative Filtering, such as Amazon.com, the purely survey- and content-based approach is no longer satisfactory due to the two reasons: (1) the amount of data gathered from survey is small and design of surveys can highly affect the results, and (2) the duration of waiting for users' feedback is too long to improve the learning quickly. These reasons together create the well-known cold-start problem in recommendation systems. Another challenge makes recommendation in personalized retailers more difficult is the nature of their products. They tend to be apparels, which are way harder to capture compared to general products online. What is more, personalized retailers also suffer from striking a balance between concise surveys that do not obtain enough information about consumers, and tedious surveys that consumers are not willing to fill out. We therefore see the potential of linking the systems to external social networks that update frequently, and learn from those rich and dynamic data. In this work, we focus on learning consumers' aesthetic tastes in apparel. We propose a framework and a probabilistic generative model of users' tastes in styles and a stylist's behavior via text mining and social network learning with a big data approach. Lookbook.nu serves as our major data source, which owns 1.6 million users. We compare our approach to the traditional recommendation systems, and show that our recommendation systems do well in recommending aesthetic styles.

2 - Reciprocity as the Mechanism of Diffusion through Social Network

Hui Cen, The Chinese University of Hong Kong, Department of Marketing, CUHK, Shatin, N.T., Hong Kong, Hong Kong - PRC, huicen@baf.cuhk.edu.hk, Chu Dang, Yixiang Xu, Yiwei Li

Behavior diffusion has long been a hot topic in various economic and business studies due to its significant role in understanding consumer behavior. Recent studies provide empirical evidence of peer influence through social networks. However, the mechanism underlying the diffusion process is still not clear. Our recent study reveals that reciprocity within networks may be a reasonable explanation. First, we build up a game theoretic framework to illustrate reciprocity within networks and construct the analytical analysis. Second, we carry out empirical analysis on the diffusion of packets-issuing behavior using a case study of 'grabbing red packets' during Chinese Lunar New Year, which is operated by Tencent Corporation. We use several econometric models to confirm the main prediction of our analysis. After controlling the opinion leaderships and accumulation of social capital we still find the effect of reciprocity is quite robust. Moreover, we also notice that the mechanism of reciprocity is correlated with some hedonic and utilitarian motivations.

3 - Finding Political Network Bridges on Facebook

Nasri Messarra, PhD Student, Université de Montpellier, Rue Vendémiaire, B.t. B CS 19519, Montpellier, 34960, France, nasri@messarra.com, Anne Mione

An impressive literature exists about political campaigns on online social networks (Berinsky, 2012; Carpini & Williams, 2001; Finke & Harris, 2012; Huang, 2013; Mercanti-Guerin, 2010; Ratkiewicz, Conover, & Meiss, 2011). This literature addresses questions related to the diffusion of information, the spreading of rumors, political marketing and political influence. Politicians, on online social networks, seem to focus on the number of fans, real or fake (Julian, 2013a, 2013b), and the diffusion of messages and rumors via WoM to the largest number of people. Yet, many scholars agree that WoM and influence is about the carrier of the message (Valente & Myers, 2010) as an influencer (Liu-Thompkins, 2012) or as an easily influenced person, as well as his position in the network (Watts & Dodds, 2007). The role of bridges linking different groups in a network, their importance and their role as weak ties has been thoroughly discussed in scientific literature (Friedkin, 1980; Granovetter, 1983; Perry-Smith & Shalley, 2003). In this paper, we ask ourselves if it would be possible to determine a set of bridges between different antagonistic political networks using a set of Facebook profiles. We combine a set of real and fake Facebook profiles for the March 8 movement (pro-Iran), the March 14 (pro-West) and an independent politician (15,344 nodes and 341,345 edges) and show that it is possible to find the bridges between those networks and their weight and position in the larger network encompassing the three political groups.

4 - Conformity and Conflict Management as Drivers of Variety-Seeking in True Group Consumption

Jose Domingo Mora, Assistant Professor of Marketing, University of Massachusetts-Dartmouth, 285 Old Westport Rd., Charlton College of Business, North Dartmouth, MA, 02747, United States of America, jmora@umassd.edu

Research on group variety seeking is sparse and limited to situations where the "group" is a social background against which consumers make individual decisions (Ariely and Levav, 2000; Ratner and Kahn, 2002; Quester and Stayer, 2010). True group decisions involve products that are jointly consumed, or co-consumed, in which case choice and consumption become actual group tasks. Co-consumption is frequent in experiential products such as entertainment, theatrical movies, live performances and family vacations. We investigate solo and coconsumption of television programs on people meter data utilizing a random coefficients model that predicts unobserved utility of variety seeking (UVS) measured as number of channels watched. As expected, we find that groups enjoy variety more than solo consumers, and that group size is a major driver of UVS. Furthermore, groups of three and four co-consumers show identical contributions to UVS which, at the same time, are remarkably invariant over households. In contrast, the heterogeneity of the UVS estimates over households is substantial for both solo consumers and groups of two and five co-consumers. This is consistent with a concave response of conformity to group size, which is supported by a drop in heterogeneity when the joint presence of moms and dads is accounted for. Based on the literature on family communication patterns, we predict and find as well that socio-economic status affects UVS, thus supporting the use of variety-seeking by co-consumers as a conflict management tool.

■ FC04

04-Third Floor, GB 4

New Product II

Contributed Session

Chair: Gerard Tellis, Professor, Director, Neely Chair, Marshall School of Business - University of Southern California, 3670 Trousdale Parkway, Los Angeles, CA, United States of America, tellis@usc.edu

1 - Crowdsourcing Ideas for Innovations: Role of Prior Quality, Productivity, and Social Learning

Gerard Tellis, Professor, Director, Neely Chair, Marshall School of Business - University of Southern California, 3670 Trousdale Parkway, Los Angeles, CA, United States of America, tellis@usc.edu

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 good quality ideas. We test for five such characteristics, prior quality of submitted ideas, cumulative productivity, productivity per day, social learning, and time in contest. Our data comes from 10 crowdsourcing competitions conducted for large corporations. Most importantly, prior quality is positively related to current quality. This result suggests that talent rather than fixation is an important driver of ideators' performance, contrary to some recent research. Productivity, measured by cumulative number of prior ideas, is positively related to idea quality; so is productivity, measured as number of ideas per day. However, when the latter is interacted with prior quality, the main effect loses its significance, but the interaction term does not. This result indicates that productivity per day is important for talented but not other ideators. Social learning has a positive effect on idea quality. The number of ideas submitted increases steeply with approaching deadline.

2 - The Dynamics of Market Emergence: Content Analysis of the Social Shared Knowledge and Process

Akihiro Nishimoto, Kwansai Gakuin University, 1-155, Ichiban-cyo, Uegahara, Nishinomiya, 662-8501, Japan, anishimoto@kwansai.ac.jp, Sotaro Katsumata

This research investigates the dynamics of market emergence and development. Since the earliest days of marketing as a distinct field of study, the "market" has been one of its central concepts (cf. Buzzell 1999). However, as many previous papers have indicated, the mechanism that a market is created isn't settled for a long time. Although product life cycle is one of the most famous theories, it has been pointed out that evidence for the arguments is contradictory, and the concept itself is more a metaphor than an empirically grounded theoretical construct (cf. Gardner 1987). For the above issue, we propose the hybrid approach which investigates the dynamics of market creation. One is sociocognitive view. This approach analyzes the market as socially constructed knowledge structure. On the concept, it focuses on the sense-making between marketer and consumer. The other is new institutional approach which considers the market as social process. Therefore, it pays attention to the legitimization among multiple stakeholders. For the purpose, we selected the smartphone as a subject. And we collected the newspaper articles for 8 years and the some diffusion rates from the different data sources. Then, we estimated the diffusion rate of smartphone including the different information by hierarchical Bass diffusion model. And we verified the dynamic processes between the change in the expression and market structuring. As the results, there are some positive and negative causality on this phenomenon. We will show such dynamics of market emergence and development in the presentation.

3 - Harbinger of Failure: Why do they Signal Product Failure?

Chaoqun Chen, Northwestern University, 2001 Sheridan Rd, Rm 494 Leverone Hall, Evanston, IL, 60208, United States of America, c-chen@kellogg.northwestern.edu

We find that some customers consistently purchase new products that eventually fail. The purchase from these consumers strongly predicts product failure. We also explore why these customers, whom we call harbingers of failure, have predictive power. We distinguish passive and active roles that harbingers play in predicting product winners or losers. In the former case, harbingers purchases send signal about the mass market, including their preference, search intensity, personal innovativeness, and variety-seeking tendency. In the latter case, consumers play the active role of persuading others through word-of-mouth (WOM) or other social platform. Harbingers may not generate enough positive WOM that facilitates momentum of product success. We contribute to the literature on lead users and new product forecasting by disentangling the two roles. The insights from this research can be incorporated into new product development processes.

4 - How Inefficient are Markets for Technology?

Manuel Hermosilla, Assistant Professor, Johns Hopkins University, 100 International Dr, Baltimore, MD, 21201, United States of America, mh@jhu.edu, Yufei Wu

A number of studies argue that transaction costs introduce inefficiencies in Markets for Technology by precluding valuable cooperation between firms. We argue that this evidence may overemphasize the importance of transaction costs by neglecting the possibility that failed cooperation could in large part be driven by small gains. This view is supported by our analysis of the impact of the Medicare part D program on the extent of licensing-based cooperation in the pharmaceutical industry. This program increased downstream consumer demand for selected treatments, causing a surge in the licensing of compounds targeting them. Theoretically, such response is only justified if transaction costs are large enough with respect to the value of cooperation. We show that the surge in licensing focused exclusively among the 25% of compounds for which cooperation was relatively less valuable, suggesting that transaction costs do not preclude cooperation for the 75% compounds for which cooperation is most valuable.

FC05

05-Third Floor, GB 7

Working Paper XVI

Contributed Session

Chair: Chu Wang, PhD Candidate, Macquarie University, Balaclava Road, North Ryde, Sydney, 2109, Australia, clairewang131@hotmail.com

1 - Modeling Multimodal Continuous Heterogeneity in Conjoint Analysis - A Sparse Learning Approach

Yupeng Chen, PhD student, Marketing Department, The Wharton School, The University of Pennsylvania, 700 Jon M. Huntsman Hall, 3730 Walnut Street, Philadelphia, PA, 19104, United States of America, yupengc@wharton.upenn.edu, Garud Iyengar, Raghuram Iyengar

Consumers' heterogeneous preferences can often be represented using a multimodal continuous heterogeneity (MCH) distribution. One interpretation of MCH is that the consumer population consists of a few distinct segments, each of which contains a heterogeneous sub-population. Modeling of MCH raises considerable challenges as both across- and within-segment heterogeneity need to be accounted for. We propose an innovative sparse learning approach for modeling MCH and apply it to conjoint analysis where adequate modeling of consumer heterogeneity is critical. The sparse learning approach models MCH via a two-stage divide-and-conquer framework, in which we first decompose the consumer population by recovering a set of candidate segmentations using structured sparsity modeling, and then use each candidate segmentation to develop a set of individual-level representations of MCH. We select the optimal individual-level representation of MCH and the corresponding optimal candidate segmentation using cross-validation. Two notable features of our approach are that it accommodates both across- and within-segment heterogeneity and endogenously imposes an adequate amount of shrinkage to recover the individual-level partworths. We empirically validate the performance of the sparse learning approach using extensive simulation experiments and two empirical conjoint data sets.

2 - What is the Big Deal with Big Data? Organizational Context of the Adoption of Marketing Analytics

Chu Wang, PhD Candidate, Macquarie University, Balaclava Road, North Ryde, Sydney, 2109, Australia, clairewang131@hotmail.com, Mark Gabbott, Scott Ksloew

A large body of research has contributed to the improvement of marketing analytics (Bucklin and Gupta 1999). But how is marketing analytics being diffused to marketers? This paper proposed multilevel models to predict marketers' intention to adopt and use analytics and the actual usage of analytics. The authors adapted analytics characteristics from Rogers' (1995) diffusion theory and used contextual factors including strategic openness, politics and centralization. The study used a sample of 337 questionnaires to test the framework. Results showed that intention to adopt analytics and the actual usage of analytics varied among different organizational contexts, whereas intention to use analytics during post-adoption period did not. The effects of analytics characteristics also varied among different organizational contexts.

FC06

06-Third Floor, GB 8

Decision Neuroscience III (Insights from Health Research)

Cluster: Special Session

Invited Session

Chair: Susan Carnell, Johns Hopkins University, 100 International Dr, Baltimore, MD, 21201, United States of America

1 - Impaired Decision Making in Parkinson's Disease and the Effects of Deep Brain Stimulation

Jason Brandt, Johns Hopkins University, 100 International Dr, Baltimore, MD, 21201, Baltimore, MD, United States of America

Parkinson's disease (PD) is a relatively common neurodegenerative disorder that causes disabling abnormalities of movement, but also alterations in cognition and "driven" behaviors. PD is caused by severe depletion of dopamine-producing neurons, dopamine being the major neurotransmitter implicated in reward and hedonics. Treatment of PD with dopamine replacement medication (levodopa) or dopamine agonists typically improves motor symptoms but frequently results in unwise spending, risk-taking behavior, and other forms of impaired decision-making. Chronic deep brain stimulation (DBS) of the subthalamic nucleus is an adjunctive treatment that can lessen patients' dependence on levodopa. Concerns have been raised that it too can produce impulsivity, risk-taking and other cognitive/behavioral changes that affect decision-making. A pilot study will be described where 15 PD patients on stable DBS treatment were compared to 15 PD patients maintained on medication and 15 neurologically normal persons on three laboratory tasks assessing decision-making with either known or "ambiguous" risks (Game of Dice Task, Deal or No-Deal, and Framing Paradigm). The DBS patients were tested twice: once with stimulation turned on and once with it turned off. Overall, results suggest that PD patients are prone to risk-taking than healthy persons, and those who undergo DBS are more risk-inclined than those who are maintained on medications. However, we found no evidence that electrical stimulation of the DBS contributes to maladaptive decision-making. The strengths and limitations of neuroeconomic models and behavioral tasks for the analysis of cognitive alterations in brain-disordered patients will be discussed.

2 - Food Choice and Obesity: Insights from Neuroimaging Studies

Susan Carnell, Johns Hopkins University, 100 International Dr, Baltimore, MD, 21201, Baltimore, MD, United States of America

Obesity is the cumulative result of a series of 'obesogenic' food choices. For example, an individual who consistently opts for high rather than low energy-density foods, or who seeks out food to provide stress relief, may have a relatively high likelihood of becoming overweight. Likewise, someone who chooses to spend time in fast food restaurants, or who picks larger rather than smaller portions, or who decides to consume a favorite food rather than to engage in other activities, may have higher obesity risk. The terminology is moot – there is a degree of automaticity to eating behavior that might argue against the use of the word 'choice'. But the choice perspective highlights a number of classes of 'event' which one could target to send someone down a healthier weight trajectory. In this talk I will describe what we have learnt from recent studies exploring the neural basis of these food 'events'. I will focus on studies using neuroimaging methods but also highlight key behavioral studies that probe food choice behaviors associated with obesity risk, and shed light on likely neural processes. I will describe studies conducted in the context of obesity research, but also highlight key findings relating to food choice within lean individuals. To finish, I will highlight knowledge gaps, suggest potentially fruitful directions for future research, and discuss the implications of what we already know for obesity interventions.

3 - Leveraging Neural Research in Health to Understand Consumer Behavior:

Dipankar Chakravarti, Johns Hopkins University, Carey Business School, Baltimore, MD, United States of America, dipankar.chakravarti@jhu.edu, Haiyang Yang

Research in health and medicine (e.g., mental health, traumas, etc.) has shed important light on the neural mechanisms underlying a range of human behaviors. We discuss how such insights can be leveraged to expand established theories of consumer decision making in a variety of domains.

FC07

07-Third Floor, GB 9

Pricing II

Contributed Session

Chair: Suman Ann Thomas, Assistant Professor, Indian School of Business, AC2, 2126, Level 1, Gachibowli, AC2, Level 1, 2126, Hyderabad, 500032, India, sumanann@gmail.com

1 - Prosocial Premiums in PWYW Pricing:**A Quasi-Experimental Analysis**

Ranjit Christopher, Doctoral Candidate, Arizona State University, W. P. Carey School of Business Arizona State University, Tempe, AZ., Tempe, AZ, 85281, United States of America, rmagendr@asu.edu, Rajiv Sinha

Pay-What-You-Want (PWYW), a participative pricing scheme where buyers are given complete control over how much to pay for a private good, has gained interest both in the real world and in the academic literature (Kim et al. 2009). Although a purely self-interested consumer can choose to pay nothing, PWYW pricing frequently results in profits as consumers often make payments owing to their social preferences ("prosocial premiums"). Fair minded consumers pay to avoid the disutility arising out of making a payment that they perceive as unfair. As a result, PWYW payments are a function of the consumer perception of a fair price for the product. As consumers take numerous factors such as product quality, memory of past prices, perceived intention of sellers, suggested prices, their reputation, etc. to compute a fair price, managers design the PWYW scheme so as to maximize consumer valuation. In this paper, we propose a copula-based model that estimates prosocial premiums as a function of contextual and managerially controllable variables accounting for both consumer heterogeneity and selectivity. We split the consumers into three groups: the free-riders, those who pay the suggested price, and those who pay their own reservation price; and show that each group responds differently to managerial decision variables (such as promotional material). We validate our model using more than 50,000 payments to a music record label by taking advantage of a series of quasi-experimental events in the rms history.

2 - Optimal Pricing using Business Rules from a Bayesian Perspective

Alan Montgomery, Associate Professor, Carnegie Mellon University, Tepper School of Business, 5000 Forbes Ave, Pittsburgh, PA, 15213, United States of America, alanmontgomery@cmu.edu, Marcel Goic

Business rules play a crucial role in pricing decision making. These rules are meant to capture managerial knowledge about how to make good pricing decisions and often operationalized as constraints on pricing optimization problems. Business rules are similar to heuristics in operations research, marketing and psychology, rules of thumb in management, and inductive bias in computer science. In each of these cases past learning is brought to bear on the current decision making through a rule. The manager's goal is to make a difficult problem more tractable and to improve the decision. The premise of this research is that these rules impart knowledge which can be properly understood as prior information from a Bayesian statistical viewpoint. We claim that current price optimization techniques can be improved through the consistent application of Bayesian decision theory. Specifically we argue for the application of business rules as prior information during model estimation and not after the fact during inference. This Bayesian approach results in better pricing decisions than current approaches, but also pricing decisions that are substantially different.

3 - Delegating Pricing Power to Buyers: An Experimental Investigation

Lucas Stich, Ludwig-Maximilians-Universität München, Geschwister-Scholl-Platz 1, München, Germany, stich@lmu.de, Klaus M. Schmidt, Florentin Krämer, Martin Spann

Pricing is a key challenge in service industries such as hotels, airlines or theaters, where firms face fluctuating demand and large fixed costs for capacity. In response, sophisticated techniques such as yield management have been developed that aim at maximizing revenue or profits by means of price discrimination. Customer-driven pricing mechanisms such as Name Your Own Price (NYOP) and Pay What You Want (PWYW) offer several benefits that can justify their application as an alternative to posted prices, especially in periods of low demand. Their participatory and innovative nature appeals to consumers and can initiate word-of-mouth as well as press coverage thus enabling firms to promote their product to a wider audience. We use a series of laboratory experiments to investigate whether a firm should delegate pricing power to buyers and if so, to what extent (i.e., apply NYOP vs. PWYW). Our design enables us to identify and delineate the causality and strength of the factors driving this result. We explicitly account for the possibility that the application of customer-driven pricing mechanisms can offer additional benefits (e.g., via word-of-mouth) for the seller. We present the effects of buyer and seller characteristics and the competitive environment on important managerial outcome measures such as profits, market penetration and endogenous price discrimination. In addition, we provide insights into the determinants of buyer and seller behavior under both pricing formats, showing that PWYW appeals to social preferences and NYOP to risk attitudes.

4 - Sachet: Package Price-Size Decisions for the Bottom of the Pyramid

Suman Ann Thomas, Assistant Professor, Indian School of Business, AC2, 2126, Level 1, Gachibowli, AC2, Level 1, 2126, Hyderabad, 500032, India, sumanann@gmail.com, Trichy Krishnan

In this paper we look at sachet pricing decisions. In emerging markets, sachets are touted as the instruments to reach out to the bottom of the pyramid consumers. And they are supposed to be higher priced due to the cost of manufacturing as well as managing the same. But contrary to this popular belief, sachets are not always priced at a premium. Through an analytical model we show that in a market where consumers vary widely in income, the pricing will depend upon the difficulty in raising more funds as well as the competitive structure prevalent in the market. We find that the pricing will also depend upon the perceived quality of the product as well. We support our findings through an empirical model using data from an emerging market.

FC08

08-Third Floor, GB 10

Behavior Game/IO

Contributed Session

Chair: Sung Ham, Assistant Professor, George Washington University, 2201 G Street NW, School of Business, Washington, DC, 20052, United States of America, sungham@gwu.edu

1 - Is it really "Dumb" to be Dumber? Competitive Analysis of Hierarchically Strategic Firms

Zuhui Xiao, University of Minnesota, 3-150 CSOM, University of Minnesota, 321 - 19th Avenue South, Minneapolis, MN, 55455, United States of America, xiaox169@umn.edu, Tony Haitao Cui

Research has suggested that managers may have different levels of strategic reasoning capabilities. Some firms are able to make more strategic decisions and obtain higher profits while others make less strategic decisions and earn lower profit. Incorporating hierarchical strategic capabilities into a duopoly model, we find that a less strategic firm may benefit from its limited strategic capability when competing with a more strategic firm. We also find that a less strategic firm can benefit more from its decisions than a strategic firm can, although the strategic firm can respond specifically towards the less strategic firm's decisions but not vice versa. Interestingly, our analysis also shows that playing smart may not always be the equilibrium strategy for all firms. Lab experiments provides empirical supports for key theoretical predictions.

2 - Conflict of Interest and Market Structure in Multiplayer Games

Sung Ham, Assistant Professor, George Washington University, 2201 G Street NW, School of Business, Washington, DC, 20052, United States of America, sungham@gwu.edu, Noah Lim, Jiabin Wu

When a firm serves customers who compete with one another, a conflict of interest may arise. We develop a multi-player game where firms serve competing customers, and examine how the market structure faced by the firms impacts the extent to which conflicts of interest affect behavior. We test our theory using an incentive-aligned experiment and find that the decisions are consistent with the model predictions.

3 - Understanding Sellers' Marketing Tools Adoption in Online Marketplace

Botao Yang, University of Southern California, 3660 Trousdale Parkway, ACC 306E, Los Angeles, CA, 90089, United States of America, botao.yang@marshall.usc.edu, Sha Yang, Shantanu Dutta

In this paper, we study online sellers' adoption decisions on two major marketing tools provided by a large e-commerce platform. We study two important aspects of how sellers make decisions on which marketing tool(s) to use: strategic interaction among sellers, and spillover effect among marketing tools. To capture the competition among sellers, we adapt the cognitive hierarchy framework by modeling sellers' different abilities in correctly predicting competitor actions. To capture any spillover among marketing tools, we specify the joint payoff from a bundle of marketing tools in a structural way to reflect their inherent relationship with the payoff associated with each marketing tool separately. Our panel data allows us to separately identify the competition effect and the level of strategic ability, and separately identify the spillover effect and the correlated idiosyncratic shocks. Our estimation results show that sellers in general tend to differentiate from each other in choosing which marketing tools to use. We also find that strategic thinking level has a positive correlation with seller rating and there is a negative spillover from adopting the two marketing tools. The counterfactual results suggest that an increase in strategic ability would slow the diffusion of marketing tools. The platform could make competition information less available to individual sellers and focus on attracting new novice sellers in order to increase adoption and profitability.

■ FC09

09-Third Floor, Dover AB

New Trends in Structural Modeling in Marketing II

Cluster: Special Session

Invited Session

Chair: Bryan Bollinger, Duke University, bryan.bollinger@duke.edu

1 - The Monetization of Altruism on a Two-Sided Micro-Finance Platform: The Case of Kiva

Bryan Bollinger, Duke University, bryan.bollinger@duke.edu

We present a model of field partner lending incentives and demonstrate that, although the presence of Kiva opens up loans to a greater set of customers, field partners have the incentive to increase interest rates, sometimes by huge amounts. Especially because Kiva lenders are lending as an act of altruism, they are less concerned with the higher default rates that come with higher interest rates. Competition between field partners and easier access to capital through other channels can mitigate the incentive for field partners to substantially increase rates for loans that they can refinance through Kiva. However, an alternative repayment mechanism would eliminate this incentive entirely.

2 - Estimating Price Elasticities from Search Data

Stephan Seiler, Assistant Professor of Marketing, Stanford University, Stanford University, Stanford, CA, 94305, United States of America, sseiler@stanford.edu

We propose a novel approach to estimate cross-price elasticities from data on consumer search behavior. Contrary to commonly used approaches which rely on choice data, our approach is easy to implement and has low data requirements. We do not require exogenous price variation, nor in fact any variation in (or data on) prices. Based on consumer search data, we compute the frequency of co-occurrence of product pairs in consumers' search-spells. We show that this joint-search propensity can be used to rank products by their cross-price elasticities. Under certain conditions we are able to invert the search-data directly into price elasticities. We present empirical evidence from various markets to illustrate how the approach can be applied in practice.

3 - Retailer Benefits of Subcategory Expansion under Private Brand Entry Constraints

Mitchell Lovett, University of Rochester, 3-221 Carol Simon Hall, Rochester, NY, 14627, United States of America, mitch.lovett@simon.rochester.edu, Pianpian Kong, Paul Ellickson

Private brands continue to be a force in U.S. grocery retailing, but the strategies retailers take with these brands differ markedly. We study private brands in the coffee category examining over 60 different retailers and markets. We document heterogeneity in the merchandising strategies and brand strength. We find that merchandising strategies vary meaningfully and so do brand strengths. We also examine within a retailer's line of private coffee brands the differences across subcategories of coffee - main, premium, and instant. We then consider how these private brands were influenced by a major change in the category - the large growth in a new subcategory, single-cup coffee. Single-cup coffee in grocery stores was heavily dominated by cups for the Keurig system. First, we examine how this system affected retailers broadly. Using counterfactual analyses, we examine how much the retailers lost (or gained) due to the expansion of the single-cup. We find substantial geographic patterns that relate to the roll-out of the Keurig system and that on average retailers gained due to the category expanding nature of this subcategory. However, the Keurig system was patented and retailers were constrained from entering with private brands because the patent holder restricted technology licensing. We examine how much potential is lost due to these constraints under various entry scenarios. We present how this varies by geography, retailer demographics, and existing private brand positions in the category.

4 - Dynamic Pricing and Versioning of Products in Durable Goods Markets

Vineet Kumar, Assistant Professor, Yale University, 165 Whitney Avenue, New Haven, CT, 06520, United States of America, vineet.kumar@yale.edu, Tim Derdenger

We study the dynamic pricing strategies of a durable goods monopolist with forward looking consumers. We model a monopolist who has multiple potential versions of the product introduced sequentially has to determine the dynamic price trajectory for each product over time. In a setting with indirect network externalities, there are additional incentives to both price lower to introduce consumers to the ecosystem, but also extract surplus with a new product version. We use data from the handheld video game market to quantify and illustrate these effects, examining how the degree of network externality impacts the monopolist's optimal price trajectory. In a counterfactual, we also consider how the monopolist would strategically decide the timing of new product introduction, accounting for the above effects.

5 - How do Tweets Enhance Sales

Song Yao, Northwestern University, 2001 Sheridan Road, Evanston, IL, 60208, United States of America, s-yao@kellogg.northwestern.edu, Stephan Seiler, Wenbo Wang

Tweet and its derivatives have become a standard advertising method for many firms nowadays. However, it remains unclear whether and how tweets affect product sales. Using a large-scale data set that involves demographically diversified markets, we study whether and how tweets on Weibo, Chinese version of Twitter, impact product demand. Taking advantage of a natural experiment in China, we are able to show that the effect of tweets on demand is significant across the diversified markets. We further link the findings to classical

advertising literature to explore the underlying mechanisms through which tweets boost sales. The results are both theoretically and managerially crucial for enhancing our understandings of advertising in general and providing insights on the effectiveness of twitter as a new marketing tool.

■ FC10

10-Third Floor, Dover C

Sales Force II

Contributed Session

Chair: Cong Feng, Syracuse University, 721 University Ave, Syracuse, NY, 13244, United States of America, congfengmkt@gmail.com

1 - Foxes Guarding the Henhouse: Should Sales Managers Participate in Budget Setting?

Rob Waiser, PhD Candidate, University of Toronto, 105 St. George St, Toronto, ON, M2J2X9, Canada, robert.waiser11@rotman.utoronto.ca

Most firms invest substantial resources in budgeting, particularly in the form of time spent by managers and senior executives. However, accounting and managerial researchers have long recognized the propensity of managers to manipulate firm budget-setting processes in order to obtain maximum resources for their own areas or projects. This is not only an inefficient use of managers' and executives' time, but also a threat to firms' profits, due to suboptimal resource allocation. I use the context of sales force incentive compensation design to examine why many firms continue to allow managerial participation in budget setting, despite their heavy investment of resources and the apparent conflict of interest this poses. I offer an explanation based on a model in which a sales manager has private information about the selling environment that is of interest to the firm. I then suggest a budget-setting process that the firm can follow, using the sales manager's participation to reveal her information and ensure the optimal design of the sales force compensation plan. Rather than involving the manager early in the budgeting process, as many firms do, the suggested process begins with the firm setting a restrictive budget, then puts the onus on the manager to justify increasing it. Finally, I outline the conditions under which employing such a process is not only feasible, but optimal relative to prohibiting managerial participation.

2 - Pacer Incentives with Over-Achievement Bonus:**A Concoction for Instilling Discipline in Sales Force**

Ashutosh Patil, University of Missouri, Columbia, 342 Cornell Hall, Columbia, MO, 65211, United States of America, arpatil@yahoo.com, Niladri Syam

Our research highlights how Pacer Incentives (PI's), in conjunction with overachievement bonus, instill consistency and discipline in salespeople. PI's are cash bonuses that a salesperson can earn for meeting midway quota/s within the quota period, in addition to their regular cash bonuses for achieving and exceeding their periodic quota. We find that earning only the later PI in a period (for meeting 50% of quota by the 20th of the month) is associated with increased probability of achieving and over-achieving quota in that period, as compared to earning only the early PI that period (for meeting 20% of quota by the 10th of the month). Also, earning both PI's (i.e., the early as well as the later PI) and thereby being disciplined right from the beginning of the period, is associated with higher probability of achieving and overachieving quota in that period, in comparison to simply earning just the later PI in that period. Further, our analysis indicates the presence of state effects wherein earning (not earning) the overachievement bonus in the prior period, is associated with positive (negative) probability of achieving and overachieving quota at the end of the next period. Finally, the interaction between earning overachievement lump sum bonus at the end of the prior period (i.e., state) and earning specific PI's in the next period too is associated with significant probability of overachieving quota in the next period. This interaction had a positive probability only when salespeople had high sales achievements at the end of the prior period (i.e., they had earned overachievement bonus in the prior period), and also earned both the PI's in the next period. All other combinations of state and PI were associated with negative probabilities.

3 - Incentives Versus Reciprocity: Insights from a Field Experiment

Doug J. Chung, Assistant Professor of Business Administration, Harvard Business School, Soldiers Field, Boston, MA, 02163, United States of America, dchung@hbs.edu, Das Narayandas

We conduct a field experiment, varying the salesforce compensation scheme at an Asian enterprise that sells consumer durable goods. With variation generated by the experimental treatments, we model salesforce performance to identify the effectiveness of various forms of conditional and unconditional compensation. We account for salesperson heterogeneity by using a hierarchical Bayesian framework to estimate our model. We find that conditional compensation in the form of quota-bonus incentives increase performance. We find no evidence that there is a difference in effectiveness between a quota-bonus plan and a punitive-bonus plan, framed as a penalty for not achieving quota. We find unconditional compensation to be effective, increasing salesforce performance in the form of reciprocity, only when it is given as a delayed reward. When unconditional compensation is immediate we find that salespeople reduce their performance. We find substantial amount of heterogeneity across salespeople where unconditional compensation is more effective for salespeople with high intrinsic ability whereas conditional compensation is equally effective across all types of salespeople. We find that seasonality influences sales for salespeople with low ability but not so much for those with high ability.

4 - Does Higher Education Matter? An Empirical Study of Sales Performance in an Emerging Market

Cong Feng, Syracuse University, 721 University Ave, Syracuse, NY, 13244, United States of America, congfengmkt@gmail.com, Scott Fay

This study utilizes a unique data set from a leading life insurance company in China to explore the impact of salesperson education level on job performance. Counter-intuitively, our results show that sales performance is, on average, 8.5 percent lower for college graduates than for non-college graduates. A college graduate, however, is about twice as likely as a non-college graduate to be one of the company's top salespersons. The authors demonstrate that this mixed result can be explained by the strong interaction effect between education and experience, that is, college graduates' performance improves more rapidly with job experience than does the performance of non-college graduates. This (positive) moderating effect of experience remains statistically significant even after controlling for unobservable heterogeneity in ability. The authors also explore customers' propensity to cancel a policy and find that salespersons with a college degree have less customer attrition. This study has important implications for firms interested in entering emerging markets.

■ FC11

11-Third Floor, Atlantic

Choice Models V

Contributed Session

Chair: Daniel Zantedeschi, Assistant Professor, Muma College/Univ. of S. Florida, 4202 E Fowler Avenue CIS 1040, Tampa, FL, 33620, United States of America, danielz@usf.edu

1 - Demand Estimation with Non-Constant Stochastic Variance: Theory and Empirical Evidence

Dai Yao, Assistant Professor, National University of Singapore, 15 Kent Ridge Drive, Singapore, 119245, Singapore, dai.yao@nus.edu.sg

The stochastic variance of the errors is generally presumed to be constant and normalized as one to identify the utility parameters in demand estimation. When data used for estimation comes from multiple sources or at different times, there may be systematic temporal dynamics in the environment, which in prior literature are predominantly modeled by a shift in the deterministic component of the utility. This indirect approach postulates that customers automatically adapt to the changing environment, which may not necessarily be the case. In this paper we suggest a direct modeling approach which treats the stochastic variance as non-constant. We characterize the conditions under which this non-constant stochastic variance introduces upward or downward bias in probit models, and we derive closed-form expressions as to the size of the bias if the non-constant stochastic variance is not captured. A series of simulation studies confirm our propositions. Furthermore, our empirical investigations of the car rental business suggest that (1) non-constant variance is not an exception but a norm across different product categories; (2) it can arise from the different timing of purchases for immediate consumption (i.e., made at the rental counter) and for future consumption (i.e., made during the reservation); and (3) change in stochastic variance is more prominent for hedonic goods (e.g., satellite radio) than for utilitarian goods (e.g., GPS device).

2 - How to Generalize from a Hierarchical Model?

Max Pachali, Doctoral Student, Goethe University Frankfurt, Chair of Service Marketing/ Professor Otter, Campus Westend, Grueneburgplatz 1, Frankfurt, 60323, Germany, Max.Pachali@hof.uni-frankfurt.de, Peter Kurz, Thomas Otter

Applications of hierarchical models have become ubiquitous in marketing for making inference from "large N, small T"-data, e.g., household scanner panel data or data from discrete choice experiments. The goal of most of these Hierarchical Bayes (HB) studies is to generalize to a population of consumers in a market for e.g., determining optimal prices or product configurations. Current industry practice represents population preferences by the collection of posterior mean preferences of consumers in the calibration sample, i.e., bases the generalization to the population on point summaries of in-sample consumers' preferences. This representation is preferred to using the hierarchical prior-in practice often a multivariate normal distribution-directly, because the latter may be mis-specified. However, what has not been recognized in this context is that posterior mean preferences of consumers in the calibration sample are systematically biased towards the hierarchical prior mean in "large N, small T" applications. We demonstrate the consequences for product configuration and pricing decisions using simulated data and data from different commercial discrete choice experiments.

3 - Consumer Stockpiling and Demand Complementarity

Ludovic Stourm, Doctoral Student, The Wharton School, 3730 Walnut Street, Suite 700, Philadelphia, PA 19102, United States of America, stourmlu@wharton.upenn.edu, Eric T. Bradlow, Raghuram Iyengar

Previous literature has shown that consumers take advantage of price promotions to buy and store goods in anticipation of a future consumption. While the implications of consumer stockpiling have been well-studied within one product category, little is known about its consequences for related categories. In this paper, we focus on the demand for complementary consumables. Building on evidence that people consume at a faster rate when they have a larger inventory, we suggest that stockpiling one good may lead them to consume more of a complementary good for some time after a promotion. To measure the long-run effect of promotions across complementary categories, we then build a dynamic structural model of individual demand in a way that takes into account stockpiling and flexible consumption. In our model, consumption is endogenous and complementarity arises because consumers enjoy consuming goods jointly. One challenge consists in specifying a consumption utility that yields flexible patterns of complementarity. We tackle this problem by assuming a household production function that allows consumers to take two complementary goods as inputs to produce a final good, from which a higher utility is derived. We show that the overall model yields flexible patterns, and that an alternative specification with interaction terms would be restrictive. We then run a simulation to investigate the implications of our model. We find that ignoring stockpiling may lead one to underestimate cross price elasticities.

4 - An Attribute-Based Non-Compensatory Model of SKU Choice via Generalized Horse-Race Processes

Daniel Zantedeschi, Assistant Professor, Muma College/Univ. of S. Florida, 4202 E Fowler Avenue CIS 1040, Tampa, FL, 33620, United States of America, danielz@usf.edu, Peter Fader

While random utility theory has long been the main paradigm for choice modeling, there is also a rich history of researchers proposing alternative heuristics that may better capture the underlying process from a behavioral perspective. The Elimination by Aspects (EBA) and Preference Tree (PreTree) models of Tversky (1972, 1976) are perhaps the best-known examples. However applications of these have been quite limited (both in frequency and scale) due to the enormous computational burden associated with estimating the intermediate choice probabilities along the unobservable elimination paths. We develop a response-time model for SKU choice based on a generalization of the "horse-race" framework of Marley (1981, 1987). We show that, under a realistic large sample approximation, the estimation of the model can be posed as a straightforward computational task that is roughly equivalent to a constrained multivariate competing-risk model with hidden causes (Tsiatis, 1989). Interestingly, the model nests both the EBA and the PreTree. At the same time, we also consider hierarchical extensions of the basic model, both in the timing and the attribute structure, allowing for the typical flexible specification of standard random utility models. Computational scaling is demonstrated by considering SKU-level data structures of increasing complexity ranging from the classic fabric softener dataset of Fader and Hardie (1996) to a larger dataset arising from the pet-food category in a European country. Further extensions comprising unstructured attribute spaces (such as price and promotion) addressing other managerial applications are also discussed.

■ FC12

12-Third Floor, Bristol

Social Influence I

Contributed Session

Chair: Catherine Tucker, Professor, MIT, 28 Temple St, Belmont, MA, 02478, United States of America, cetucker@mit.edu

1 - Cheering the Underdog: Crowdsourcing and Backers' Need for Uniqueness

Girish Mallapragada, Indiana University, 1309 E Tenth Street, 2119 Hodge Hall, Bloomington, IN, 47405, United States of America, gmallapr@indiana.edu, Vishal Narayan

Crowdsourcing has emerged as a dominant model for harnessing resources from internet users. Among various contexts in which crowdsourcing has been employed, mobilizing monetary funds for developing new ideas, referred to as crowdfunding is gaining momentum. However, very little remains known about what drives the giving behavior of participants on crowdsourcing websites. We propose that connectivity among supporters, i.e., their joint participation in backing past projects may impact the economic outcomes of crowdfunded projects they back subsequently. We collect data on 4000 new crowdfunded projects on the prominent Kickstarter platform, track them for a period of 40 days and estimate the impact of connectivity among backers on the total funding goal of the project by a mixed effects regression model estimated using Bayesian MCMC techniques. After controlling for a variety of project and backer characteristics, we find that backers want to feel unique by giving to project that others are not giving to and furthermore, the projects that do not have prior connectivity among their backers tend to benefit more. Our findings have important implications to how crowdfunded projects should develop their pitch to potential contributors. Also, we provide interesting insights on the behavior of the crowds and show that connectivity among participants may actually hurt the economic success of crowdsourced projects in some contexts.

2 - Peer Influence in the Adoption of Social Games

Joseph Davin, Harvard Business School, 178 Morgan Hall,
Soldiers Field, Boston, MA, 02163, United States of America,
josephgavin@gmail.com, Sunil Gupta, Mikolaj Jan Piskorski

In this presentation, I present a study on peer influence in mobile game adoption. Although peer effects are expected to influence consumer decisions, they are difficult to identify in observational studies due to selection bias: Friends share common characteristics and behave in similar ways even without peer effects. I use a novel approach to estimate unobserved characteristics which endogenously drive tie formation and use the estimates to control for selection, without need for instruments. This is the first paper to use latent space to reduce bias in peer influence estimates. I find that peers account for 27% of mobile game adoptions, and that ignoring latent homophily would bias the estimates by 40%, in line with previous studies. In some samples, ignoring latent homophily can result in overestimation of social effects by over 100%.

3 - Spillovers from Product Failure

Catherine Tucker, Professor, MIT, 28 Temple St, Belmont, MA,
02478, United States of America, cetucker@mit.edu, Amalia Miller

When a firm's product fails to live up to expectations this is often relished by that firm's rivals. We empirically study the own-brand and cross-brand spillovers of product failure. We study comprehensive data on the diffusion of IT systems in the healthcare sector in the US over the past 15 years. We show empirically that for many new technologies the failure of a product can have negative effects for the spread of its competitors products as potential customers make inferences about the attractiveness of the product category as a whole, not just that particular brand. This varies for large potential customers and small potential customers. This emphasizes and explains the importance of 'co-opetition' in the early stages of a technology's life cycle.

4 - Company Accounts on Twitter, Facebook, and LinkedIn: Do They Impact Profitability?

Zihao Wang, Undergraduate Student, College of Business,
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zwang10@uco.edu, Manoshi Samaraweera

In jumping into the social media bandwagon, many companies are creating "company accounts" on Twitter, Facebook, and LinkedIn. Subsequently, the number of Twitter Followers, Facebook Likes, and LinkedIn Followers are taken as popular measures of how well the company account is doing in the given social media platform. However, do the aforementioned metrics impact the profitability of the company? This study seeks to address this important, yet unanswered question. To do so, we monitor the said social media measures for a sample of 100 large public companies (belonging to 68 industries) over several quarters. We then examine whether the number of Twitter Followers, Facebook Likes, and LinkedIn Followers for a given quarter, is related to the profitability (i.e. ROA and ROE) of that quarter. We control for the effects of market cap and number of employees on profitability metrics. Given that we have multiple observations per company (i.e. a nested structure in the data); we use Hierarchical Linear Modeling for our analysis. Thus, the study empirically ascertains whether the performance of a 'company account' on a social media platform impacts its profitability, and moreover, which social media account (Twitter vs. Facebook vs. LinkedIn) has/does not have and impact of profitability. Results will be available to be presented at the conference.

FC13

13- Fourth Floor, Harborside A

Digital Marketing V

Contributed Session

Chair: Scott Dacko, Assoc. Prof. of Marketing and Strategic Mgmt.,
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1 - "Real-Time Marketing":

Why (and How) Do Firms Adopt the Approach?

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Sourindra Banerjee, Atul Agarwal

As the name suggests, real-time marketing is a strategic marketing approach used by a firm that involves flexibly adapting one or more elements of its marketing to current and potential customers in or close to real-time through some form of information technology (Oliver, Rust and Varki, 1998). Twitter, Facebook, LinkedIn, Google+, YouTube and Instagram are just some of the channels used by firms engaging in real-time marketing. This research seeks to understand better and explain: (1) why some firms have opted to use real-time marketing more than others, (2) adoption barriers, and (3) capabilities needed for its effective implementation and the pursuit of a competitive advantage. Toward these aims, this paper establishes and evaluates practitioner views on real-time marketing relative to the academic literature. Specifically, by drawing upon a sample of 136 marketers from primarily UK-based firms spanning 22 industries, motivations for using real-time marketing are identified and the adoption barriers and critical capabilities needed are established and discussed. Findings suggest that firms across multiple industries motivated by an interest in pursuing sustainable competitive advantage based on real-time marketing's ability to deliver relevant and targeted marketing content, increase customer engagement, and strengthen

brand sentiment. Among the barriers is a lack of skilled resources for managing the complexities of real-time marketing. Capabilities needed include that of high speed response and customer targeting. Further research can build on these findings to establish more-detailed relationships between motivations, capabilities, and actual performance outcomes.

2 - Virality and Tweeters: A Network Analysis of Tweeter Influence on Virality –The Case of Kolaveri Di

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The spread of content virality on the Internet has been of increasing interest for practitioners as well as academic researchers (Berger 2013, Teixeira 2012). The focus of this study is to examine how social media, specifically twitter, contributes to the viral propagation of content. We illustrate this in the context of a video on YouTube which went from a standing start to being the most watched video in 2011. The video that we examine is Why This Kolaveri Di (<https://www.youtube.com/watch?v=YR12Z8f1Dh8>) a music video that was uploaded on November 16, 2011 and amassed 16.5 million views by Dec 5, 2011. Within this time, it generated a total number of 96,323 tweets with the hashtag #kolaveridi, and the Twitter platform garnered over 8 million impressions. The video not only received 146,224 likes but was also awarded a gold medal for the most popular video and silver medal for trending. In this study, we focus on how Twitter and some key tweeters may have contributed to the virality of this video. We develop a network analysis where we model the indirect and direct relationships among the tweeters and identify the key influencers who have contributed to the explosive growth of this video. Preliminary results show that different players play a role at different times in the progressive adoption of the content and less obviously it is often not those who have the largest follower base that may have the greatest influence. The framework developed can be applied to other types of video and non-video content.

3 - How to Better Target and Incent Paid Endorsers in Social Advertising Campaigns: A Field Experiment

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We investigate paid endorsement as a crowd-sourcing social advertising mechanism that allows advertisers to bypass publishers (e.g., Facebook) and recruit individual endorsers of their own choice at affordable prices. Specifically, we investigate (i) how incentives affect endorsers' participation and effectiveness and (ii) what types of endorsers are most effective in generating online engagements (likes, comments, and retweets). We conduct a large scale field experiment in which we manipulate exogenously incentives and eligibility to participate. Since likes, comments, and retweets are count variables, and since potential endorsers self-select to participate in paid endorsement tasks, we use a Poisson lognormal model with sample selection to analyze what affects endorsers' willingness to participate and their effectiveness in generating engagements. We find that several variables have different effects on participation and effectiveness. Specifically, 1) monetary reward has positive effect on participation, but no or even negative effects on potential engagements; 2) endorsers who participate in more tasks and who post more on microblogs have a higher probability to participate, but a lower potential to generate engagements; 3) the potential of the same endorser may be different in generating engagements that require different level of efforts from her fans. Our findings suggest that previous studies based on observed engagements may be misleading in assessing the attractiveness of potential endorsers and in deciding which potential endorsers to target. Our findings provide new insights on how marketers can improve the cost-effectiveness of paid endorsement by identifying and incentivizing high potential endorsers.

4 - Monetizing Sharing Traffic through Incentive Design: A Randomized Field Experiment

Tianshu Sun, University of Maryland, 3330 Van Munching Hall,
College Park, MD, 20740-2840, United States of America,
tianshusun@rhsmith.umd.edu, Siva Viswanathan, Elena Zheleva

Customers share product information with each other every day. While the share of a product indicates clear purchase intent of either sender or recipient (or both), most of such 'sharing traffic' does not lead to successful conversions. With increasing availability of data on sharing traffic, as well as the ability to process such data in real time, firms can now monetize the sharing traffic by targeting customers in the share. In this study, we examine whether and how firms can engage customers in the sharing traffic, by providing novel incentives to the senders. In collaboration with an online daily deal platform, we design and implement a large randomized field experiment to identify the effect of incentive design on sender's purchase and referral decision. Specifically, we draw senders who shared deals with friends in the previous day but did not purchase the shared deal themselves; then randomly assign them into one of the five test groups with different incentives (we create different incentives by varying the number of Promo code for sender and her friend, as well as whether the code is shareable or not). The randomization allows us to identify the impact of incentive design on sender's purchase as well as referral behavior. We find evidence that Incentive structure has a significant impact on both outcomes, but in a different way. We further examine the underlying mechanisms, by exploring rich heterogeneity in our data (product type, tie strength, channel/recipients in sender's share). Overall, our study contributes to the literature on social advertising and referral program design.

■ FC14

14- Fourth Floor, Harborside B

Entertainment I

Contributed Session

Chair: Gilles Laurent, Professor, INSEEC Business School, 27, avenue Claude Vellefaux, Paris, 75010, France, glaurant@inseec.com

1 - When It Snows, It Pours: The Effect of Theatrical Attendance on the Demand of Subsequent DVD Release

Patrick Choi, Carnegie Mellon University, 5000 Forbes Ave, Pittsburgh, PA, 15213, United States of America, pakyan@andrew.cmu.edu, Peter Boatwright, Michael Smith

Movies are distributed through multiple channels. For majority of the movies, the timing of theatrical channel precedes those of the home entertainment channels such as DVD sales, DVD rental, video sales. This paper investigates how the consumption of a movie in the theater channel affects the sales in subsequent DVD retail channel. We exploit exogenous variation in events that affect theater attendance in a geographic market, in the form of occurrence of major snowstorms on the theatrical opening weekend or during the week prior to theatrical opening of a movie in United States, to estimate the effect of theater attendance on the sales in subsequent distribution channels. Using the instrumental variables approach, we find empirical evidence that higher (lower) theatrical attendance in a market leads to higher (lower) sales in the movie's subsequent DVD release in the same market, after adjusting for factors that would account for correlation in sales across the two distribution channels. Our finding disputes the conventional wisdom that theatrical channel and home entertainment channels are substitutes.

2 - The Impact of Age on Preferences: Respective Roles of Memory and Emotions

Gilles Laurent, Professor, INSEEC Business School, 27, Avenue Claude Vellefaux, Paris, 75010, France, glaurant@inseec.com, Raphaëlle Lambert-Pandraud, Bernard Gourvenec, Lydie Belaud

Previous research has shown an impact of age on consumer preferences: Older persons are more likely to choose older options (e.g., for cars, perfume, radio stations). This paper compares the mediating roles of memory (is this due to a lower awareness of recent options by older people?) and affect (is it due to older consumers' higher positive emotional reactions to older options?). The data analyzes, in a within-subject approach, the memory of and emotional reactions to movie stars belonging to different generations, as a function of consumers' current age (from 19 to 76) as well as on the age the consumer had when the star became famous. We collect multiple measures of memory (spontaneous citations, recognition of star names, recognition of star photographs, etc.), and we relate them to a Wais-R score of speed of processing. Emotional reactions are assessed by psycho-physiological measures (pupil dilatation, heart rate, skin conductivity, decoding of facial expressions) as well as by more classical attitude measures. After confirming the preference effect (there is a high impact of a consumer's age on the birth year of her or his preferred movie stars), we investigate the correlations among the different measures of emotional reactions to the photographs of 24 stars born at different periods, as well as the correlations among the different measures of star memory. We analyze the interactions between memory and emotional reactions, and compare their mediating roles in the impact of age on preferences.

3 - Impact of Promotional Mobile Application on Target Product: Empirical Evidence from the U.S. Motion

Youseok Lee, Doctoral Student, Seoul National University, #317 Bldg. 58, Seoul National University, Seoul, Korea, Republic of, youseok.lee@gmail.com, Jisu Yi, Sang-Hoon Kim

Smartphones becoming an indispensable part of our lives, major studios in Hollywood frequently introduce promotional applications of the movies at some point before premiere. Movie applications have evolved to full-fledged games utilizing the characters and stories in the movies. In addition, the movies whose game applications diffused successfully tend to hit the jackpot as well. Even though it is evident that the promotional mobile games have positive effects on the success of movies, it is hard to find studies attempting to empirically verify them. The current research proposes that the performance of mobile game applications increase the box office revenue of the original movies. Furthermore, application attributes that may affect consumer's application adoption are found to provide practical implications for designing the promotional tools. This research shows that mobile game applications developed with promotional purpose have positive effects on the performance of target movies. Both time series panel analysis and cross-section analysis confirm this relationship. In spite of the widespread belief that the higher download price and requiring in-app purchases work as hurdles keeping users from downloading the application, the results suggest that those attributes can work inversely among the game applications that are related to the movies. Combining the results of cross-section analyses, the application performance can be interpreted to have a mediating role between application attributes and the movie sales. In other words, developing an application with certain attributes (e.g. price structure, quality) can be helpful to increase the application.

■ FC15

15- Fourth Floor, Essex AB

The Effect of Numerical Markers on Consumer Inferences and Decisions

Cluster: Special Session

Invited Session

Chair: Jared Watson, PhD Student, University of Maryland, 3330 Van Munching Hall, College Park, MD, 20742, United States of America, jwatson@rhsmith.umd.edu

1 - Is a 70% Prediction More Accurate than a 30% Prediction? Inferences about Forecasts and Forecasters from Intuitive Probability Interpretations

Rajesh Bagchi, Virginia Tech, rbagchi@vt.edu, Elise Chandon Ince

Consumers routinely rely on forecasters to make predictions about uncertain events (e.g., sporting contests, stock fluctuations). The authors demonstrate that when forecasts are higher versus lower (e.g., a 70% vs. 30% chance of team A winning a game) consumers infer that the forecaster is more confident in her prediction, has conducted more in-depth analyses, and is more trustworthy. The prediction is also judged as more accurate. This occurs because forecasts are evaluated based on how well they predict the target event occurring (team A winning). Higher forecasts indicate greater likelihood of the target event occurring, and signal a confident analyst, while lower forecasts indicate lower likelihood and lower confidence in the target event occurring. But because, with lower forecasts, consumers still focus on the target event (and not its complement), lower confidence in the target event occurring is erroneously interpreted as the forecaster being less confident in her overall prediction (instead of more confident in the complementary event occurring-team A losing). The authors identify boundary conditions, generalize to other prediction formats, and demonstrate consequences.

2 - The Urgency Bias

Meng Zhu, Assistant Professor, Johns Hopkins University, 100 International Dr, Baltimore, MD, 21202, United States of America, mengzhu@jhu.edu, Yang Yang, Christopher K. Hsee

We argue that people exhibit an urgency bias, preferring urgency over importance. We provide evidence for the urgency bias by employing two sets of simplified games as well as real-life choices. Specifically, we demonstrate that people are more likely to perform unimportant tasks over important tasks when the unimportant tasks are urgent (characterized by short vs. long completion windows), an effect that persists even when normative and motivational reasons such as task difficulty, task interdependence, supply/demand, reward immediacy and goal progress are controlled for. Further, we show that the urgency bias is driven by attention: when deciding which task to work on, people pay more attention to urgent tasks with small payoffs than to important tasks with bigger payoffs yet longer completion windows. Once we appreciate that attention is drawn to urgency rather than importance, we see how this innate propensity can lead to suboptimal consequences beyond what is documented in the current research (i.e., earning lower wages or bonuses). People may sacrifice health, family and other important aspects of their lives in order to focus on less significant activities with shorter completion windows. Our findings also have clear policy implications. Interventions that shift people's attention away from time frames to the final outcomes of everyday tasks should be particularly effective at attenuating the urgency bias, leading us to invest more time and effort in activities that matter most to our wellbeing.

3 - Too Attractive to Pass: A Peculiar Appeal of Shorter Redemption Windows of Daily Deals

Yogesh Joshi, RH Smith School of Business - University of Maryland, College Park, MD, 20742, yjoshi@rhsmith.umd.edu, Anastasiya Pocheptsova

Daily deals, such as those offered on Groupon and LivingSocial websites, are currently widely popular. In the context of such deals, we find that consumers show a suboptimal preference for deals with shorter redemption windows, that is, time periods during which they can use the deals. This finding is in contrast to the rational expectation that consumers would anticipate some uncertainty regarding when they would have an occasion to redeem a particular deal and thus would prefer longer redemption windows. We show that deals with longer (vs. shorter) redemption windows are associated with higher anticipated guilt for indulgent consumption, and this negatively affects the likelihood of purchasing these types of deals. We demonstrate this effect using both laboratory experiments and analyzing large data sets of daily deals sold by two prominent daily deals platforms: Living Social and Groupon. Because the majority of retailers on such platforms promote indulgent consumption (e.g., restaurants, spa treatments, entertainment), our results provide a counterintuitive insight: more restrictive offers that limit the time to redeem the deals should increase sales for retailers and raise revenues for the daily deals platforms.

4 - The Effect of Online Ratings Volume on Product Preference and Purchase Intent

Jared Watson, PhD Student, University of Maryland, 3330 Van Munching Hall, College Park, MD, 20742, United States of America, jwatson@rhsmith.umd.edu, Anastasiya Pocheptsova, Michael Trusov

In an online retail context, consumers are bombarded with the wealth of information about options. One type of information involving choice options that differentiates online versus offline retail environments is the presence of customer reviews. The authors propose that consumers may be overweighting in their decisions the volume (or total number of) product ratings over the actual content of such ratings. Over the course of six studies, they provide evidence that due to this asymmetrical weighting of the volume of reviews consumers would forego a better option in a choice set (a higher rated option) when the other option features a higher volume of reviews but significantly lower rating. This effect is particularly pronounced, when consumers are choosing among lower rated products, leading consumers to choose the worst possible option. Finally, the authors show that by displaying a low number of raters (vs. withholding this information), retailers are running a risk of consumers postponing the purchase decision due to a decrease in consumer confidence. Based on the study of current online retail practices, this is a possible detriment that a majority of online retailers self-impose. While the disclosure of product attributes is commonly thought to aid online retailers, the paper shows that managers may do better by foregoing listing the number of raters on their products, as consumers overweight this attribute in their decision relative to other equally or more important attributes.

FC16

16- Fourth Floor, Essex C

Working Paper XVII

Contributed Session

Chair: Roger Betancourt, Professor of Economics, University of Maryland, Economics Department, College Park, MD, 20742, United States of America, betancou@econ.umd.edu

1 - The Case for Encroachment

Tongil "TI" Kim, Assistant Professor of Marketing, Emory University, 1300 Clifton Rd NE, Atlanta, GA, 30322, United States of America, ti.kim@emory.edu, Sandy Jap

Encroachment, or the opening of same brand franchise outlets near an existing franchisee unit, is an explosive issue in the franchise management literature. The empirical evidence to date in the marketing and economics literature has shown encroachment policies to be cannibalizing in demand to incumbent franchisees. In this research, we explore the possibility that the expansion of same brand units might create a level of brand awareness from hotel agglomeration that not only mitigates the cannibalizing effect on demand, but actually reverses this outcome to the point that the franchisee and franchisor is better off. Using a proprietary database of monthly revenue and demand data, we build a structural model and estimate a series of counterfactuals to demonstrate how encroachment can in fact, raise franchisee profits and improve the franchisor's royalty fees.

2 - Channel Choice in the 21st Century:

The Hidden Role of Distribution Services

Roger Betancourt, Professor of Economics, University of Maryland, Economics Department, College Park, MD, 20742, United States of America, betancou@econ.umd.edu, Raquel Chocarro, Monica Cortinas, Margarita Elorz, Jose Miguel Mugica

Viewing a set of distribution services as one of the main outputs of retailing generates fundamental implications for online retailing. Distribution services, which are also known as attributes, marketing mix or marketing output variables, are produced, distributed and consumed just as goods or physical products or core services sold directly to consumers at an explicit price. Separability of production distribution and consumption of these services in space and time plays an essential role in the emergence, sustainability and sometimes dominance of online channels. For, in all online channels these three primitive economic activities can be separated across space and time for all of these marketing outputs. This separability of distribution services, which has not been identified in the literature, has profound implications for both the demand side and the supply side of firms in online channels. We develop in detail implications of this result with respect to: potential maximum levels of these services in electronic channels that are either substantially higher or substantially lower than in brick and mortar ones; undertaking empirical work involving online channels; and economic and managerial strategies involving online channels. We conclude with an illustration of two important economic consequences and a comparison with a similar but older retail format, i.e., mail order houses.

FC17

17-Fourth Floor, Falkland

ISMS Doctoral Dissertation Proposal Competition Winners I

Cluster: Special Session

Invited Session

Chair: K Sudhir, Yale School of Management, 165 Whitney Avenue, New Haven, CT, 06511, United States of America, k.sudhir@yale.edu

1 - Which Curve Are You On?

A Latent Relationship Trajectory Model of Customer Behavior

Arun Gopalakrishnan, University of Pennsylvania, The Wharton School, Philadelphia, PA, United States of America, agop@wharton.upenn.edu, Eric T. Bradlow, Peter Fader

We introduce a new methodology - a latent relationship trajectory model (LRTM) - that can capture and forecast dynamics in multi-dimensional customer behaviors using a flexible parametric family of latent trajectories that drive these behaviors as a common dynamic factor. The LRTM provides a new twist on the popular Hidden Markov Model (HMM) approach by allowing for a significantly more flexible set of latent trajectories and improved computational efficiency, while maintaining the parsimony of the HMM approach. We compare the empirical performance of the LRTM and HMM in the context of jointly modeling customer behaviors based on micro-level panel data from an online banking firm. We find that (1) the LRTM out-performs the HMM in predicting individual-level balances, (2) the LRTM and HMM both predict aggregate churn accurately, and (3) the LRTM out-performs the HMM in predicting which customers are most likely to churn, with the HMM performing about the same as a random-chance model in which all customers are given the same probability of churn. Our work offers boundary conditions for the use of HMMs in forecasting within-customer dynamics and suggests that the LRTM framework can be a more general alternative in a broad range of data settings.

2 - Visualizing Asymmetric Competition among More Than 1,000 Products using Big Search Data

Daniel Ringel, Goethe-University Frankfurt, Grueneburgplatz 1, Frankfurt, 60323, Germany, dringel@wiwi.uni-frankfurt.de, Bernd Skiera

While markets of past decades consisted of relatively few products, markets of the 21st century are much larger (e.g., over 900 digital cameras and over 1,500 vacuum cleaners). The comprehensive visualization of competitive market structures in large markets can be cumbersome and complex. Yet, as we show empirically, reduction of the analysis to smaller representative product sets can obscure important information. Herein we use search data from a product- and price-comparison site to derive consideration sets of thousands of consumers that reflect competition between hundreds of products. We integrate these data into a newly developed two-dimensional mapping model called DRMABS (Decomposition and Re-assembly of Markets by Segmentation) that enables the user to visualize asymmetric competition in large markets (>1,000 products) and to identify distinct submarkets. An empirical application to the LED-TV market, comprising 1,124 products and 56 brands, leads to valid and useful insights and shows that our model outperforms traditional models such as multidimensional scaling. Likewise, we demonstrate that search data from product- and price-comparison sites provide higher external validity than search data from Google and Amazon.

Friday, 3:30pm - 5:00pm

FD01

01-Third Floor, GB 1

Brands II

Contributed Session

Chair: Elea Feit, Assistant Professor, Drexel University, 222 South Union Street, Kennett Square, PA, 19348, United States of America, efeit@drexel.edu

1 - Testing Brand Value Measurement Methods in a Random Coefficient and Limited Consumer Information Modeling Framework

Attila Szocs, Sapientia University, Faculty of Economic and Human Sciences, Libertatii 1, Miercurea Ciuc, HA, 530104, Romania, attata27@gmail.com, Zsolt Sandor

We propose a random coefficient logit model with BLP-type structural errors that enables testing the structural effect of brand equity (demand side effect) on brand value (supply side effect). Brand value measurement is usually conducted in a full consumer information context; however, it has been argued that ignoring choice set formation may lead to understating the effects of marketing mix variables on decision making. As the marketing mix is considered the antecedent of brand equity, estimating more accurately marketing mix effects is crucial for measuring brand equity. In addition, modeling choice set formation is also expected to lead to better estimation of the effectiveness of price as competitive instrument. This is also important because price is the central variable from the point of view of

brand value measurement. In this context our main research question is which of the three main brand value measurement methods (price premium, revenue premium and profit premium) can better reflect the structural link between brand equity and brand value. Although we also derive some formal results on how the price premium, revenue premium and profit premium depend on brand equity in a simple version of the model, in the general version of the model the main methodology we use to answer the research question is Monte Carlo simulation. We study this question under various scenarios of the model. Our most interesting finding is that in most cases the price premium has the highest correlation with brand equity.

2 - Why do People Search for Brands? Brand Attitudes and Search Engine Queries

Elea Feit, Assistant Professor, Drexel University, 222 South Union Street, Kennett Square, PA, 19348, United States of America, efeit@drexel.edu, Yi-Hsin Yeh, Jeff Dotson, Jeffrey Oldham

Search engines have become an everyday part of how people find information, including information about brands. In turn, the data collected by search engines describing which brands consumers are searching for is emerging as an appealing potential source of data to gauge brand health, to project future sales or to measure response to advertising. However, before adopting brand search volume as a standard diagnostic measure of brand health, it is important to understand why people search for brands and how brand search relates to traditional measures of brand health. We explore this question using both macro-level time-series data and micro-level panel data. The macro-level data consists of weekly time-series data on brand search volume and several common brand attitude measures, allowing us to identify temporal correlations between brand attitudes and brand search volume. The micro-level data was collected from a panel of Google users, who agreed to allow us to track their individual brand search over 7 months and link their individual search history to a survey on brand attitudes. At the micro level, we find that users who hold positive lower-funnel brand attitudes, specifically familiarity, consideration and purchase intent are more likely to search for the brand. However, we also find that owners of a brand, particularly those who are having problems, are also more likely to search for the brand. Our findings suggest that increases in brand search volume cannot be interpreted as a positive indicator of brand health without additional context.

3 - Does Comparative Advertising Locate Rival Brands more Distant or Closer?

Jun Bum Kwon, Marketing PhD Student, Rotman School of Management, University of Toronto, 105 St. George Street, Toronto, ON, M5S 3E6, Canada, junbum.kwon12@rotman.utoronto.ca, Avi Goldfarb

Using comparative advertising, advertiser (often low-share brand) emphasizes its superiority relative to a target brand (often market leader) in order to differentiate itself from its competitor. However, the general effect of comparative advertising is associative (Miniard, Rose, Barone, & Manning, 1993) due to cognitive reason. Much evidence have been documented mainly from laboratory experiments. In this study, we attempt to measure the impact of comparative advertising on brand position in a text-mining market-structure (perceptual brand position) map.

FD02

02-Third Floor, GB 2

Competition II

Contributed Session

Chair: Yuichiro Kanazawa, Professor, University of Tsukuba, 1-1-1 Ten-noh-dai, Tsukuba, 305-8573, Japan, kanazawa@sk.tsukuba.ac.jp

1 - The Impact of Product Concept Demonstration on Product Line Design

Taewan Kim, Assistant Professor, Lehigh University, 621 Tayler St., Bethlehem, PA, 18015, United States of America, tak213@lehigh.edu

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 the product concept demonstration activities interact with the firm's product line design strategy in competitive markets. I 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.

2 - Are Manufacturers' Efforts to Innovate Really Rewarded? The Case of Japanese Yogurt Market

Yuichiro Kanazawa, Professor, University of Tsukuba, 1-1-1 Ten-noh-dai, Tsukuba, 305-8573, Japan, kanazawa@sk.tsukuba.ac.jp, Tomohito Kamai

More than 65 years have passed since yogurt was first introduced in Japan, and the yogurt market is still growing there. The recent market growth is said to be stimulated by a group of products with newly found lactic-acid bacilli which are claimed to have features including protection from virus-infection, allergies and so forth. However, it is empirically unknown if manufacturers are really rewarded with higher margins from brands with these features as the average retail price of yogurt kept decreasing over the last decade. To uncover factors responsible for such a phenomenon, we employ Che et al. (2007) because they incorporate important facets of enterprises such as the strategic interaction among manufacturers and retailers, consumer state dependence, and forward-looking behavior of firms. With Japanese yogurt panel data from January 2007 to December 2008, we find that (1) manufacturers producing brands with special features successfully charge more margins as expected; (2) a retailer also charges higher margins for these brands; and (3) a retailer has slightly higher amount of margins than manufacturers, reflecting Bertrand competition among manufacturers and vertical Nash game between manufacturers and a retailer.

3 - Money-Back Guarantees and Service Quality: The Marketing of In-Vitro Fertilization

Shan Yu, University of Arizona, 1130 E Helen St, McClelland Hall, R320, Tucson, AZ, 85721-0108, United States of America, shanyu@email.arizona.edu, Madhu Viswanathan, Mrinal Ghosh

Theoretical models have argued that Money-Back Guarantees (MBGs) could act as signals of quality, especially under conditions of asymmetric information. However, empirical evidence on this role of MBGs is scant. Indeed, in the context of in-vitro fertilization (IVF) – a medical procedure to assist infertile couples have children – it is argued that MBGs offered by some fertility clinics are nothing more than marketing gimmicks involving unethical behaviors (such as screening patients or adopting more aggressive and risky treatment protocols); hence, such marketing practices have been increasingly scrutinized and debated in the health-care and public policy circles. This research empirically sheds light on these issues by investigating the relationship between MBG offers and patient outcomes at a clinic level. This analysis is conducted on large dataset that includes clinic-level treatment and outcome statistics of all IVF clinics in the U.S., fertility clinic characteristics including whether they offer MBG or not as well as physician information, state-level insurance mandates, and demographic data. Our results suggest that MBGs can be considered as signals of quality because compared to clinics not offering MBGs, clinics offering MBGs secured better treatment outcomes (i.e., higher live birth rate) using less aggressive treatment (i.e., transferring fewer embryos) after controlling for patient quality. In addition, we find no difference between MBG and non-MBG clinics on the long-run risks posed by the procedures used (e.g., multiple births).

4 - Pre-Launch Analysis of Competitive Dynamics

Natasha Foutz, Assistant Professor of Marketing, University of Virginia, 340 Rouss and Robertson Hall, Charlottesville, VA, 22904, United States of America, nfoutz@virginia.edu, Fang Wu, Vithala Rao

Analysis of market structure has focused on mature product categories and post-launch competition. But, in many industries with frequent product introductions and increasingly short product lifecycle, such as technology and entertainment, it is imperative to identify dynamic market structure pre-launch to guide marketing mix decisions that are largely made pre-launch. However, such identification is almost impossible because of lack of sales data and dynamic shifts in the competitive landscape arising due to advertising, entry, exit, and changes in preannounced release timing. The authors thus propose a novel dynamic market structure model to capture the dynamic evolution of competitive sets and brand positioning. This modeling framework can be applied to aggregate data and is thus well-suited for pre-launch contexts when disaggregate-level sales data is not readily available. It further accommodates the above dynamic pre-launch forces, including the contextual effects induced by competitive entry and exit. Calibrating the model on a prediction market of new entertainment products, we exhibit the entire evolutionary path of each new product's competitive position, clout, and vulnerability prior to its launch. We also reveal several key forces driving the competitive dynamics, such as a significant exit effect. A series of simulation exercises further shed light on critical pre-launch competitive strategies such as advertising, pre-announcement timing, and entry/exit decisions.

■ FD03

03-Third Floor, GB 3

Consumer Behavior VII

Contributed Session

Chair: Faryal Salman, Assistant Professor, SZABIST, 90 Clifton, Karachi, Pakistan, faryal.salman@szabist.edu.pk

1 - Feeling Hot, Hot, Hot: Activation of Hot and Cool Mental States through Embodied Sensory Experience

Tanuka Ghoshal, Assistant Professor, Indian School of Business, Indian School of Business, Gachibowli, Hyderabad, TS, 500032, India, tanuka_ghoshal@isb.edu, Rishtee Batra

Research in the domain of grounded cognition has shown that mental processes are shaped by sensory-motor experiences, such as bodily movements and perceptions of warmth. Our work adds to the more limited research on grounded effects emanating from gustatory experiences by demonstrating a novel relationship between the experience of hot-and-spicy tastes and subsequent mental representations of hot-headedness. Unlike most prior literature, we illustrate the bidirectional impact of two contrasting sensory experiences, hot and cool, and additionally show that sensory-motor experiences can activate metaphor-based perceptions not only of unknown others but also of the self. In experiment 1, participants ate either a spicy (hot) or a mint (cool) candy, and then rated the description of an ambiguously aggressive fictitious character along traits related to aggression. Participants who ate the hot-and-spicy candy judged the character as being more hot-headed ($M_{hotcandy} = 5.55$, $M_{mintcandy} = 4.57$, $F(1,81) = 14.84$, $p < .05$), showing that the experience of hot tastes exacerbated participants' perceptions of hot-headedness of others. Experiment 2 examined the impact of embodied sensory experiences upon one's own actions and perceptions. Participants who ate the hot-and-spicy candy reported behaving in a more hot-headed manner in a fictitious service failure scenario than those in a control condition (no candy), and the cool-mint condition ($M_{hotcandy} = 3.72$, $M_{control} = 2.96$, $M_{mintcandy} = 2.33$, $F(1,81) = 10.52$, $p < .05$). In experiment 3, we found that individuals who naturally prefer higher levels of spice in foods, perceive themselves as being more hot-headed, and make the novel suggestion that this metaphorical association with hot-and-spicy foods may be influential in predicting aggressive behavior in the real world.

2 - Religion, Cultural Distance, and Academic Performance of Marketing Students

Ning Li, Johns Hopkins Carey Business School, 100 International Drive, Baltimore, MD, 21202, United States of America, ningli@jhu.edu, William Murphy

Students from a large number of countries have been flowing into the US to get higher education. Building upon literatures on the effect of religion and cultural distance on academic performance, we study the academic performance of one American university's 900 marketing students representing 55 nationalities. We found that a marketing student's academic performance is positively associated with (i) the interaction between the student's religion (specifically, Christianity) and religiosity; and (ii) the cultural distance between the student's country of citizenship and the US. Across published studies, the evidence of the effect of religion on college student academic performance is equivocal. Interestingly, we find that a student's academic performance does not depend on a specific religion or religiosity alone, but on the interaction between the two factors. Based on our findings, we offer insights regarding advancing the internationalization of US education and improving national competitiveness.

3 - Influence of Cultural Orientations on Online Purchase Behavior of Automobiles in Pakistan

Faryal Salman, Assistant Professor, SZABIST, 90 Clifton, Karachi, Pakistan, faryal.salman@szabist.edu.pk, Muhammad Yahya Vana

Consumer Behavior is an important field of study which has evaluated behavior of individuals towards their selection and purchase of different items. Many scholars have related this field of study with various other fields of sciences & prevailing theories to establish marketing implications for marketers of different products. One important such important phenomena in the field of consumer behavior emerge in the shape of Hofstede's Cultural Dimensions, which presents cultural distinctions in the shape of five distinct dimensions. Many scholars from around the world has established relationship with the some of the dimensions presented to us by Hofstede such as Uncertainty Avoidance in the e-commerce world, and Power Distance in luxury brands shopping, however none of these attempts have been made in Pakistan. Therefore, these cultural dimensions were taken to study the influence on the online shopping of automobiles in Pakistan, a segment which has recently shown to have a lot of potential for growth. Almost 300 University students of Karachi were selected and administered a comprehensive survey questionnaire determining their orientation along Hofstede's cultural dimensions as well as, their perceptions and behaviors for the pre purchase stages, Need Recognition and Information Search were inquired. The data was collected and analyzed for results using SPSS, with descriptive statistics, correlation and liner regression. The results obtained showed that there exists relationship or influence of Power Distance, Uncertainty Avoidance, Pragmatism and Individualism with the consumer behavior of the online purchasing of automobiles. The results of the linear regression showed values of adjusted R-square indicating the predicting power of cultural dimensions on online purchase of automobiles in Pakistan.

4 - Joint Effects of Sweepstakes Results and Promotion Messages on Consumer Purchase

Yunjia Chi, Wuhan University, Economics and Management School, Wuhan University, Wuhan, China, chiyunjia@gmail.com, Fue Zeng, Xin Zheng

Sweepstakes is widely employed in sales promotions for it is conducive to arousing consumers' brand awareness as well as increasing their engagement and consumption. Compared to traditional advertisements, sweepstakes is much more appealing and entertaining since everyone has an opportunity to win prizes. Just because of this, extant literature has focused on sweepstakes designs attracting consumers to participate and maximizing their value. Meanwhile, some researchers have explored consumer responses to sweepstakes based on their demographic and socioeconomic characteristics. However, since everyone has an opportunity to win in the sweepstakes, they also stand a chance to lose. Winning or losing sweepstakes definitely has distinctive effects on the mood and subsequent behaviors of consumers. But so far, few literatures shed light on the impact of sweepstakes results on them. In addition, text message is one of the commonly used ways to disseminate the sweepstakes promotions. Researchers devote little attention to the content of promotion messages (social influence vs. non-social influence) stimulating consumers to purchase as well as the joint effect of text message and sweepstakes results on them. Using a randomized field experiment, this paper explicates that different sweepstakes results (win vs. lose) have different impacts on consumers receiving social influence messages (vs. non-social influence messages). As to winners, those who receive social influence messages purchase more. On the contrary, losers receiving non-social influence message consume more. This paper implies that managers running sweepstakes promotions should take both the results and the content of the promotion messages into account and better arrange the winning probabilities and promotion messages to avoid unfavorable sales impact.

■ FD04

04-Third Floor, GB 4

New Product III

Contributed Session

Chair: Minki Kim, Assistant Professor, KAIST Business School, SUPEX Hall 304, KAIST College of Business, 85 Hoegiro, Dongdaemun-gu, Seoul, Korea, Republic of, minki.kim@kaist.ac.kr

1 - Crowdfunding Success and New Product Launch Delay

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Based on the principle of persuading multiple individuals to invest (small) amounts of money, crowdfunding has become a popular mechanism to overcome funding problems that have arisen from the credit crunch and global economic crisis. Besides seeking financial support, many entrepreneurs and companies consider crowd-funding as an opportunity (1) to involve potential customers during their new product development (NPD) process and (2) to pre-sell their products. However, crowd-funding also has a dark side as many successfully crowdfunded projects have incurred significant launch delay, leading to disgruntled customers. This paper aims to explore when and why crowdfunding backfires on developers by leading to new product launch delay. An initial qualitative analysis of crowdfunding projects' delay announcements shows that developers tend to attribute delays to the continuous interactions with backers during the NPD process and to feature creep associated with overfunding. We conduct a quantitative analysis of 320 successfully crowdfunded projects. The results indicate that involving backers in the development process is an important cause of launch delay. Overfunding, however, is less of a threat, especially when the developers are more experienced. Additional analyses indicate that project delays do not guarantee better product outcomes. The results shed light on the importance of effective NPD project management, especially scope control, to avoid crowdfunding pitfalls. The paper also provides insights on crowdfunding project design.

2 - Quantifying New Product Cannibalization using Online Search Data

Daniel Ringel, Goethe-University Frankfurt, Grueneburgplatz 1, Frankfurt, 60323, Germany, dringel@wiwi.uni-frankfurt.de, Iman Ahmadi, Bernd Skiera

The success of new products is commonly measured by the market share they manage to capture. However, market share can overstate the success of new products since it does not consider the cannibalization of a firm's existing products. Traditional approaches to estimating cannibalization such as surveys and panel data are time consuming, expensive, and not applicable to large markets containing hundreds of products. We therefore propose a new model that uses online search data of over 100,000 consumers to quantify new product cannibalization and identify its constituent sources in markets with a large number of products. We apply our model to the car navigation system market containing over 600 products and find that approximately 80% of newly launched car navigation systems draw at least 25% of their market share from existing products of the same brand. Our findings are robust across varying observation periods. We externally validate our model's market share estimates with actual market share data from a leading market research institute. Finally, we identify determinants of new product cannibalization and discuss managerial implications.

3 - From Preannouncement to New Product Success: The Role of Online Customer Engagement

Malika Chaudhuri, PhD Candidate, Michigan State University, 632 Bogue Street, East Lansing, MI, 48824, United States of America, chaudhurim@bus.msu.edu, Hang Nguyen, Roger Calantone

Firms are increasingly utilizing social media as a key channel of communication with customers to improve awareness of new product launch and related firm policies. In a similar vein, consumers increasingly use social media platforms to share their product evaluations, brand reviews and recommendations with their social networks. However, we have limited information on whether and how firms can evoke online customer engagement (OCE) through marketing signals such as new product launch pre/announcements to increase the odds of new product launch success. Our research proposes a two-stage model to examine the impact of new product preannouncements vs. announcements via social media on OCE, and how OCE consequently influences new product sales and improves firms' financial performance. In the first stage we examine whether and how these pre/announcements generate online customer conversations and sentiment about the new product. We consider factors that drive the effects, including (i) announcement characteristics (content, timing, use of channels) and (ii) new product characteristics (product types, levels of innovation and commitment, and brand equity). In the second stage, we investigate how OCE drives new sales and firm stock returns, and the differential role of influencers vs. followers in this process. Our research has significant implications for marketing theory and practice. It untangles the critical mechanism and demonstrates the important role of OCE within the process from new product prelaunch to adoption; using advanced econometric techniques that have stronger power in predicting the effect and avoid estimation bias. We provide useful guidelines for marketing managers to employ social media to improve new product launch success.

4 - Strategic Design Management for Vertically Differentiated Firms via Design Quantification

Minki Kim, Assistant Professor, KAIST Business School, SUPEX Hall 304, KAIST College of Business, 85 Hoegiro, Dongdaemun-gu, Seoul, Korea, Republic of, minki.kim@kaist.ac.kr, Sulah Cho, Inseong Song, Ji-Hyun Lee, Kyoung Hoon Hyun

Product design is known to influence customers' beliefs on other product traits such as durability, and technical sophistication. In the technology driven industry, thus, firms' competitive advantages in technology can be undermined by the low quality of similar-looking brands. Despite a need for firm's design management, strategic decisions have been made limitedly in the absence of a commonly accepted definition of product design and design quantification method. Also in marketing and economics literature, the product strategy has typically been studied for theoretical context in the abstract dimension of quality or in the abstract definition of product type. In contrast, this study proposes an integrated empirical approach for high-tech firms' strategic design management building on state-of-art design quantification and design-similarity-based network analysis. By providing measurable definitions of design for positioning, we extend the research scope of the strategic issue of positioning to the product design domain. Utilizing a unique dataset on the automobile industry, we draw managerial implications on design imitation and innovation for vertically differentiated brands when designing new products or altering existing ones.

■ FD05

05-Third Floor, GB 7

Working Paper XVIII

Contributed Session

Chair: Ekta Srivastava, Indian Institute of Management Lucknow, Prabandh Nagar, Off Sitapur Road, Lucknow, India, fpm12002@iiml.ac.in

1 - Customer Acquisition and Customer Retention in a Competitive Industry

Igor Sloev, Associate Professor, Higher School of Economics, Kirpichnaya 33/5, R. 807, Moscow, 105187, Russian Federation, isloev@hse.ru, Gerasimos Lianos

In this paper, an analytical model of dynamic competition examines optimal customer acquisition and retention strategies. We show that acquisition expenditures when profit margins are either low or high constitute the larger part of the marketing budget; however, when profit margins are in the medium range, firms tend to spend more on retention than acquisition. With endogenous profit margins, an increase in competition strength results in a smaller (larger) share of the marketing budget going to acquisition when profit margins are low (high).

2 - Affective and Cognitive Consequences of Nostalgic Advertising among Consumers

Ekta Srivastava, Indian Institute of Management Lucknow, Prabandh Nagar, Off Sitapur Road, Lucknow, India, fpm12002@iiml.ac.in, Satish Maheswarappa

We have taken support from theories such as AAI approach, Cognitive Tuning hypothesis and Cognitive Regulation mechanism to develop our conceptual framework. We used experimental designs to conduct three studies: 1A, 1B, 2 and 3. In study 1A, we proved through factor analysis that nostalgia is a complex ambivalent emotion and generates positive and negative affect simultaneously. In study 1B, we examined two executional variables- stimulus's ability to recapture past and 'good past, good present' perception- and showed that they can significantly reduce the negative affect component of nostalgia. In study 2, we examined the influence of nostalgia on cognitive processing and found that bottom-up processing is used in case of negative affect and top-down processing is used in case of positive affect condition of nostalgia. In study 3, we examined the impact of cognitive processing on SBC and WTP and found that SBC and WTP are higher when top-down processing style is used.

■ FD06

06-Third Floor, GB 8

Decision Neuroscience IV (Applied Consumer Neuroscience)

Contributed Session

Chair: David Brandt, EVP Ad Effectiveness Strategy, Nielsen, Cincinnati, OH, United States of America

1 - The Role Of Emotion In Viewer Choice Of Media: Three Consumer Neuroscience Studies

Carl D. Marci, Chief Science Officer, Innerscope Research, Boston, MA, United States of America

The media landscape is changing quickly and many companies are embracing consumer neuroscience and its tools in order to understand the opportunities and risks for marketers and media companies. Innerscope Research has been at the forefront of understanding using modern tools to measure the emotional responses to media content. Using best in class biometrics, eye tracking and behavioral coding, often combined with self-report, Dr. Carl Marci will present three relevant case studies in how viewers choose which screen to consume content on and how marketers can get ahead. The case studies will showcase work from Time Warner, Turner Broadcasting and FOX Sports.

2 - Bringing Consumer Neuroscience to Marketing: Challenges and Opportunities

David Brandt, EVP Ad Effectiveness Strategy, Nielsen, Cincinnati, OH, United States of America, Michael Smith

Marketing applications of neuroscience methods have been commercially available for over a decade. At an early stage, Nielsen became intrigued by the potential of neuroscience to improve measurement of consumer reactions, including those that may be implicit or otherwise beyond reach of other approaches. They made early investments in, and the first (and still only) acquisition of a neuroscience company focused on market research. This presentation will provide a retrospective on what we have learned about the use of neuroscience in marketing research, and a perspective on how it may change the practice of marketing. The paper will first focus on where neuroscience fits within Nielsen and what was necessary to successfully bring the application of EEG and eye tracking to make it broadly available to clients. It will then focus on the challenges faced as we commercialized the service. In particular, two such concerns were common. First, since studies of brain activity typically employ consumer samples much smaller than those evaluated with survey methodologies, questions arose as to whether the results from such studies are reliable. And, second, even if they were reliable, did they matter? That is, do they have real-world importance? This portion of the presentation will outline our early findings on these questions. The final section will present a case history to show how these results are being used to improve advertising.

■ **FD07**

07-Third Floor, GB 9

Pricing III

Contributed Session

Chair: Guangwen Kong, University of Minnesota, 111 Church Street SE, Minneapolis, MN, 55414, United States of America, gkong@umn.edu

1 - Mixed Bundling Strategies for Complementary Products under Uncertain Supply

Liwen Chen, City University of Hong Kong, Department of Marketing, City University of Hong Kong, Hong Kong, Hong Kong - PRC, chenliwen2008@gmail.com, Xiaomeng Luo

On 1 May 1990, a new policy aims to control vehicle population growth was implemented in Singapore. Since then, potential vehicle owners have to get a vehicle license, which is known as Certificate of Entitlement (COE), via an open bid auction before purchasing a new vehicle. With this mechanism, the vehicle and the COE become completely complementary products, and also the vehicle market of Singapore faces uncertain supply thereafter. In most cases, the demand of COE is much higher than its supply and therefore, the premium of COE may even exceed the value of the vehicle itself, which undoubtedly hurts vehicle retailers and consumers at the same time. However, even though the limited supply of COEs cut vehicle retailers' demand immediately, the vehicle retailers may provide some premier services related to COE as profitable choices. For instance, bundling service to sell a vehicle together with a COE can be the priority for consumers who are uncertain about obtaining a COE. In our study, we try to answer the following question: with the mechanism of COE, how to improve the vehicle retailer's profit by adopting different sales strategies, namely separate sales and bundling sales? We use a game-theoretic model to capture the strategic interactions between a monopoly vehicle retailer and its consumers in Singapore's vehicle market when facing the uncertain supply of COE. The retailer may provide pure strategy to only sell vehicles to consumers, or bundling strategy to sell the COE and the vehicle as a bundle to consumers, or combine pure strategy with bundling strategy to target different kinds of consumers. We try to identify the optimal strategies for the retailer to achieve maximum profit under different conditions.

2 - Product Bundling: A Synthesis of Problem Contexts, Frameworks and Normative Guidelines

R. Venkatesh, Professor of Marketing, University of Pittsburgh/Joseph M. Katz Graduate School of Business, 332 Mervis Hall, Pittsburgh, PA, 15260, United States of America, rvenkat@katz.pitt.edu, Ashutosh Prasad, Vijay Mahajan

Research on bundling, the strategy of marketing products in combination, has gone through multiple phases of rediscovery. These changes can be seen in the evolving nature of the real world contexts for bundling, the underlying rationales for bundling or unbundling, theoretical bases that go beyond traditional economics, and the development of nuanced methodologies for bundle design and pricing. Against this backdrop, we attempt to make three contributions. First, we provide a series of categorizations that highlight the evolution in bundling problems and approaches. Second, we provide a set of key strategic guidelines for bundling and pricing that are rooted in economics, marketing and consumer psychology. Third, we identify promising avenues as well as challenges for future research. Our illustrative conclusions: It is no longer sufficient to define the bundling strategy space in terms of pure components, pure bundling, and mixed bundling. No one of these strategies is always the best. The increasing importance of brand alliances and technology platforms points to significant opportunity for new models of competition. Research in consumer behavior underscores the need to modify extant guidelines based on the strictly rational consumer. Our final conclusion is that the best is yet to come for bundling research.

3 - Consumer Advertising and Price Leadership in Prescription Drug Markets

Abhik Roy, Professor, Quinnipiac University, School of Business, Marketing department, Quinnipiac Univ., 275 Mt. Carmel Ave., Hamden, CT, 06518, United States of America, abhik.roy@quinnipiac.edu, Mary Schramm

The study examines the interaction between price and elements of promotional strategy while accounting for competitive pricing interdependency among pharmaceutical firms. Specifically, it examines the relationship between direct-to-consumer advertising (DTCA), and patterns of price competition among the firms marketing competing drugs to patients within the same therapeutic area. A theoretical model is proposed that DTCA might be used as a coordinating mechanism, whereby a firm signals its willingness to be a Stackelberg price leader by spending large amounts on advertising and using advertising messages, which promote the drug formulation, not just its own brand within the category. A set of propositions are developed, about the impact of demand factors such as advertising effectiveness, ad spending and substitutability on the likelihood of emergence of a stable Stackelberg system of price competition. Evidence to support these propositions is provided through empirical analysis of data from a number of prescription drug categories.

4 - Sunk Cost Effect in Pricing of Service with Uncertain Completion Time

Guangwen Kong, University of Minnesota, 111 Church Street SE, Minneapolis, MN, 55414, United States of America, gkong@umn.edu, Sampath Rajagopalan, Chunyang Tong

In this paper, we build a model to shed light on how this sunk-cost effect influences the SP's choice of pricing scheme. We first provide an analysis on how the sunk cost effect influences a monopolistic SP's choice of pricing scheme. We also examine the impact of sunk-cost effects on pricing scheme choices in a competitive setting. Further, we also consider a scenario with a pool of customers with differing levels of sophistication (being naive or sophisticated) and investigate how a mixture of customer types further impacts the choice of pricing scheme.

■ **FD08**

08-Third Floor, GB 10

Marketing in a Fast Changing Digital Environment

Cluster: Special Session

Invited Session

Chair: Barak Libai, Arison School of Business, Interdisciplinary Center, Herzliya, Israel, libai@idc.ac.il

Co-Chair: Andrew T. Stephen, Katz Graduate School of Business, University of Pittsburgh, Pittsburgh, PA, United States of America, astephen@katz.pitt.edu

1 - As You Sow So Shall You Reap?**Word-of-Mouth Spillovers in Seeding Campaigns**

Andrew T. Stephen, Katz Graduate School of Business, University of Pittsburgh, Pittsburgh, PA, United States of America, astephen@katz.pitt.edu, Dai Yao, Inyoung Chae, Yakov Bart

Seeding marketing campaigns (SMCs) involve firms allocating products to selected customers who are encouraged to spread word of mouth (WOM) about those products. While prior research has examined certain aspects of this increasingly popular form of marketing communication, such as seeding strategies and immediate efficacy, this paper investigates spillover effects of SMCs that extend beyond generating WOM for a campaign's focal product within a directly targeted consumer segment. We introduce a typology of WOM spillover effects for SMCs, and empirically estimate them using a unique dataset of 390 SMCs for products across 192 cosmetics brands. The results indicate the presence of multiple spillover effects that are moderated by prior brand awareness. While better known brands benefit from a stronger direct effect of SMCs on WOM for a focal product, they also suffer from negative brand spillover effect (focal product "steals" conversation away from other products under the same high-awareness brand) and positive category spillover effect (products with higher brand awareness are more likely to draw comparisons with competing products in the same category). Overall, our findings suggest that while SMCs can indeed be used to stimulate WOM for a focal product, it is necessary also to account for spillover effects.

2 - Freemium Monetization in the Presence of Customer Attrition

Gil Appel, Ben-Gurion University of the Negev, Glazer Faculty of Business & Management, appलग@post.bgu.ac.il, Eitan Muller, Barak Libai

Free product offerings dominate many contemporary online markets, yet firms still struggle how to monetize such products and make profits relying on both advertising profits and content sold to consumers. One of the key factors to consider in this regard is that of user attrition, which may vary significantly among products and largely affects profits, yet had not been taken into account to date in the efforts to understand optimal behavior in such markets. Here we look at the product stickiness, or consumers' tendency to stay with the product in a future period, and consider a case in which the firm profits from advertising in a free product, yet also offers consumers to purchase a freemium version with no advertising. We show that in such markets stickiness largely drives the dynamics that emerge and with different equilibrium based on stickiness level. While price for the premium version will increase with stickiness, the level of advertising is non-monotonic, and is less sensitive to stickiness than price. We further show how stickiness affects the size of the premium and advertising segments and the lifetime value of a customer. We thus highlight the importance of retention considerations in analysis of this increasingly important market.

3 - Social Diffusion Modeling of the Dynamics of Premium Purchases in Online Applications

William Rand, University of Maryland, R.H. Smith School of Business, College Park, MD, United States of America, wrand@umd.edu, Manuel Chica

The freemium business model is being increasingly used both in online products and services and mobile apps. However, this model does not work if users do not convert to premium users. In this paper, we investigate why users convert to premium users and what role social influence plays within freemium conversions. Moreover, we develop a decision support system for forecasting which users are most likely to become premium users in the near future, as well as predicting the aggregate number of premium users over time. We show how this tool can be used to make marketing decisions in the freemium business model space. Moreover, we present a methodological contribution of agent-based modeling that shows how to optimize forecasts in both the short- and long-term simultaneously.

4 - Growth and Popularity in the Market for Free Digital Products

Barak Libai, Arison School of Business, Interdisciplinary Center, Herzliya, Israel, libai@idc.ac.il, Gil Appel, Eitan Muller

An intriguing development in the marketing landscape of recent years is the substantial increase in the quantity of free digital products or “freeware”. Herein we provide evidence that freeware’s growth pattern departs from the life cycle pattern observed for conventional new products. Using a large-scale dataset that documents the growth of tens of thousands of free digital products we find that most freeware products begin with a decline in demand, and move to the following archetype patterns of growth: bell-shaped pattern (“Diffuse”), exponential-type decline (“Slide”), and a combination of the two (“Slide & Diffuse”). In particular, we show how the growth pattern ubiquity is directly related to the freeware’s popularity: Less popular products tend to exhibit more Slide and Slide & Diffuse patterns, while more successful products tend to have a higher share of Diffuse patterns. These findings highlight the limitation of classic diffusion research that focused almost exclusively for successful products, and did not take into account the heterogeneity due to the new product’s popularity.

FD09

09-Third Floor, Dover AB

Recent Development in Dynamic Structural Models

Cluster: Special Session

Invited Session

Chair: Andrew Ching, University of Toronto, Rotman School of Management, Toronto, ON, Canada, andrew.ching@rotman.utoronto.ca

Co-Chair: Matthew Osborne, University of Toronto, Rotman School of Management, Toronto, ON, Canada, matthew.osborne@gmail.com

1 - Dynamic Airline Pricing and Seat Availability

Kevin Williams, Yale University, kevin.williams@yale.edu

Airfares are determined by both inter-temporal price discrimination and dynamic adjustment to stochastic demand given limited capacity. In this paper, I estimate a model of dynamic airline pricing taking both forces into account. I use an original data set of daily fares and seat availabilities at the flight level. With model estimates, I disentangle key interactions between the arrival pattern of consumer types and remaining capacity under stochastic demand. I find dynamic adjustment to stochastic demand is particularly important as a means to secure seats for high-valuing consumers who arrive close to the departure date. It leads to substantial revenue gains compared to pricing policies which depend on date of purchase, but not remaining capacity. In aggregate consumers benefit, despite facing higher fares on average, as a result of more efficient capacity allocation. Finally, I show that failing to account for stochastic demand leads to a systematic bias in estimating demand elasticities.

2 - Invest in Information or Wing It? A Model of Dynamic Pricing with Seller Learning

Guofang Huang, Carnegie Mellon University, Pittsburgh, PA, gfhuang@andrew.cmu.edu, Hong Luo, Jing Xia

This paper studies the managerial problem of dynamic pricing in the secondary durable-goods market, where sellers typically have limited information about item-specific heterogeneity. It develops a structural model of dynamic pricing that features the seller learning about item-specific demand through initial assessment and active learning in the sale process. The model is estimated using novel panel data of a leading used-car dealership. Policy experiments are conducted to quantify the value of the dealer’s initial information about item-specific demand and of lowering the price-adjustment cost. With the dealer’s average net profit per car in the estimation sample being around \$740, the initial information about item-specific demand worth roughly \$243, and cutting the dealer’s price-adjustment cost by half would increase its profit by about \$103.

3 - Stockpiling, Learning, and the Success of New Products

Christoph Bauner, Cornerstone Research, cbauner@gmail.com, Emily Wang

In a dynamic and competitive environment, factors such as the market maturity and market concentration may have significant impacts on the success of a new entrant. This paper sheds some light on how market structure influences that success in the presence of both learning and stockpiling. Using the market for sugar substitutes from 2001 to 2005, I develop and structurally estimate a dynamic demand model that incorporates both aspects of learning and stockpiling. Households in the model learn their reactions to brand characteristics over time; they also engage in stockpiling in order to benefit from non-linear pricing as well as inter-temporal price variations. I overcome the complexity of combining learning and stockpiling identified by previous authors by employing a new estimation technique. Parameters of the consumer utility function are then used to quantify the differential in market shares for a new entrant, comparing several counterfactual scenarios. I find that the timing of entry has a large effect on the entrant’s market share in its first year in the market. Entering in a less mature market can increase an entrant’s sales volume by as much as a factor of three when compared to entering the same market with more established firms four years later. Most of this effect comes from competition with the youngest incumbent brand in the market.

4 - Identification and Estimation of Forward-Looking Behavior: The Case of Consumer Stockpiling

Matthew Osborne, University of Toronto, Rotman School of Management, Toronto, ON, Canada, matthew.osborne@gmail.com, Andrew Ching

We develop a new empirical strategy for identifying discount factors in markets for storable goods. The identification strategy rests on an exclusion restriction generated by discontinuities in package sizes: In storable goods product categories where consumption rates are exogenous and package sizes are discrete, current utility does not depend on inventory unless a package gets used up. Most of the time, inventory only enters a consumer’s value function. We demonstrate using artificial data experiments that discount factors can be identified in these circumstances. We also demonstrate the feasibility of our identification strategy with an empirical exercise, where we estimate a stockpiling model using scanner data on laundry detergents. Preliminary estimates suggest that consumers are not as forward-looking as most papers in the literature assumes, with discount factors around 0.3.

FD10

10-Third Floor, Dover C

Sustainability

Contributed Session

Chair: Omar Rodriguez, Georgia Tech, 508 Princeton Way, Atlanta, GA, 30307, United States of America, omar.rodriguez@scheller.gatech.edu

1 - Doing Well vs. Doing Good: Understanding the Impact of

Pro-Social Messages on Consumer Engagement

Omar Rodriguez, Georgia Tech, 508 Princeton Way,

Atlanta, GA, 30307, United States of America,

omar.rodriguez@scheller.gatech.edu, Sundar Bharadwaj

Academic literature has explored the factors influencing the effectiveness of advertising messages (Vakratsas and Ambler 1999; Chandi, Tellis, MaCinnis, Thaivanich 2001). However, most studies focus on the communication of functional (cognitive-based) or emotional (affect-based) benefits. Increasingly, brand managers are using advertising budgets to communicate “pro-social” messages like charity donations, environmental conservation or community support. The relative effectiveness of “pro-social” messages to engage consumers has received little research attention and is the focus of this study. We use a database of 7,000 Twitter and Facebook messages among 24 brands to study the effect on consumer engagement of product vs. pro-social advertising messages. As part of the analysis we study three novel moderators of this relationship. First we explore how different context variables, such as messages placed prior to the pro-social message, moderate its effect on engagement. A second moderator in our study is the framing of the brand in the message. In particular, our data reveals that brands choose one of four different framings when communicating a ‘pro-social’ message. We study the effect of these different types of “pro-social” framings on consumer engagement. Finally, we study the nature of the “pro-social” benefit. In particular, our data points to two types of “pro-social” messages, one related to back-end activities of a product (e.g. sustainable agriculture) and another based on front-end societal needs (e.g. education). We provide insights on factors that lead to higher engagement among each type. Our findings has implications for managers in the development of “pro-social” brand messages.

2 - On the Choice of Incentive Policy Instruments for Renewable Energy

Hossein Eslami, Assistant Professor of Marketing, Lebanese American University, LAU School of Business, BB1203, P.O.Box 13-5053 Chouran, Beirut, 11022801, Lebanon, hossein.eslami@lau.edu.lb, Trichy Krishnan

Today lots of money is spent on promoting the adoption of renewable energy sources in different parts of the world and there is no consensus on the most efficient policy instrument(s). In this paper I propose a framework to capture the adoption decision by consumers and to help choosing between the incentive policy instruments. Built on a parsimonious demand model, the framework allows comparing the efficiency of different instruments including subsidy, feed-in tariff, and seeding. The model is estimated on the data from solar photovoltaic market and the results are discussed. The insights can have implications for policy makers in the renewable energy field.

3 - When and How a Sustainable Strategy Benefits or Hurts Firms: The Impact of Refurbished Products

Yilong (Eric) Zheng, State University of New York, Binghamton University, AA-271, 4400 Vestal Parkway East, Binghamton, NY, 13902, United States of America, yzheng45@binghamton.edu

There is a growing trend of remanufacturing returned/used products (i.e. refurbished products) in recent years. While it is a sustainable strategy which helps reduce E-waste, selling refurbished products may create a negative connotation on the quality of new products. This raises important questions about when and how such a sustainable strategy can benefit or hurt the manufacturers. In this paper, we examine the impact of refurbished products in markets with network effects and standards competition. We argue that introducing refurbished products could create a benefit of increasing consumers' valuation of new products while the overall impact varies depending on the compatibility and the developmental stage of the new products. Using both empirical and experimental data, our results demonstrate the evidence of using refurbished products to enhance the success of a new technological standard. Specifically, we find that introducing refurbished products increases consumers' valuation of a new product at its introduction stage when the new product adopts a technology incompatible with existent standards. In contrast, if a new product adopts a technology compatible with existing standards, introducing refurbished products decreases consumers' valuation of the new product. These and other findings of this study provide managerial implications to manufacturers about when and how a sustainable strategy with refurbished products can benefit them in enhancing the success of new technological standard.

■ FD11

11-Third Floor, Atlantic

Dynamic Models I

Contributed Session

Chair: Nicolas Padilla, Phd Marketing Student, Columbia Business School, 3022 Broadway, Uris Hall, 5th Floor, Office 5 West, New York, NY, 10027, United States of America, npadilla19@gsb.columbia.edu

1 - Change Detection using Sequential Likelihood Ratio Test

Nuo Xu, PhD student, Emory University, 1893 Ridgmont Ln, Decatur, GA, 30033, United States of America, nuo.xu@emory.edu, Yi Zhao

Today's market is dynamic. Customers' preferences of product features and their reactions to marketing stimulus can change overtime. The changes of the market environment can be caused by events such as new brand entry and new product introduction. In this versatile environment, companies are in need of a monitoring solution that can facilitate the detection of change in market environment. The objective of this research is to provide a framework of solution to this problem. To achieve our goal, we propose to describe consumer behaviors and market reactions over time through probabilistic models. We then monitor the shift in the model parameters. When cumulative evidence over time supports the hypothesis that a change occurs, we pull an alarm to alert the company. Drawing from stochastic process control literature, we construct the detection rule based on sequential likelihood test, which is a sequential hypothesis test developed by Wald originally for the purpose of quality control. This test is proved to be one of the most efficient tools for quick detection of consistent systematic error over time and is widely adopted in the field of engineering, biostatistics, epidemiology and computer science for ceaseless detection of region change. Our results show that our model brings considerable improvement in change detection compared to baseline models.

2 - Hot-Hand and Social Effects in Sales

Seshadri Tirunillai, University of Houston, 334 Melcher Hall, Houston, TX, 77027, United States of America, seshadri@bauer.uh.edu, Nick Lee, Michael Ahearne

Hot hand (cold hand) refers to the belief that an individual's current success (failure) is influenced by the past successes (failures). In this study we examine this phenomenon in sales context. First, we assess if there is any evidence of temporal persistence of performance and the (latent) "confidence" for a given sales agent. Then, we examine if the persistence of the "hot" (or "cold") latent state is influenced by social interactions among the sales agents leading to a performance contagion. To study these questions we use a natural experiment setting involving two sales callcenters, both operated by a single firm but differing distinctly in their environment for inter-personal interaction. We analyze the rich disaggregate data of individual sales call behaviors and outcomes using a Hidden Markov Modeling framework. We find evidence of temporal persistence of the latent state at the sales-agent level and across the sales agents in the same center. We find that the persistence is asymmetric with respect to the successes and failures of sales calls. Further, we find that the temporal dependency among the sales agent is higher in the center where salespeople have the potential for richer social interactions. Our findings imply that that manager should account for the impact of social interactions among sales agent. Managers also have to consider if the significant negative effects of bad performance contagion offsets the potential benefits of social interaction between agents.

3 - Talking Away the Vice? The Relationship between Communication and Vice Usage

Rachel Shacham, University of Minnesota, 321 19th Avenue South, 3-150, Minneapolis, MN, 55455, United States of America, rachelsh@gmail.com, Tulin Erdem, Peter Golder

We develop an empirical model that allows us to study the relationship between vice and communication between individuals while accounting for self-selection. The method developed in this study is particularly well suited to the issues that occur while studying vice (in contrast to other types of goods). In particular, we allow for heterogeneity that differentiates between heavy and light users. We estimate the model using a unique dataset that contains detailed individual-level data over time. Third, we allow learning in the previous model. We test our model and generate insights using two data sets: (i) the web browsing behavior of 3000 individuals over one year and (ii) pornography websites categorized by strength.

4 - Heterogeneity in Hidden Markov Models

Nicolas Padilla, Phd Marketing Student, Columbia Business School, 3022 Broadway, Uris Hall, 5th Floor, Office 5 West, New York, NY, 10027, United States of America, npadilla19@gsb.columbia.edu, Oded Netzer, Ricardo Montoya

Hidden Markov Models (HMM) have been widely used in marketing to model how customers may transition among latent states such as attention levels, web search behavior, customer relationships, and purchase intent. The importance of accounting for heterogeneity across consumers in the HMM parameters has been widely acknowledged and implemented. However, HMMs assume that the number of latent states is common across customers or units of analysis. That is, assuming homogeneity in the number of HMM states. In this work, we analyze the potential bias of making such an assumption, propose approaches to mitigate the impact of such bias, and provide a model that relaxes this assumption. Using a comprehensive Monte Carlo simulation exercise and secondary data from a pharmaceutical prescription drugs company, we demonstrate that ignoring heterogeneity in the number of states might result in an "expensive" model, and most importantly, could lead to wrong interpretations of customer dynamics. In particular, we show that: (1) even when only a small proportion of customers have larger number of latent states (as compared to the majority of customers), the best fitting model would be an "expensive" HMM in terms of number of states; (2) even when heterogeneity is accounted for in the HMM parameters, the inference from analyzing the posterior means – a common practice in the literature – can be biased; (3) properly accounting for heterogeneity in the transition matrix could capture the heterogeneity in the number of states. Finally, we propose a latent class model with a HMM of different number of states in each class to account for heterogeneity in the number of states. The proposed model captures well the behavior at both individual and population level. Moreover, the proposed model provides different insights than those obtained from the standard HMM with homogeneous number of states.

■ FD12

12-Third Floor, Bristol

Social Influence II

Contributed Session

Chair: Raji Srinivasan, University of Texas at Austin, 2803 Barton Point Drive, Austin, TX, 78733, United States of America, raji.srinivasan@mcombs.utexas.edu

1 - Understanding Social Effects in Crowdfunding

Yiwei Li, The Chinese University of Hong Kong, Room 1101, 11/E, Cheung Yu Tung Building, 12 Chak Cheung Street, Shatin, N.T., CUHK, Shatin, 999077, Hong Kong - PRC, VictorLi@baf.cuhk.edu.hk, Yuho Chung, Jian-min Jia

This paper aims to understand the social effects of crowdfunding contributors on project support. Using big data from crowdfunding projects (more than sixty thousand contributors) and social network (more than three million people), we find that friends can have a social influence in project contribution. People are more likely to support a project if their friends support it as well. The social effect on project contribution emerges instantly and vanishes quickly (usually in a couple of days). Also, peer influences impact not only on which project to contribute, but also how much amount of money to support in the project contribution. These findings suggest that friends can act as a promoter that facilitates the success of a crowdfunding project, which provides new insights into the understanding of the underlying mechanisms of social effects and can have substantial managerial implications.

2 - The Effect of Social Contagion on Users' Purchase Behavior in an Online Community

Eunho Park, PhD Student, Texas A&M University, Wehner Building 4112 TAMU, College Station, TX, 77843-4112, United States of America, epark@mays.tamu.edu, Rishika Rishika, Ramkumar Janakiraman, Ram Bezawada, Byungjoon Yoo

In this study, the authors investigate the role of social contagion in an online social community on users' purchase behavior. More specifically, we examine the role of users' characteristics and the users' network structure on their susceptibility to social contagion. Building on the arguments from social psychology literature and leveraging a unique individual user level data from an online gaming community, we examine how a focal user's level of expertise, thrill-seeking behavior and network stability make the users more or less

susceptible to social contagion from other users of the online community. We focus on users' actual purchase of two different types of products, namely conspicuous and inconspicuous products. We estimate our proposed model using Tobit model. We find that social contagion has a positive and significant effect on users' purchase of both conspicuous and inconspicuous products. In addition, the "pros", i.e., the users with greater expertise and the "thrill-seekers", i.e., users who engage in high risk and high reward activities exhibit less susceptibility to social contagion. Interestingly, we find that whereas users with greater network stability are more susceptible to social contagion in the purchase of inconspicuous products, network stability does not moderate the social contagion effect in the purchase of conspicuous products. Based on our results, we discuss the role of behavioral motivations that drive social contagion. We offer implications for managers of online social communities on how to identify and target users for greater engagement with the social media platforms.

3 - The Sound of Twitter: Effect of Sound Structure of Brand Tweets on Consumer Engagement

Raji Srinivasan, University of Texas at Austin, 2803 Barton Point Drive, Austin, TX, 78733, United States of America, raji.srinivasan@mcombs.utexas.edu, Francesco Balocco, Gaia Rubera

Twitter is an online social networking service that enables users to send and read short 140-character messages called "tweets". By late 2014, there were over 284 million active users and 500 million messages were sent each day through Twitter. Not surprisingly, brands are using Twitter to tweet to their consumers. As Twitter uses text messages, it is reasonable to expect that the sound structure of brand tweets may influence the effect of the tweets on consumers' responses. In this paper, we examine the effects of the sound structure of brands' tweets on online consumer engagement with the brand. We examine two measures of consumer engagement, retweeting (i.e. whether the consumer forwards the tweet to her followers) and favoriting (i.e. whether consumer identifies the tweet as a favorite). Applying sound stress theory, we relate four sound structure characteristics, rhyme, rhythm, "rhyme" ("repetition of syllables at the ends of words"), "chime" ("key words in a phrase begin with identical sounds or letters"), alliteration and assonance ("three or more repetitions of a vowel or consonant"), to consumer engagement. Using data on 700,000 tweets of 631 brands, we find that the sound structure of tweets affects the two metrics – retweeting and favoriting – of consumer engagement. The findings have implications for designing brand communications on Twitter to increase online consumer engagement.

4 - Positively Aware

Shaiza Qayyum, Graduate Student, Johns Hopkins University, 3400 N. Charles Street 440 Mergenthaler Hall, Baltimore, MD, 21218, United States of America, sqayyum2@jhu.edu, Nicholas Papageorge, Jorge Balat

While there is substantial evidence of word of mouth or user and expert reviews having an impact on market share, not much work has been done in contexts where the costs of choosing the wrong action can be considerably high. One such context is choice of pharmaceutical drugs for a life-threatening disease. We study the impact of HIV drug reviews by doctors and HIV/Aids activists on the demand for these drugs. To identify a causal relationship, we employ a difference-in-differences approach and exploit the difference in the market share of drugs with good and bad reviews at different stages of a drug's lifecycle. Our results show that a positive rating in the first year of a drug's lifecycle significantly impacts drug demand, while the impact of a positive rating as the drug gets older is insignificant. We argue that additional information on HIV drugs in the form of reviews is more informative when there is more uncertainty about drug quality. We also show that the reviews are also more likely to be wrong when they are significantly impacting demand.

■ FD13

13- Fourth Floor, Harborside A

Digital Marketing VI

Contributed Session

Chair: Christine Balague, Chair Social Networks, Telecom School of Management, LITEM, Institute Mines Télécom, 9 rue Charles Fourier, Evry, 91011, France, christine.balague@it-sudparis.eu

1 - What are the Social Networks Metrics Impacting Sales?

Christine Balague, Chair Social Networks, Telecom School of Management, LITEM, Institute Mines Télécom, 9 rue Charles Fourier, Evry, 91011, France, christine.balague@it-sudparis.eu

Social networks are mainly considered by marketers as valuable earned media on account of their potential viral audience. These social networks also collect massive data on consumers or potential ones. In this research, we aim at analyzing the contribution and value of these new data types on marketing strategies and more specifically CRM. Matching social networks and transactional data, we propose new different scorings of social networks users based on the analysis of interactions graphs, networks structures, content analysis and show the relationship between these scores and consumer purchases. Finally we propose recommendations in terms of social media metrics and their visualization in a big data platform we specifically developed and that can be easily implemented by companies.

2 - More Likes, Less Buys? Correlating Social Media Popularity to Marketing Effectiveness

Wenjun Zhou, Assistant Professor, University of Tennessee, 916 Volunteer Blvd, SMC 247, UT BAS, Knoxville, TN, 37934, United States of America, wzhou4@utk.edu, Xiaolin Li, Robert Mee

TV commercials have been effectively used as marketing vehicles for decades. With the advent of new media, various new tools have been adopted by businesses in the hope of reaching out to a wider audience and bringing marketing effectiveness to a new level. Like other businesses, TV stations are starting to promote the viewership of their programs by utilizing social media. As TV commercials are incorporated into TV programs, pricing of ads are tied to the program's viewing rate. As both social media popularity metrics (e.g., counts of likes, shares, and comments) and viewing rates are collected, we had the opportunity of studying the correlation between social media popularity and marketing effectiveness in terms of viewership. The study is based on a popular Chinese TV program on matchmaking-for-dating show. Common social media metrics, such as number of shares, number of comments, and number of likes, are collected for each piece of social media post that promotes an episode of the TV program, and the viewership data is collected every minute during the show. We find that although sharing and comments are not significantly correlated with the peak viewing rate, the number of likes is surprisingly negatively correlated with viewing rate. In other words, the more likes of a social media post, the lower viewing rate of the episode that such media attempts to promote. This might indicate a competition in attention between different media. This discovery has important implications on the use and interpretation of social media performance metrics.

3 - Measuring the Value of Customer Engagement in Mobile Social Networking Services

Hikaru Yamamoto, Keio University, 4-1-1 Hiyoshi, Kohoku^ku, Yokohama, Japan, hikaru@kbs.keio.ac.jp, Naohiro Matsumura

In this paper, we propose a new method to measure the engagement value of a customer and his or her network using a unique data set from a mobile social networking service (SNS) in Japan. Customer engagement behavior is defined as 'customers' behavioral manifestations that have a brand or firm focus, beyond purchase, resulting from motivational drivers' (van Doorn et al. 2010), and includes behavioral expressions such as uploading texts, photos, and videos, participating in online games, checking in to places and events, commenting on other users' articles, etc. We calculated engagement value (EV), which is a breakdown of the customer's activity by item or action, and the value of her network by incorporating the social factor to individual activity data. The quantitative value of a customer in networks is often examined by the well-studied notion of degree centrality. The qualitative value of a customer is usually examined at the level of a single customer, not the network. The contribution of this research is that our approach captures both quantitative and qualitative aspects of the customer and his or her network. The results of empirical analysis show that our approach is useful in finding valuable customers for marketing activities such as better targeting for promotion, discount, and reward.

■ FD14

14- Fourth Floor, Harborside B

Entertainment II

Contributed Session

Chair: Moon Young Kang, KAIST Business School, 85 Hoegiro Dongdaemun-gu, Seoul, Korea, Republic of, mkang@business.kaist.ac.kr

1 - How On-Demand Streaming Services Influence Music Expenditures and Music Industry Revenue

Nils Wloemert, Assistant Professor, Vienna University of Economics and Business, Welthandelsplatz 1, Vienna, 1200, Austria, nils.wloemert@wu.ac.at, Dominik Papies

The latest phase of the music industry's ongoing struggle against plummeting revenues saw the introduction of on-demand streaming services that generate revenues through subscription fees or advertising (e.g., Spotify). The questions whether (and to what extent) streaming services cannibalize demand from existing distribution channels, and how these services affect overall music industry revenues have stirred considerable controversy recently. Previous research on cannibalization effects of channel additions is inconclusive and it is therefore unclear whether this channel addition is beneficial. We address this research gap and investigate the impact of free and paid streaming services on music expenditures and total music industry revenue. To this end, we repeatedly interviewed a panel of more than 2,500 music consumers over more than one year. For our analyses, we rely on a difference-in-difference estimator, which controls for unobserved individual effects that may otherwise confound the identification of a cannibalization effect. Our results suggest a cannibalistic relationship between on-demand streaming services and expenditures in other channels, and these cannibalization effects increase with the usage-intensity of the services. With respect to the effect of streaming services on total industry revenue, our study reveals an intriguing insight: despite the cannibalistic effect of streaming services on existing channels, these services have the potential to increase the overall revenue for the industry. While the net effect of paid streaming services is clearly positive, the net-effect of free services depends on the assumptions regarding the payout rate that music labels receive from the streaming services.

2 - How Music Attributes Lead to Choice: An Empirical Investigation into Physiological Variables

Moon Young Kang, KAIST Business School,
85 Hoegiro Dongdaemun-gu, Seoul, Korea, Republic of,
mkang@business.kaist.ac.kr, Jaehwan Kim, Yang Seok Cho

These days, saving the production cost while generating the most positive responses for music configuration is extremely important to music producers and marketers. However, the parameter estimates obtained from single choice equation cannot address the information required by music specialists and marketers. The information loaded on “in-process” metric for demand (e.g., attention, arousal, and positive valence) are essential. This gives rise to challenges. First, the one needs a model beyond choice, the modeling framework where those in-process latent metrics are related to the observed music attributes with choice. Second, more importantly, those in-process metric construct cannot be obtained reliably via traditional paper-and-pencil based survey. To address these major issues, i) we propose a multivariate systems of equations allowing for dependence between choice utility and the intermediate demand variables, and ii) we use the data obtained via physiological responses (ECG, GSR, and facial EMG) as mediating variables.

■ FD15

15- Fourth Floor, Essex AB

Mobile Marketing and Quantitative Models

Cluster: Special Session

Invited Session

Chair: Xueming Luo, Charles Gilliland Distinguished Professor of Marketing, Temple University, Department of Marketing, United States of America, luoxm@temple.edu

Co-Chair: Michelle Andrews, Temple University, Philadelphia, PA, United States of America, michelle.andrews@temple.edu

1 - Hyper-Relevant Mobile Ad

Andrew Reinaker, PhD Student, Temple University, Department of Marketing, United States of America, reinaker@temple.edu,
Michelle Andrews, Xueming Luo, Zheng Fang

Mobiles ads, despite their appealing potential, face the challenge of overall ineffectiveness. The authors conduct two randomized field experiments to test the notion of consumer-conscious mobile ads, i.e., effective mobile ads must coordinate the ad message content with the consumer geographic location context and mindset focus. Findings show that messages are effective when the mobile ad message content fits the consumer mindset in each of two location contexts (home and work). In addition to being driven by message congruence with the current location, mobile ad messages are more persuasive when framed with the correct regulatory focus (promotion and prevention-focus) given the reference to primary or secondary social goal reminders. The findings have important implications for managers who are conscious of receiving a return on their use of mobile ads and provide key insights into how to capitalize on the work/life balance for higher mobile ad effectiveness.

2 - Self-Signaling and Pro-Social Behavior: Mobile Field Experiments

Xueming Luo, Charles Gilliland Distinguished Professor of Marketing, Temple University, Department of Marketing, Philadelphia, PA, United States of America, luoxm@temple.edu,
JP Dube, Zheng Fang

We test a self-signaling theory using two large-scale, randomized controlled field experiments. Mobile phone users are randomly sampled to receive promotional offers for movie tickets via SMS technology. Test groups are exposed to different pre-determined levels of price discounts and charitable donations tied to the ticket purchase. The main effects of price discounts and charitable donations increase ticket demand. However, the combination of both discounts and donations can decrease ticket demand. In a post-purchase survey, the same subjects self-report lower ratings of “feeling good about themselves” as the motivation for buying a ticket when discounts and donations are both large. These findings are consistent with a self-signaling theory, whereby the discount crowds out the consumer’s “warm-glow” feeling from the charitable donation. Alternative behavioral explanations are ruled out. A structural model of demand with self-signaling is fit to the data using a constrained optimization algorithm to handle the potential multiplicity of equilibria. The estimated preferences reveal that consumers do not derive consumption utility from donations bundled with the ticket. However, they derive significant diagnostic utility: the warm-glow feeling of the self-perception of valuing charitable donations.

3 - Mobile Media and Customer Engagement

Vijay Viswanathan, Professor of Marketing, Northwestern University, United States of America,
vijay-viswanathan@northwestern.edu, Linda Hollebeck,
Edward Malthouse, Su Jung Kim, Wei Xie

Firms are still figuring out the best way to engage with their customers and measure the effects of engagement. Many attempts at engagement fail to create value for consumers and instead disengage them. In this study, we analyze data provided to us by a large loyalty program. The data captures customers’ (dis)engagement with a brand’s mobile application (app hereafter) as well as their purchase and redemption behaviors over time. We model engagement as a dynamic, iterative process using a vector autoregressive (VAR) model. The results from the model enable us to understand how increases in engagement as well as

decreases in engagement (i.e., disengagement) affect purchase behaviors.

4 - Mobile App Analytics: A Multiple Discrete-Continuous Choice Framework

Sang Pil Han, Assistant Professor, City University of Hong Kong,
Information Systems Department, Hong Kong - PRC,
sangphan@cityu.edu.hk, Sungho Park, Wonseok Oh

The number of mobile apps is exponentially growing to over 2 million, but little is known about how users choose and consume apps in numerous categories. This study develops a utility theory-based structural model for mobile app analytics. Specifically, based on the theoretical notions of utility and satiation along with the factor analytic approach, we model users’ multiple discrete app choice and continuous consumption decisions simultaneously in order to uncover the complex relationships among choice, consumption, and utility maximization for numerous mobile apps. Using a unique panel data set detailing individual user-level mobile app time consumption, we quantify the baseline utility and satiation levels of diverse mobile apps and delineate how users’ app preferences and consumption patterns vary across demographic factors. The findings suggest that users’ baseline utility diverges substantially across app categories and their demographic characteristics explain a substantial amount of heterogeneity in baseline utility and satiation. Furthermore, both positive and negative correlations exist in the baseline utility and satiation levels of mobile web and app categories. Our modeling approaches and computational methods could open new perspectives and opportunities for handling large-scale, micro-level data, while serving as important resources for big data analytics and mobile app analytics in particular.

■ FD16

16- Fourth Floor, Essex C

Working Paper XIX

Contributed Session

Chair: Jose Fernandez, University of Louisville, College of Business, Louisville, United States of America, jose.fernandez@louisville.edu

1 - Pass-Through along the Supply Chain

Germain Gaudin, DICE, Heinrich Heine University,
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This paper analyzes the determinants of channel pass-through specific to vertical relationships between manufacturers and retailers. Pass-through depends on the firms’ relative bargaining power and on the type of agreement they contract upon. Pass through rates at the upstream and downstream levels generally differ, although common modelling assumptions imply a constant pass-through between the different levels of the supply chain. Manufacturers may alleviate the problem of incomplete pass-through of trade promotions by giving more bargaining power to retailers.

2 - Pay-What-You-Want Pricing and Competition: Breaking the Bertrand Trap

Jose Fernandez, University of Louisville, College of Business, Louisville, United States of America, jose.fernandez@louisville.edu,
Yong Chao, Babu Nahata

Pay-what-you-want pricing is unusual in that firms actively relinquish their control over price and allow consumers to choose any non-negative price for the good. In this paper we demonstrate that PWYW pricing can serve as a method to soften competition in a duopoly setting. In the typical duopoly setting with identical firms where both firms choose price the well-established solution is both firms setting price equal to marginal cost and receiving profits equal to zero, the Bertrand Trap. However, pay-what-you-want pricing can exploit behavioral motivations to induce voluntary payments from some consumers. In a competitive setting, the presence of social preferences (guilt, altruism, fairness, self-image, etc) has two effects: (1) it induces payments for the PWYW firm and (2) dissuades some consumers from shopping at the pay-what-you-want firm to avoid guilt by shopping at a price setting firm. Additionally, firms must weigh the benefits and cost of adopting pay-what-you-want pricing over using a set price while facing a constant marginal cost of production. Under some reasonable ranges of guilt and marginal cost, we show that pay-what-you-want pricing can survive as a sub-game perfect equilibrium resulting in positive profits for both firms; thus breaking the Bertrand Trap.

■ **FD17**

17-Fourth Floor, Falkland

ISMS Doctoral Dissertation Proposal Competition Winners II

Cluster: Special Session

Invited Session

Chair: K Sudhir, Yale School of Management, 165 Whitney Avenue, New Haven, CT, 06511, United States of America, k.sudhir@yale.edu

1 - A Two-Sided Market Analysis of Behaviorally Targeted Display Advertising

Shijie Lu, Univ. of Southern California, 3660 Trousdale Parkway, ACC 306E, Los Angeles, CA, United States of America, shijielu@usc.edu, Sha Yang

Behavioral targeting, displaying personalized advertisements based on consumers' past online behaviors, has become a popular practice in the Internet advertising industry. One unique challenge faced by the advertising host in serving behaviorally targeted ads is to determine the targeting level, which is an inverse scale of the number of a consumer's recent interests used in the user-ad match. For instance, a high level of targeting implies a more accurate inference on a user's current preference, leading to the use of a smaller set of recently activated interests from the user, and consequently a smaller set of candidate advertisements to serve to the user. Intuitively, a high targeting level can increase the relevance of the served ads and consequently the users' click-through rate, but it might also evoke users' negative reactions by triggering privacy concerns and/or information satiation, lowering the click-through rate. Besides the mixed reaction from users, advertisers may also respond to a high targeting level by either raising bids in an anticipation of a higher value-per-click, or lowering bids due to the reduced competition. This paper examines the impact of the targeting level on the online display advertising industry. We develop a model to simultaneously capture users' reactions to behaviorally targeted ads, the advertising host's decision on ad serving, and advertisers' bid decisions. We apply the model to a novel dataset obtained from a leading Internet advertising platform. Our estimation results suggest that although the advertisers' profits increase with the targeting level, both the consumers' clicks and the advertising host's revenue have an inverted-U relationship with the targeting level.

2 - Overhaul Overdraft Fees: Creating Pricing and Product Design Strategies with Big Data

Xiao Liu, Carnegie Mellon University, 5000 Forbes Ave., Pittsburgh, PA, United States of America, xiaoliu@andrew.cmu.edu, Alan Montgomery, Kannan Srinivasan

In 2012, consumers paid an enormous \$32 billion overdraft fees. Consumer attrition and potential government regulations to shut down the overdraft service urge banks to come up with financial innovations to overhaul the overdraft fees. However, no empirical research has been done to explain consumers' overdraft incentives and evaluate alternative pricing and product strategies. In this paper, we build a dynamic structural model with consumer monitoring cost and dissatisfaction. We find that on one hand, consumers heavily discount the future and overdraw because of impulsive spending. On the other hand, a high monitoring cost makes it hard for consumers to track their finances therefore they overdraw because of rational inattention. In addition, consumers are dissatisfied by the overly high overdraft fee and close their accounts. We apply the model to a big dataset of more than 500,000 accounts for a span of 450 days. Our policy simulations show that alternative pricing strategies may increase the bank's revenue. Sending targeted and dynamic alerts to consumers can not only help consumers avoid overdraft fees but improve bank profits from higher interchange fees and less consumer attrition. To alleviate the computational burden of solving dynamic programming problems on a large scale, we combine parallel computing techniques with a Bayesian Markov Chain Monte Carlo algorithm. The Big Data allow us to detect the rare event of overdraft and reduce the sampling error with minimal computational costs.

Saturday, 8:30am - 10:00am■ **SA01**

01-Third Floor, GB 1

Brands III

Contributed Session

Chair: Zhuping Liu, The University of Texas at Austin, 2110 Speedway, B6700, Austin, TX, 78712, United States of America, zhuping.liu@phd.mcombs.utexas.edu

1 - The Creation of Buyer-Based Brand Equity in B2B Context

Zahra Seyed Ghorban, Monash University, Building S, Caulfield Campus, 26, Sir John Monash Drive, Caulfield East, 3145, Australia, zahra.seyedghorban@monash.edu, Margaret Matanda, Dayna Simpson

Branding has traditionally been viewed as to be of limited significance in B2B markets. However, recent studies emphasize the strategic importance of high brand equity in enhancing the competitive position and financial performance of most organizations. Given that limited attention has been directed to investigating the creation of brand equity in B2B from the industrial buyers' point of view, this study addresses this gap by undertaking a qualitative study to conceptualize buyer-based brand equity, and addresses the following questions: i. What role does branding play in B2B purchasing process? ii. What are the sources of buyer-based brand equity in B2B purchasing process? To answer above questions, a qualitative research approach was employed and semi-structured interviews were held with 9 procurement/purchasing managers in manufacturing industry in Australia. The participants had an average experience of 14 years in industrial purchasing. Thematic analysis was used to analyze the data and the results indicate that the traditional cognition, affection, and conation stages, which are based on HOE theory and have been identified in B2C markets, contributes to the building of high equity brands in B2B markets. However, other factors such as supplier's country of origin image, corporate reputation and image, environmental and social responsibility standards, technical and non-technical capabilities of supplier's representatives also play a crucial role in influencing the purchase process and the development brand equity in the B2B context. Thus, pure HOE theories developed in B2C markets may not be relevant in B2B context.

2 - Vertical Differentiation: Brand Extend or Brand Expand?

Jeff Cai, The Wharton School, University of Pennsylvania, 3730 Walnut St JMH Suite 700, Philadelphia, PA, 19104, United States of America, caicexun@wharton.upenn.edu, David Reibstein, Ashish Sood

When Toyota vertically extended their product line upward, they chose to do so with a new brand – the Lexus. Years later, Hyundai also extended their product line upward, but chose to do so within their existing brand – the Hyundai Genesis. Two different strategies in the same industry: Was one of the companies wrong in their approach? When is either strategy optimal? There are many tradeoffs involved in this decision – the price a firm can command for the extension, the costs of creating a new brand, the impact or spillover on the rest of the portfolio via the impact on the brand, just to name a few. The product line extension decision – within brand versus new brand – is a common problem found in many industries. Using an analytical model, we examine the effects of spillovers across the product lines under each strategy, and implications for pricing and profits. We then provide evidence for our propositions using historical data from Hyundai and Toyota as empirical illustrations. We ultimately show the conditions under which each strategy is optimal.

3 - Dynamics and Peer Effects of Brand Value in College Sports

Zhuping Liu, The University of Texas at Austin, 2110 Speedway, B6700, Austin, TX, 78712, United States of America, zhuping.liu@phd.mcombs.utexas.edu, Frenkel ter Hofstede, Jason Duan, Vijay Mahajan

Brand value plays a key role in attracting corporate sponsorship for the multi-million dollar business of college sports. In this paper, we study peer effects in the dynamic brand value evolution of major college sports teams that play in the same National Collegiate Athletic Association conferences. To examine the peer effects in each conference, we propose a novel methodology that can identify conference-specific peer effects while capturing the dynamic evolution of brand value. Our model estimation results reveal strong positive peer effects in four major conferences-Big 12, Big Ten, Southeast Conference, and Pacific-12, indicating that teams benefit from playing in a conference with strong teams. Our approach also sheds light on the effect of conference switches on a team's brand value. By constructing the counterfactual brand value trajectory of not switching conferences for a switched team, we show the difference between the counterfactual trajectory and the actual brand value evolution, which scientifically quantifies the effect of a conference switch.

■ SA02

02-Third Floor, GB 2

Innovation I

Contributed Session

Chair: Nukhet Harmancioglu, Assistant Professor of Marketing, Koc University, College of Administrative Sciences and E, Istanbul, 34450, Turkey, nharmancioglu@ku.edu.tr

1 - Market Returns to Innovation Sourcing Decisions: Short and Long-Term Implications

Nukhet Harmancioglu, Assistant Professor of Marketing, Koc University, College of Administrative Sciences and E, Istanbul, 34450, Turkey, nharmancioglu@ku.edu.tr, David Griffith, Tuba Yilmaz

The marketing literature is replete with work assessing firm market value of marketing actions via the analysis of short-term stock returns. However, researchers are increasingly questioning the validity of this assessment approach, most notably related to strategic decisions which have long-term effects. In this work, we examine the short- and long-term market value impacts of innovation outsourcing decisions in high-technology markets. Specifically, the following research questions are addressed. First, what are the effects of innovation outsourcing on short and long-term stock market performance and are firms better off outsourcing innovation domestically or offshoring? Second, modeled within a resource dependence framework, what sources of dependence and uncertainty impact short versus long-term stock market performance? The findings come from event-study analyses of 449 innovation outsourcing decisions in high technology markets between January 1982 and December 2004. The results show that: (1) short term performance was positive overall and for the U.S. sample, while long term Fama-French adjusted performance was negative; (2) investors view supplier involvement and buyer resources as negatively impacting performance in the short run; and (3) in the long run, investors view specificity and supplier involvement positively, but supplier concentration negatively, while the strategic importance of the project is positively related to long term returns in domestic contexts only.

2 - Digital Education: A Knowledge Sharing Platform for Massively Open Online Courses

Andreas Heusler, Ludwig-Maximilians Universität München, Geschwister-Scholl-Platz 1, Munich, 80539, Germany, heusler@bwl.lmu.de, Martin Spann

Education has only recently been affected by the digital revolution. Massively Open Online Course (MOOC) are online learning courses with large online communities (over 10,000 members) and open access to educational material, such as video lectures and quizzes. MOOCs promise to enable scale effects in higher education. However, the lack of personal interaction may explain the high dropout rates of these courses. We propose a new method, the Knowledge Stock Exchange that stimulates and enables student interaction in connection to MOOCs. Knowledge Stock Exchanges foster a competitive as well as collaborative way of sharing knowledge in online communities. The method relies on the principle of information markets such as prediction markets. Students of a MOOC are invited to submit their solutions to a number of task assignments. Each solution can be traded as a virtual stock, whereby the stock price represents the solution's quality with respect to the given task assignment. Students can not only discuss and comment a solution but also edit and enrich a solution with additional content. The goal of this study is to analyze the effectiveness of Knowledge Stock Exchanges in terms of motivation potential, content quality and the students' learning success. As part of our study we conducted a Knowledge Stock Exchange including nearly 1,000 participants that also participated in a MOOC with over 10,000 participants. Our findings provide a comparison between those users that only attended the MOOC and those that additionally and voluntarily participated in the Knowledge Stock Exchange.

3 - The Role of Slack on Innovation in Household Enterprises

Thomas Zhang, London Business School, Sussex Place, London, United Kingdom, szhang@london.edu

Emerging markets such as India are dominated by household enterprises – small businesses run by family units. These enterprises tend to stay small. One of the reasons for this is that family enterprises tend not to adopt innovative practices that would increase productivity high enough to warrant expansion. Why not? We postulate that these household enterprises function with too little day-to-day slack to allow for productivity innovation. Using a unique dataset of innovation adoptions by family farmers in India, we demonstrate that day-to-day slack encourages innovation in household enterprises.

4 - Mechanisms for Influencing Reactance towards Autonomous Driving

Katharina Glass, TU Braunschweig, Mühlenpfordtstrasse 23, Braunschweig 38106, Germany, k.glass@tu-braunschweig.de, Isabelle Kes, David Woisetschlaeger

This year's consumer electronics show in Las Vegas featured rapid advances in vehicle automation, such as a self-driving car completing a 550 miles trip from Silicon Valley to Las Vegas (Cunningham 2015). Vehicle automation is expected to contribute positively to road safety (van der Pas et al. 2014), to reduce traffic jams, and increase travelling comfort. However, these benefits can only be reached if consumers are willing to use such automated systems (Huth, Gelau, 2013), from a managerial perspective a high level of acceptance is a prerequisite for a higher level of purchase intention. Although existing literature provides some evidence that consumers are generally open towards automated driving (Payre, Williamson 2014) this study delivers further insights which conditions consumers are willing to hand over control to an automated car. Studies from other contexts show that impairing or influencing people in their autonomy might lead to a sense of reactance (Homburg, Prigge 2014; Brehm 1966). Against this background, the present study manipulates two different levels of automated driving, optional and obligatory car automation on highways, in a laboratory experiment. The first scenario describes an optional automated driving system which is activated automatically as soon as the driver enters the highway but control over the car can be retaken at any point of time. The second scenario describes an obligatory automated driving system which is activated automatically but without the possibility to switch it off. In total, 392 respondents participated in an online laboratory experiment, in which respondents were randomly assigned to one of the two scenarios. The results show that a higher impairment of autonomy leads to a higher reactance towards the automated car. Furthermore perceived behavioral control is significantly negatively influenced by the amount of autonomy impairment.

■ SA03

03-Third Floor, GB 3

International Marketing I

Contributed Session

Chair: Nadia Abou Nabout, Prof., Vienna University of Economics and Business, Welthandelsplatz 1, Vienna, 1020, Austria, nadia.abounabout@wu.ac.at

1 - The Moderating Role of Country-of-Origin (COO) Acts in the Customer-Perceived Value Model

Connie Chang, Associate Professor, Meiji University, 1-1 Kanda-Surugadai, Chiyoda-ku, 1-1 Kanda-Surugadai, Chiyoda-ku, Tokyo, 101-8301, Japan, connie@meiji.ac.jp, Yu-Hsu Hsu

The purpose of this study was to test the effects of the Country-of-origin (COO, thereafter) on customer-perceived value when purchasing luxury bone china in Japan. With traditional British elegance and highly admired craftsmanship, Wedgwood is well-known for its bone china tableware and dinnerware sets. Since it was more cost-effective, the company decided to move one of its product lines from England to Indonesia in 2009, so the products are now designed in the UK and manufactured in Indonesia. This reflects the nature of hybrid products whereby the source nation benefits from cheap labour and rich resources. However, one point of confusion is that customer-perceived value may be negatively influenced by the country image (Grewal, Monroe, & Krishnan, 1998) and this directly influences the brand value (Saydan, 2013), purchase intention (Carter and Maher, 2014) and product quality (Amine, Arnold, & Chao, 2005; Chattalas, Kramer, & Takada, 2008; Insch, 2003). Moreover, how these effects influence customer product evaluation remains unclear. A mixed-method approach was employed. Approximately twenty in-depth, face-to-face consumer interviews were conducted in Japan and each interview lasted an hour. A total of three hundred cases were collected via Qualtrics. The findings confirm the antecedents and consequences of the customer-perceived value model and indicate that customer-perceived value has positive effects on satisfaction and purchase intention. In addition, evidence suggests that the strength of the links among price to value, quality to value and sacrifice to value are moderated to varying degrees by COO.

2 - Zooming in on Choice: How do Consumers Search for Cameras Online?

Carl Mela, T. Austin Finch Foundation Professor of Business Administration, Duke University, 100 Fuqua Drive, Durham, NC, 27708, United States of America, mela@duke.edu, Bart Bronnenberg, Jun Kim

We describe online consumers' search behavior for differentiated durable goods using a data set that captures a highly detailed level of consumer search and attribute information for digital cameras. Consumers search more extensively than commonly reported, engaging in 14 searches on average prior to purchase. Individual level search is confined to a small part of the attribute space. Even early search is highly predictive of the characteristics of the camera eventually purchased. Further, search paths through the attribute space are strongly state dependent and display "lock-in" as search unfolds. Finally, the first-time discovery of the chosen alternative usually takes place toward the end of the search sequence. We discuss these and other findings in the context of optimal search strategies and discuss the prospects for consumer learning during search.

3 - The Risk of Advertising on Non-Premium Websites

Nadia Abou Nabout, Prof., Vienna University of Economics and Business, Welhandelsplatz 1, Vienna, 1020, Austria, nadia.abounabout@wu.ac.at, Michel Clement, Edlira Shehu

Marketers have long struggled over the question of whether advertising in non-premium environments is a good strategy. While advertising in non-premium environments is less expensive, it also bears the risk of potential damages to the advertised brand. With the rise of real-time bidding and programmatic buying, this question has become even more relevant as millions of websites and their ad inventory have become easily accessible to advertisers via ad exchanges such as Google DoubleClick or the Yahoo! ad exchange. This study aims at answering the question of whether advertising in non-premium environments really puts brands at risk. To answer this question, we analyze a large-scale data set from several field experiments conducted for different brands on a global video-sharing platform (N=6,027) and compare brand recall, ad and brand likeability, and the likelihood of skipping the ad across premium and non-premium ad inventory. Our results show that the negative effects of advertising in non-premium environments are lower than assumed by advertisers: It does not affect brand recall or skipping behavior and influences ad and brand likeability only in case of high-involvement brands. Thus, this study shows that advertising in non-premium environments may be a promising strategy for advertisers of low-involvement products, because no negative effects occur and the related costs are lower. For managers of high-involvement products, the optimal strategy may indeed be to focus on premium advertising environments despite the higher related costs.

4 - The Consideration Process: Insights from Modeling Clickstream Data

Yifan Zhang, Pennsylvania State University, 408A Business Building, University Park, State College, PA, United States of America, yxz192@psu.edu, Arvind Rangaswamy, Daniel Ringel, Bernd Skiera

Although the concept of consideration sets has been around in Marketing since the 1970's, it has been difficult to explicitly model consideration sets because they are unobserved by researchers, and consumers may also be unable to articulate their process. Thus, much of the extant research on consideration sets has been done in settings where researchers observe choices and then try to infer consumers' consideration sets based on those choices. In this research, we use extensive data from a price comparison search engine to observe the processes by which consumers decide to explore different brands and models before making choices. We propose a non-homogenous discrete-time model in which different degrees of consideration are specified as ordered hidden states, and consumers transit from one state to another by maximizing utility (unobserved by the researcher). We also allow for heterogeneity in the consideration process, and use a Bayesian model to estimate the parameters. The observed data includes information about the products viewed during the decision process (which may occur over multiple sessions), and whether the same products have been viewed by the same consumer at multiple times during the search process. We also have a rich set of covariates to explain the evolution of consideration, and to articulate the process by which consumers expand their consideration sets, or converge to their current sets. We will discuss the theoretical insights and implications of our study and articulate managerial interventions that could enhance (i.e., speed up or simplify) the consideration process.

SA04

04-Third Floor, GB 4

New Product IV

Contributed Session

Chair: D. Sudharshan, Professor, University of Kentucky, 119 B Mandrell Hall, Lexington, KY, 40506, United States of America, sudharshan@uky.edu

1 - Analysis of Order of Behavior for New Product Adoption

Takashi Teramoto, Associate Professor of Marketing, Meisei University, 2-1-1 Hodokubo, Hino-shi, Tokyo, 1918506, Japan, takashi.teramoto@meisei-u.ac.jp, Akira Shimizu, Jeffrey Inman

In this research, we focus on the relationship between order of media contact and adoption behavior of new products. The effects of TV watching, web browsing and in-store promotion for new product adoption have been suggested through various studies, but the relationship between the order of exposure to these media contacts and new product adoption have not been examined. We use single source data supplied by INTAGE Inc. that provides web browsing behavior, TV viewing behavior, and buying behavior, and assess the effect of the order of media contact on new product adoption. We estimated five Poisson regression models to explain the adoption behavior of seven brands of canned coffees and six brands of beer. The parameters of the model show that, 1) in-store promotion, TV watching and web browsing positively influence purchase frequency of new products, and 2) the order of TV watching -> buying -> web browsing is more predictive of purchase frequency than that of TV watching -> web browsing -> buying. We conclude that the web is less of a recognition tool but more of a post-purchase confirmation tool for consumers. These outcomes imply the importance of considering order of media contact to examine the effects on new product sales.

2 - A Stochastic Diffusion Model of Adoption Behavior

Pattara Rujeerapaiboon, University of Mannheim, A5,6 Room B115, Mannheim, 68161, Germany, pattara.r@gmail.com, Martin Schlather, Yasemin Boztug

Diffusion processes attract large interest in economics and marketing community as a tool for modelling the spreading of adoption subject (e.g., product, technology, innovation, policy). They are often based on equation-based models, notably the Bass model and its extensions, whose merits lie in simplicity and intuitive interpretation of economic variables. An alternative approach is agent-based modelling which is able to capture interaction among individuals. We propose a hybrid agent-based stochastic differential equation model which unifies the advantages of both approaches to study the diffusion of trials (first-time adoption incidents), taking into account the effects from society at both microscopic and macroscopic levels. The model incorporates social learning as characterized by social communication (information exchange among decision makers) and social pressure (collective pressure from the economic system). It is derived under a utility framework to render an intuitive interpretation from a socio-interaction perspective. Important findings and confirmations are: 1) social pressure induces trials 2) social pressure decreases takeo period, increases peakload and temporal autocorrelation, as well as governs the distribution of trials 3) social learning can delay takeo period. Simulation results suggest a marketing strategy that: 1) suppresses social learning when the adoption subject is first introduced to the economy 2) induces early trials as soon as possible 3) prioritizes the number of appreciators rather than lowering the number of non-appreciators during the early stage of marketing 4) promotes contagion and visibility of trial incidents when the public perception is positive.

3 - The Application of Case-Based Decision Theory to the Adoption of a "Really" New Product

Kanoko Go, PhD Student, Keio University, Graduate School of Business and Commerce, 2-15-45 Mita, Minato-ku, Tokyo, 108-8345, Japan, go.kanoko@gmail.com, Mai Kikumori, Yutaka Hamaoka

The adoption of a new product is uncertain decision for consumers. Especially when the product is complicated or really new, or consumers do not have enough knowledge of it, they cannot decompose the product into attributes. To model consumer decision-making under uncertain situations, Gilboa and Schmeidler (1995, 2001) proposed Case-Based Decision Theory (CBDT); a decision rule that chooses a best act based on its past performance in similar cases. Our first study, reported last year, confirmed that CBDT can explain adoption of a new product in beer category. This study applies CBDT to describe consumer's decision making on "really new" product adoption. We developed hypotheses on comparison between the CBDT model and the multi-attribute model. We also extended the CBDT model to incorporate how consumer utilizes information from advertising. They were tested through a Web-based questionnaire survey on adoption of "Google Glass" for undergraduate student (n=101). We confirmed that the CBDT model fitted better than the multi-attribute decision model for consumer's adoption decision of really new product, especially when the consumer has less knowledge on the product category. We found that when the new product was positioned as "innovative": a new product in head mount display category, consumer takes into account both past experience in his/her memory and information from advertising. On the contrary, when the new product was positioned as "less innovative": a new product in smart phone category, consumer does not take into account information from advertising.

4 - A Formalization of the Role of Uncertainty in Services

D. Sudharshan, Professor, University of Kentucky, 119 B Mandrell Hall, Lexington, KY, 40506, United States of America, sudharshan@uky.edu

The primary objective of this paper is to formalize an understanding of the role of uncertainty reduction in services and the embodiment of the uncertainty reduction into hardware, software or firmware to develop goods. Our formalization draws on information theory and in particular the use of entropy as a measure of information, i.e., uncertainty reduction. We take as axiomatic that the performance of a service requires action(s) by human being(s). When the knowledge that is required to perform that service is embodied into durable or consumable hardware/firmware/software it becomes a good. Each transition point from a service to a good marks the creation of an innovation that embodies uncertainty reduction performed by humans into goods. The paper's main contributions, are the conceptualization of the primary role of uncertainty reduction in service design and delivery; proposal of a formal formulation of the objective function for the design of services that includes co-creation; and discussion of the implications of the uncertainty based conceptualization including how its ideas generalize to SERVQUAL, and the principal-agent problem in services.

■ SA05

05-Third Floor, GB 7

Working Papers XXI

Contributed Session

Chair: Daniel Halbheer, HEC Paris, 1 rue de la Libération, Jouy-en-Josas, France, halbheer@hec.fr

1 - Payment Evasion

Daniel Halbheer, HEC Paris, 1 rue de la Libération, Jouy-en-Josas, France, halbheer@hec.fr, Stefan Buehler, Michael Lechner

This paper models payment evasion as a source of profit by letting the firm choose the price charged to paying consumers and the fine collected from detected payment evaders. The consumers choose whether to purchase, evade payment, or refrain from consumption. We show that payment evasion allows the firm to charge a higher price to paying consumers and to generate a higher profit. We also show that higher fines do not necessarily reduce payment evasion. Finally, we provide empirical evidence which is consistent with our theoretical analysis, using comprehensive micro data on fare dodging on the Zurich Transport Network.

2 - Optimal Three-Part Tariff Plans

Gadi Fibich, Professor, Tel Aviv University, Levanon Street, Tel Aviv, Israel, fibich@tau.ac.il, Oded Koenigsberg, Eitan Muller, Roy Klein

Service providers, such as cell phone carriers, often offer three-part tariff plans that consist of three levers: A fixed fee, an allowance of free units, and a price per each unit above the allowance. In previous studies the optimal three-part tariff contract was characterized using the standard first-order conditions approach. Because this optimization problem is non-smooth, however, it could only be solved in a few simple cases. In this study we employ a different methodology which is based on obtaining a global bound for the firm profit, and then showing that this bound is attained by the optimal plan. This approach allows us to explicitly calculate the optimal three-part tariff plan under quite general conditions, where consumers are strategic, they have a general utility function, they experience psychological costs when they exceed the number of free units, they have deterministic or stochastic consumption rates, they are homogeneous or heterogeneous, and the firm costs are fixed or depend on the usage level.

■ SA07

07-Third Floor, GB 9

Pricing IV

Contributed Session

Chair: Hyunwoo Lim, Assistant Professor, Ajou University, 4 Averill Cres, Toronto, ON, M2M2A9, Canada, hyunwoo.lim06@rotman.utoronto.ca

1 - Consumer Deliberation and Transaction-Based Discrimination

Shan-Yu Chou, National Taiwan University, 1 Section 4 Roosevelt Road, Taipei, Taiwan - ROC, chousy@ntu.edu.tw, Chyi-Mei Chen

This paper examines how consumer deliberation may affect a marketer's transaction-based discrimination scheme in a two-period model with repeat purchase, where it is assumed that the marketer cannot credibly set his period-2 price in period 1. Unlike in a static model without repeat purchase, where the marketer may sometimes induce deliberation, the authors show that inducing deliberation is never optimal in a two-period model with repeat purchase. Consumer deliberation is shown to also result in different patterns in equilibrium product price and sales volume. More precisely, compared to the case where the buyer is fully rational, when the buyer is actually facing costs of deliberation, (i) the period-1 sales volume tends to be higher and less volatile; and (ii) the marketer tends to price higher (respectively, lower) in period 1 when the buyer is very likely to have low (respectively, high) valuation. Finally, with repeat purchase, in many marketing environments even if the marketer could costlessly educate the buyer and remove the buyer's costs of deliberation, the marketer would be better off not doing so.

2 - The Persistence of Anchoring Effects on Consumer Valuations

Sangsuk Yoon, Temple University, 1801 Liacouras Walk, Philadelphia, PA, United States of America, ssyoon@temple.edu, Angelika Dimoka, Nathan Fong

The anchoring effect refers to the tendency for people's willingness-to-pay (WTP) for common market goods to be influenced by numbers that should have no bearing on their valuations (Ariely et al., 2003). Despite of its robustness in a short-term, its long-term influence on following choice behavior is still unclear. In two experimental studies, we investigated whether anchoring effects persist over time and influence subsequent choice to further examine of the effectiveness of anchor-related marketing tactics (e.g., price/quantity promotions). In Study 1, we manipulated the time between willingness-to-buy (WTB, anchor) and WTP in the classic anchoring procedure, inserting a one-week gap between the two parts. We found that anchoring effects persisted, regardless of the memory of the original anchor. The effect also persisted when the WTP elicitation was performed in the first week, and repeated after a week and longer (2-5 months). In Study 2, participants were asked to choose one of the two pricematched items associated with either high or low anchor after classic anchoring procedure. We found that participants selected an item associated with high anchor, regardless of the item. These findings show that the effect of anchors on preferences persists, can have lasting influence, and influences subsequent consumer choice. This implies that anchoring tactics can be a meaningful strategy in forming long-term preferences and eliciting choices.

3 - Add-On Pricing with Cost Shocks in a Vertically Differentiated Competitive Marketplace

Steven Shugan, Professor, University of Florida, 2030 NW 24th Avenue, Gainesville, FL, 32605, United States of America, sms@ufl.edu, Jihwan Moon

We investigate transitions from providing free ancillary services to charging add-on fees after asymmetric (in quality) firms experience an adverse cost shock in a competitive duopoly market. The new market equilibrium is dependent upon the magnitude of the cost shock and consumer uncertainty about future add-on valuations. Given the cost shock, the high-quality firm can employ two types of market power: (1) against the low-quality firm to increase market share and (2) against its customers to extract their surplus. For small cost shocks, only the low-quality firm charges a fee to decrease add-on costs by serving fewer customers (only those with high add-on valuations). The high-quality firm exerts market power to both gain market share and exploit consumer surplus. For moderate cost-shocks, the high-quality firm also charges ancillary fees using market power to increase market share but not necessarily decrease consumer surplus. For large cost shocks, the high-quality firm uses market power solely to extract consumer surplus because buyers become less valuable given smaller profit margins and thus the high-quality firm raises its base price to optimally lose some customers to the low-quality firm. Finally, we provide empirical support for our theory using data from three different industries.

4 - Can Information Products Be Complements?

Hyunwoo Lim, Assistant Professor, Ajou University, 4 Averill Cres, Toronto, ON, M2M2A9, Canada, hyunwoo.lim06@rotman.utoronto.ca, Andrew Ching, Ignatius Horstmann

In "Marketing Information: A Competitive Analysis," Sarvary and Parker (1997) (S&P) argue that "while traditional products and services compete either as substitutes or as complements in the relevant product-attribute space, information may be one or the other, depending on its position within the same product-attribute space." This result is very surprising and interesting, and has important marketing managerial implications, especially, given that the market of information is very large, e.g., investment banks estimate values of new start-ups, economics consulting firms providing forecasts of the economy, real estate market, and different sectors of economy, weather forecast, etc. In this paper, we show that S&P obtain the results by implicitly making the following internally inconsistent assumptions: (i) after purchasing information products, consumers update their beliefs using Bayesian updating rule and act as if they have diffuse initial prior (i.e., their initial perceived variance is infinity before receiving any information); (ii) but if consumers choose not to purchase any information product, it is assumed that their initial prior variance is 1 (implied by the utility function specification and that utility of no purchase is "normalized" to zero). This internal inconsistency leads to the possibility that when information sources are noisy (i.e., "unreliable" in S&P's language), the gain of buying an information product from ONE source is very small, and the gain of buying information products from TWO sources is much larger. This implies increasing marginal utility in consuming an additional information product. We show that if we remove this internal inconsistency by assuming that consumers always use the Bayesian rule to update their beliefs, the marginal utility (i.e., the marginal reduction in the posterior variance) of consuming an additional product will always be diminishing. This implies that information signals from different sources are always substitutes, regardless of their noisinesses/reliabilities.

■ SA09

09-Third Floor, Dover AB

Movies and Marketing

Cluster: Special Session

Invited Session

Chair: Vinay Kanetkar, College of Business and Economics, University of Guelph, Canada, vkanetka@uoguelph.ca

1 - Issues Related to the Measurement of Interactions in Non-Linear Marketing Models: The Effect of Critics' Ratings and Consumer Sentiment on Movie DemandTirtha Dhar, University of Ontario Institute of Technology,
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tirtha.dhar@uoit.ca, Charles Weinberg

In nonlinear models, a typical way to determine the interaction effect between variables is to linearize the model for estimation purpose, add an interaction term, and then use the estimate of the parameter of the interaction term to determine the presence (or absence) and the extent of the interaction effect. In this paper, we show that in many cases such an approach is problematic. By design, non-linear models inherently include interactions, and as a result the interaction coefficient does not capture the full extent and complexity of the interaction effect. After exploring the complexities of interaction effects in non-linear models, we outline methods to estimate and understand the interaction effects in two widely used marketing models. We use 26 years of weekly US movie market data to test the interactions between critics' ratings and consumer sentiment about economic conditions on box office attendance. In addition to finding that movie attendance is countercyclical, an expected but not previously documented result, we also show, contrary to popular belief, that critics' ratings have larger impact during economic downturns than during periods of economic expansion.

2 - Which Hollywood Movies are Shown in Movie Theaters in China and How Large is Their Audience?Charles Weinberg, University of British Columbia,
2329 West Mall, Vancouver, BC, V6T 1Z4, Canada,
charles.weinberg@sauder.ubc.ca, Jason Ho, Chunhua Wu

China is the world's second largest theatrical movie market, yet only about 10% of all movies released by Hollywood studios each year are shown in China due to government restrictions. Using a specially constructed extensive data base of movies having a theatrical release in China over recent years, supplemented by a broader data base of movies released elsewhere, we develop and estimate a model to help understand the characteristics of movies that are likely to be approved by the Chinese government for theatrical release in China. Understanding the approval process is particularly challenging, as the objective function concerning acceptance of movies for theatrical release in China has not been fully revealed. Moreover, movie contracts can either be on a revenue sharing (the current quota is 34 movies each year) or on a flat-fee basis (no pre-set quota). For example, "Thor: The Dark World" was shown under a revenue sharing contract and "Despicable Me 2" was shown under a flat fee contract, although both had similar levels of theatrical revenues (approximately US\$50 million) in China. Once accepted for showing in China, a movie's release date can be close to that of the US release or much delayed. Recognizing that only a limited number of Hollywood movies are shown in China and that release dates vary, we then investigate movie and other characteristics that are associated with box office performance in China.

3 - Assessing the Quality of User-Generated ContentGui Liberali, Rotterdam School of Management - Erasmus
University, liberali@rsm.nl, Jehoshua Eliashberg

Firms routinely use data from blogs and product review sites to monitor consumer buzz and sentiment. Such data have also received increased attention by researchers. An assessment of the quality of the information spontaneously provided by users is fundamental prerequisite to make decisions or draw scientific conclusions based on these data. However, to our knowledge, there is no formal approach to assess the quality of UGC. In this paper we develop a paradigm to assess the reliability and validity of user-generated content datasets, in particular for product reviews, e.g., movies. We develop and implement a procedure based on textual analysis of content and sentiment that assesses the UGC quality with tools widely used in marketing, information theory and machine learning literatures. We assess reliability using an innovative combination of psychometrics and machine learning methods to propose a generalized version of Cronbach's Alpha that can be applied to textual data. Our analysis in the movie industry shows that a UGC dataset that is purified according to our procedure has greater reliability and predictive validity.

4 - Role of Sequels in Brand Extension and ExpansionVinay Kanetkar, College of Business and Economics, University of
Guelph, Canada, vkanetka@uoguelph.ca, Khalil Rohani, Chuahua
Chen

The literature about movie sequels suggests that original movies generate lower revenue compared to sequels. In this paper, we propose an alternative model to account for total audience and half-life of movie. The model explicitly account for audience size for original brand (movie) and brand extension. Daily box office data is used to estimate models for several sequels. For example, estimated models for (numbers in parenthesis indicate number of sequels as of 2014) Iron Man (3), Twilight (5) and Harry Potter (8) indicate that sequel movies expand

audience size and reduce half-life movies substantially. This research contributes to markets where product life cycles are short.

■ SA10

10-Third Floor, Dover C

Empirical Methods

Contributed Session

Chair: Jennifer Cutler, Illinois Institute of Technology, 10 W 35th St,
18th Floor, Chicago, IL, 60616, United States of America,
jcutler2@stuart.iit.edu**1 - Alternative Specifications of Discrete/Continuous Demand Systems**Yi-Lin Tsai, Assistant Professor, University of Delaware, Lerner
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I propose a discrete/continuous demand system with nonhomothetic preference. The utility-driven model accommodates both discrete and continuous aspects of consumer's purchasing behaviors, including whether to purchase in the product category, which brand to buy and the quantity to consume. I allow the income effect to have impact on both the ordering among different brand choices (discrete aspect) and the proportion of budget to spend on product category (continuous aspect). This model is useful if consumer's expenditure level evolves with marketing interventions, such as price discount, advertising and promotion. However, the flexibility in this alternative demand system comes with a price – the estimation of choice probabilities can be computationally intensive. In the second part of the paper, I investigate consumer's trading-up behavior when it comes to purchase of organic products.

2 - Reaching Rural Heart Patients: A Spatial Allocation Game with CompetitionJason Bell, PhD Student, University of Iowa, 382 Westgate St.
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Heart disease is the leading cause of death in the United States. Despite advances in prevention and medical care, the number of people with cardiovascular disease will increase due to the aging of the population and increased obesity, problems that are more prevalent in rural areas. Unfortunately, cardiologists are significantly more likely to practice in urban areas. To meet the needs of rural heart patients, some cardiologists sta visiting consultant clinics (VCCs) in rural hospitals. During these regularly scheduled visits, cardiologists meet with patients and primary care physicians. The problem facing an urban-based cardiology practice is to determine where and how often to start VCCs. Unlike actors in other rm-location problems, cardiologists must allocate their limited time between their primary practice location and the rural VCC locations. In addition, rural hospitals are free to host VCCs from multiple providers. Using a unique dataset from Iowa, we estimate a static, competitive game with entry, quantity, and rm-specific time constraints. We contribute to the marketing literature by building the rst model which accommodates this unique combination of features. Though the model is designed for the VCC market, it is applicable to any market where service providers must probably allocate their time in the face of competition. The model combines modeling techniques from marketing literature on choice and quantity purchase decisions, as well as literature on the estimation of static, competitive games.

3 - The Sampling Supercharger: Using Agents to Improve Survey SamplesMichael Haenlein, Professor of Marketing, ESCP Europe,
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haenlein@escpeurope.eu, Roland Rust

In marketing research, samples are often biased, with many variables (e.g., income, age) collected using ordinal categories. It is often the case that aggregate incidence of these categories is known, by virtue of Census data. Current best practice is to then re-weight the sample's data points such that the marginal distributions of the variables match the known values. Analyses are then conducted on the re-weighted data. We propose an alternative approach to building a representative sample. We use copulas to estimate the joint distribution. Then, in the spirit of bootstrapping and agent-based modeling, we generate a new 'supersample' consisting of agents drawn from the estimated joint distribution. Statistical analyses then use the supersample rather than the original data. The approach might be used to improve any biased sample, even those not arising from surveys. We show using simulations that this 'sampling supercharger' can improve the accuracy of statistical estimation, both for estimating the values of individual parameters or estimating multivariate statistical relationships. This improvement in accuracy can be substantial enough to result in qualitatively different results and conclusions.

4 - Mining Brand Perceptions through Twitter Follower Networks

Jennifer Cutler, Illinois Institute of Technology, 10 W 35th St, 18th Floor, Chicago, IL, 60616, United States of America, jcutler2@stuart.iit.edu, Aron Culotta

Consumer perceptions of brands along specific dimensions such as eco-friendliness, nutritiousness, and luxuriousness are important components of brand equity and therefore marketing strategy. Traditional approaches towards monitoring such perceptions (e.g., survey methods, content analysis) are costly and time-consuming, and their results may quickly become outdated. Extant machine learning methods generally require extensive hand-annotated training data, which leads to many of the same limitations. Here, we investigate a novel, general, and fully automated method for inferring dimension-specific brand perceptions through mining the brand's social connections on Twitter. Our approach leverages to self-organization of the Twitter platform to train a model to rate brands according to the strength of their perceived association with a keyword, using only that single keyword as input. We compare the method's automatic ratings for over 200 brands along three example dimensions with survey data, and find a consistently high degree of correlation. The fully automated nature of this method allows great flexibility, the ability to keep the model current with evolving trends or breaking news, and offers a foundation for future advances in mining marketing insights from social data.

SA11

11-Third Floor, Atlantic

Dynamic Models II

Contributed Session

Chair: Monika Kackovic, University of Amsterdam Business School, Plantage Muidergracht 12, 1018 TV, Amsterdam, Netherlands, m.kackovic@uva.nl

1 - Modeling the Dynamic Decision of a Contractual Adoption of a Continuous Innovation in B2B Market

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A continuous service innovation such as Cloud Computing is highly attractive in the business-to-business world because it brings the service provider both billions of dollars in profits and superior competitive advantage. The success of such an innovation is strongly tied to a consumer's adoption decision. When dealing with a continuous service innovation, the consumer's decision process becomes complicated. Not only do consumers need to consider two different decisions of both whether to adopt and how long to adopt (contract length), but also the increasing trend of the service-related technological improvements invokes a forward-looking behavior in consumer's decision process. Moreover, consumers have to balance the benefits and costs of adoption when evaluating decision alternatives. Consumer adoption decisions come with the desire to have the latest technology and the fear of the adopted technology becoming obsolete. Non-adoption prevents consumers from being locked-in by the service provider, but buying that technology may be costly. Being bound to a longer contract forfeits the opportunity to capitalize on the technological revolution. Frequently signing shorter contracts increases the non-physical efforts such as learning, training and negotiating costs. Targeting the right consumers at the right time with the right service offer in the business-to-business context requires an efficient strategy of sales resource allocation. This is a "mission impossible" for service providers if they do not know how consumers make decisions regarding service innovation. In order to guide the resource allocation decisions, we propose a complex model that integrates the structural, dynamic, and learning approaches to understand the consumer's decision process on both whether or not to adopt, and how long to adopt a continuously updating service innovation in a B2B context.

2 - Uncovering Paths-to-Purchase of Heterogeneous Consumers using Clustered Multivariate Autoregression

Nachiketa Sahoo, Boston University, 595 Commonwealth Avenue, Boston, MA, United States of America, nach@bu.edu, Chrysanthos Dellarocas, Yicheng Song, Shuba Srinivasan

Under the traditional purchase funnel model, consumers are assumed to move through a predefined sequence of states (awareness, familiarity, consideration, etc.). However, a digital consumer's purchase journey, commonly referred to as the path-to-purchase, is non-linear and heterogeneous. Despite a strong interest in this concept, there are few approaches that can empirically identify a consumer population's path-to-purchase. We address this gap by proposing an approach that identifies a population's predominant paths-to-purchase by using commonly available CRM touch point data. Our approach uses a generalized multivariate autoregressive (GMAR) model to capture the interaction between different activities of a consumer over time. Using this model we show how to attribute part of the purchase to consumer activity sequences, or paths, leading from an initial marketing stimulus to maximal purchase response. We refer to these sequences as the predominant paths-to-purchase. We embed the GMAR model in a clustering framework that identifies groups of consumers who have similar paths-to-purchase. We verify the effectiveness of the proposed model on a simulated dataset and apply this approach to a dataset collected from a multi-channel, multi-brand North American Retailer to uncover and describe five

consumer segments and their distinct paths-to-purchase. Three of them stand out: loyal and deliberate shoppers, email-driven offline shoppers, and holiday-driven shoppers. Using out-of-sample predictions, we demonstrate that our approach offers improved predictions of future purchases compared to extant approaches. Then we perform policy simulations to show that managers can use the path-to-purchase segments to improve marketing mix.

3 - The Impact of Taxation Stimulus on China's Automobile Industry and Environment

Yanlai Chu, NUS Business School, Department of Marketing, National University of Singapore, Singapore, 117592, Singapore, chuyanlai@nus.edu.sg, Junhong Chu, Julia Bao

Traffic emissions are one of the main sources for air pollution and have caused severe health problems and even deaths. During 2006-2009, the Chinese government modified its taxation scheme for the automobile industry three times in the hope to encourage purchases of small displacement cars and discourage purchases of large displacement ones and thus to reduce vehicle emissions. We propose a dynamic structural model which can capture consumer's forward looking behavior when considering buying cars to assess the environmental impact of the tax stimulus plans. Our model enables us to more accurately evaluate the impact of tax stimulus on consumer's purchase decision - the proportion of consumers who switch to buying smaller cars instead of larger ones, and the proportion of consumers who postpone their purchases. Our paper contributes to the literature in the following ways: it enriches the scarce empirical evidence on the pass through of taxes to wholesale and retail prices; and it will provide valuable lessons for other countries on how tax policies influence car adoption and their environmental impact.

4 - The Effects of Source Credibility and Source Salience on Sales: Evidence from Corporate Art Collectors

Monika Kackovic, University of Amsterdam Business School, Plantage Muidergracht 12, 1018 TV, Amsterdam, Netherlands, m.kackovic@uva.nl, Maurice Bun, Joris Ebbers, Charles Weinberg, Nachoem Wijnberg

In this paper, we focus on how certain types of quality signals originating from third party sources affect producers' sales performance. We distinguish between different signals (i.e., reviews, awards and affiliations), as well as different dimensions of third party sources emitting these signals (i.e., source credibility and source salience) and study these effects on sales performance, in conjunction with the career age of the producer. This allows us to see whether signals are more important for new producers who are subject to the liability of newness. In the empirical setting of the contemporary visual art market, we find that reviews and affiliations from third party sources with high source credibility and high source salience have positive effects on sales. High source credibility of awards, however, has a negative effect. Finally, we find that career age moderates these effects. Contrary to expectations, we provide evidence for a liability of oldness – instead of newness – that we explain by the particular preferences of the customer studied.

SA12

12-Third Floor, Bristol

Social Influence III

Contributed Session

Chair: Hans Risselada, Assistant professor, University of Groningen, P.O. Box 800, Groningen, 9700 AV, Netherlands, h.risselada@rug.nl

1 - Unravelling Consumer Behavior for New Products with Capacity Constraints using Agent-based Models

P.V. (Sundar) Balakrishnan, Professor, University of Washington, Bothell, 18115 Campus Way NE, Bothell, WA, 98011, United States of America, sundar@u.washington.edu, Surya Pathak

Despite numerous extensions to the Bass model there has been some criticism for their limited consideration of the marketing-manufacturing nexus. Most diffusion models implicitly assume unlimited supply of the new product despite the reality, various external and environmental factors including world wars, lack of capital and supply chain issues have resulted in supply constraints. We build on the work of Balakrishnan and Pathak (2014) in explicitly incorporating supply constraints. However, we develop our work with the framework of an agent based world. We develop an agent-based model to depict richer rules of social influence of consumer behavior. Specifically, we introduce a new consumer adoption behavior model based on a 'circle of influence' within a capacity constrained new product diffusion environment. We employ a Genetic Algorithm based estimation procedure on empirical data sets. We find very interestingly that consumer behavior in different supply constrained environments may be teased out. Particularly, these behaviors may range between whispering to shouting for a range of new product categories.

2 - Unveiling the True Face of Market Potential

Keren Haddad-Leibovich, The Hebrew University, Mt Scopus 1, Jerusalem, Israel, kerenya@mail.huji.ac.il, Danny Shapira, Jacob Goldenberg

Forecasting models generally predict the number of individuals who are expected to purchase a product. However, these models do not account for those individuals who are still 'in the market', considering buying the product and have not reached a final decision to adopt or reject. According to our data, at the point of 25% of total sales, on average, 7% of individuals are adopters and as many as 53% are rejecters, among those who have considered buying the product. We developed an interactive Markov model that enables us to unveil the amount of considerers distilled from rejecters, who are usually unobserved, thus revealing the true face of the market potential. We provide estimations of efficiency of future sales (i.e., which part of the market potential a firm will realize using the current marketing execution). We also measure the consumer decision time window within which a product is still under consideration. Our findings suggest this window to be approximately one month, in which the consumer may still be influenced to make a positive purchase choice.

3 - An Investigation of the Impact of Customer Characteristics and the Adoption Process on OWOM

Omer Topaloglu, Eastern Illinois University, 600 Lincoln Ave, Charleston, IL, 61920, United States of America, otopaloglu@eiu.edu, Mayukh Dass, Piyush Kumar

With the increasing accessibility of the Internet and the customer adoption of social media platforms, online word-of-mouth (online WOM) has gained attention from both practitioners and researchers (Godes et al. 2005). While such word-of-mouth is useful for marketers on an ongoing basis, it is especially valuable following a new product introduction as firms try to gauge early customer response in order to use the information to fine-tune their launch strategy (Mahajan, Muller, and Kerin 1984; Van den Bulte and Joshi 2007). In this research, we attempt to examine how idiosyncratic threshold levels are determined by cognitive processes and social networks, and how they affect online WOM valence following a new product introduction, a process during which companies would like to constantly monitor and interpret consumer feedback and tailor reactive marketing tactics. Second, we examine how varying threshold levels of attitude intensity affect the timing of the online WOM generation. Third, we test the proposed set of relationships using microblogging data, an increasingly popular and influential form of online WOM. The results from our analysis provide new insights into the relationships among individual characteristics, the timing of online WOM following a new product introduction, and online WOM content.

4 - How Reviews are Reviewed: The Impact of Social Factors on Review Usefulness

Hans Risselada, Assistant professor, University of Groningen, P.O. Box 800, Groningen, 9700 AV, Netherlands, h.risselada@rug.nl, Lisette De Vries

Online reviews are important for consumers' decision making. With millions of reviews available, consumers need to distinguish reviews from one another, for example by review usefulness. Research on review usefulness identified content and source factors as important drivers. Surprisingly little research exists on the impact of social influence on perceived review usefulness. For evaluating online reviews, social influence is reflected in the usefulness votes other consumers provide. Usefulness votes might affect consumers' perceived usefulness of that review. Observational learning theory suggests that consumers' own judgments are less important in the presence of observed actions of others. So, others' usefulness votes might diminish the effects of content and source factors. We use a choice-based conjoint experiment to examine the relative impact of and interactions between social influence (review usefulness votes of others), content (spelling errors, structure), and source (status). The results show that social influence affects perceived review usefulness: negative votes diminish and positive votes increase review usefulness. Social influence also moderates the impact of content and source factors. Our contribution is twofold: first, we assess the impact of social influence relative to well-researched factors as content and source on perceived review usefulness, merging the marketing literature on online reviews and social influence. Second, we examine interactions among social influence and content and source factors. The results also have value for marketing practice as the studied factors can be easily adapted by managers, thereby providing hands-on recommendations.

■ SA13

13- Fourth Floor, Harborside A

Social Media I

Contributed Session

Chair: Ashwin Malshe, Assistant Professor, ESSEC Business School, 100 Victoria Street, Singapore, Singapore, malshe@essec.edu

1 - Source Effects in Social Media: How Celebrities Affect the Lives of Their Messages

Nima Jalali, UW-Milwaukee, 3202 N Maryland Ave, Milwaukee, WI, 53211, United States of America, nima@uwm.edu, Purushottam Papatla

Social media have become important channels of promotion for brands. For instance, celebrity-sponsored tweets where celebrities tweet about brands to their followers on Twitter are quite common today. Brands hope to benefit not only from the exposure to the celebrities' followers but also through retweets by the followers to others. For instance, on Mother's day in May 2013, a tweet by singer

Justin Bieber about the flower delivery service 1-800-FLOWERS was retweeted over 75 thousand times over multiple days. Despite their widespread use, there are few insights regarding important questions related to tweets by celebrities. Specifically, (1) Do the attributes of celebrities affect the volume of retweets? (2) Is the volume of retweets affected by celebrity attributes, tweet attributes (e.g., the length of the tweet, presence of a hyperlink to additional content), or both? (3) How do celebrity and tweet attributes affect the duration over which retweets occur? (4) Do the volume and duration of retweets reinforce or counter each other for celebrity tweets? These are the questions that we investigate in this research. We develop our theory from the extensive literature on source effects. Our empirical analysis is based on more than 2900 tweets posted during March 2013 by 65 celebrities across seven categories of the entertainment industry: actors, musicians, TV hosts, journalists, bloggers, athletes, and models. The primary celebrity attribute that we consider is the number of followers but we also control for other, unobserved, attributes via random effects. Our tweet attributes include the length of the tweet in characters and the presence of a hyperlink. We use a Poisson-Lognormal model for the number of retweets and a Weibull proportional hazard model for the duration of retweets and the two models are estimated jointly in a Bayesian framework. Our results suggest that the popularity of a celebrity affects the number of retweets but does not have a significant effect on the duration. In addition, we also find that the category of the celebrity affects the number and duration of retweets. We present managerial implications of our findings for brands.

2 - The Impact of Social Media Sentiment on Firm Financial Performance

Chanchal Tamrakar, Student, University of Iowa, 726 Hawkeye Drive, Iowa City, IA, 52246, United States of America, chanchal-tamrakar@uiowa.edu, Thomas Gruca, Tae-Hyung Pyo

Consumers are spending more time online and their involvement in social media is also growing. Furthermore, consumers truly trust the information they find online. Therefore, we expect that positive social media mentions of a given brand will influence a consumer's awareness, attitudes, affection, etc. towards that brand. The brand value chain model suggests that such a change in consumer mindset should translate into improved marketplace performance and, ultimately, better firm financial performance. Previous researchers have studied the relationship between online user generated content and firm performance. They find that various metrics, (e.g. user ratings, comment volume or valence) impact firm performance. However, the extant research focuses on a single online platform (e.g., CNET), type of online posting (e.g., blog posts), or industry. In this study, we focus on social media sentiment across multiple platforms for 180 monobrand firms spanning 10+ industries. We use the portfolio sort method to determine if firms with higher social media comment volume or higher positive (negative) comments generate higher (lower) abnormal returns, as determined by the Fama French 4 factor model. Using monthly returns data over a period of more than 2 years, we find no significant difference between the top & bottom 20% of the firms as ranked by various social media metrics. Contrary to prior research, our results suggest that social media sentiment is already fully priced into stock returns.

3 - How User-Driven and Brand-Driven Conversations Shape Brand Equity and Influence Firm Value

Ashwin Malshe, Assistant Professor, ESSEC Business School, 100 Victoria Street, Singapore, Singapore, malshe@essec.edu, Peter O'Connor, Anatoli Colicev

Extant research argues that the link between social media and firm performance is mediated by various intangibles such as brand awareness (Fisher, 2009; Hoffman & Fodor, 2010). Social media lead to a higher brand engagement and word of mouth, thereby increasing the likelihood of purchase because of increased visibility of the brand (Hoffman & Fodor, 2010). First, we argue that not all social media conversations are created equal. Instead, conversations driven by users and by brands are distinct and can lead to significant differences in the way they affect brand equity and therefore firm value. Second, we investigate the role of social media engagement in shaping brand equity and firm value. Although prior literature has argued that social media may affect firm value, the mechanism through which such effect can be achieved has not been explicitly identified. Using a rich dataset comprising daily observations on social media conversations, brand characteristics, and stock returns, we find that user-driven conversations lead to higher perceived value for the brand and increased buzz surrounding the brand. This in turn leads to increased firm value. On the other hand, brand-driven conversations harm the firm value by reducing perceived quality and the buzz surrounding the brand, thereby making the brand less interesting to the consumers. Both these findings are novel and very relevant for the academicians as well as practitioners.

SA14

14- Fourth Floor, Harborside B

Health Science

Contributed Session

Chair: Vibhanshu Abhishek, CMU, 930 E. Carson Street, 320, Pittsburgh, PA, 15203, United States of America, vibs@andrew.cmu.edu

1 - Big Box Retail and the Nutritional Quality of our Grocery Shopping

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The easy availability, low price, and heavy marketing of calorie dense processed foods are implicated in rising rates of obesity. Packaged food marketers and big box retailers are therefore confronted with questions about the health impact of their products. Some economists have examined the impact of aggregate supercenter market share on consumers' BMI and the healthfulness of their grocery purchases. However, warehouse clubs differ from supercenters in important ways that suggest their impact may be different: they require significant membership fees so their clientele skews towards higher income (and likely education) levels, and the larger sizes or bundled SKUs they carry make it necessary for consumers to buy larger quantities. In this research, we use a unique combination of households' longitudinal grocery purchase information (2006-2007) and rich survey data on their health related behaviors to examine the impact of shopping at warehouse clubs on total calorie, sugar, saturated fat, and sodium intake across 165 packaged food categories sold in the US. We employ propensity score matching (PSM) to estimate the treatment effect of shopping at warehouse clubs. Although the treatment is not randomly assigned to households, our rich data allow us to match treatment and control groups on a wide array of observables and alleviate selection bias. We find that, on average, shopping at warehouse clubs significantly increases intake, and our analysis provides important insights about the types of households and the types of food categories that are more prone to increased purchasing and consumption.

2 - Evaluating Consumer m-Health Services for Promoting Healthy Eating: A Randomized Field Experiment

Vibhanshu Abhishek, CMU, 930 E. Carson Street, 320, Pittsburgh, PA, 15203, United States of America, vibs@andrew.cmu.edu, Yi-Chin Lin, Rema Padman, Julie Downs

Mobile technology has a great potential to deliver promising interventions to engage consumers and change their healthy behaviors. This potential has also reflected in the boom of health and fitness smartphone apps. Among the apps that receive less attention are those for healthy eating. Currently, the interventions for healthy eating are either too onerous to keep consumers engaged or too isolated to keep consumers connected with healthcare professionals. In addition, while social media allows people receive information from all sources, it is important to see if peer support interferes with professional support. This study proposes and evaluates three interventions enabled by a smartphone app: 1) a visual diary; 2) image-based dietitian support; 3) image-based peer support. In addition to examining the direct effects of our three mobile-based interventions, to understand the mechanism of influences, we also investigate the mediation roles of self-efficacy and intention. We examine the effects on engagement in self-monitoring and food choices by a 4-month randomized field experiment. Mixed models showed that the mobile-based visual diary might be effective in increasing engagement in self-monitoring for non-Asian people. Results also showed strong evidence that dietitian support significantly improves consumer engagement in self-monitoring, and this effect was partially mediated by consumers' intention. In addition, dietitian support also can improve fruit and vegetable consumption for White people with strong evidence, and improve consumers' portion control with moderate evidence. However, peer support did not have any effect in either engagement or food choices. This study highlights the important role of image-based dietitian support in consumers' health behavioral change, and the need for future research for more effective approaches for self-monitoring and peer support.

3 - Beer Consumption during the Great Recession

Satheesh Seenivasan, Lecturer, Monash University, Department of Marketing, Level 7, Building S, Monash University, Caulfield East, Vi, 3145, Australia, satheesh.seenivasan@monash.edu, Junzhao Ma

Does alcohol consumption increase during recessions? On the one hand, financial stress and increased leisure time due to under-employment could boost alcohol consumption, as people use alcohol recreationally or as a form of self-medication. On the other hand, recession reduces people's disposable income, which should decrease people's spending on alcohol. In this paper, we study the relationship between economic downturns and alcohol consumption in the context of beer consumption in the US during the Great recession. We use a large US retail dataset which contains weekly beer sales data from a representative set of retail outlets in 32 major US metropolitan areas. We observe detailed product, price and promotion information. We account for both the demand and supply side factors that influence beer sales and study the effects of macro-economic wealth and employment factors on beer consumption. We report the main effect of economic downturn on alcohol consumption and discuss the implication of our findings on health policy.

4 - Benefit Segmentation of Physicians

Sangwoo Shin, Assistant Professor, Krannert School of Management, Purdue University, 100 S. Grant Street, West Lafayette, IN, 47907, United States of America, shin58@purdue.edu, Qiang Liu

This study aims to draw targeting implications for detailing by conducting benefit segmentation of physicians. In contrast to the foregoing experiment or survey based studies, our segmentation task relies on a time-series of drug prescriptions in real practice to improve its external validity. Using physician-level panel data, we estimate a factor-analytic choice model to identify what product benefits each physician primarily seeks for. The key empirical challenge is that standard prescription data are entirely agnostic about a set of product benefits that underlie drug preferences. To resolve this issue, we utilize the self-reported switching reasons on top of the observed prescription choices. Accordingly, we extend the extant factor analytic choice model to embrace such augmented data, and develop a Markov chain Monte Carlo procedure for estimation. Our proposed model enables us to directly identify who is more efficacy, side-effect, and/or cost-saving oriented, an essential input to fine-tuning targeted detailing decisions. We also investigate how misleading statistical inference from standard factor-analytic choice models would be without an aid of the augmented switching reasons.

SA15

15- Fourth Floor, Essex AB

Product Entry - Effects on Preference Evolution, Category Evolution, and Regulation

Cluster: Special Session

Invited Session

Chair: Bhoomija Ranjan, University of Rochester, 4-341, Carol Simon Hall, Rochester, NY, 14620, United States of America, Bhoomija.Ranjan@Simon.Rochester.edu

1 - The Single Cup Revolution

Pianpian Kong, Simon Business School, University of Rochester, P.O Box 270100, Rochester, NY, 14627, United States of America, Pianpian.Kong@simon.rochester.edu, Paul Ellickson, Mitchell Lovett

The single cup coffee brewer has introduced a new way of brewing coffee at home. While the other coffee segments have grown very slowly or stopped growing, the single cup coffee segment has expanded dramatically with sales increasing from \$234 million in 2009 to \$3.8 billion in 2014. Using aggregate data covering more than 6 years from 72 supermarket chains, we aim to answer in this paper where single-cup growth comes from. The single cup coffee brewer market has been dominated by Keurig Green Mountain (KGM). Before and after the expiration of its single cup system patent in 2012, KGM has entered exclusive contracts with most of the major coffee brands, making single cup versions of many brands available to Keurig machine users. This increasing brand variety could be a major driver of sub-category growth. Moreover, with our rich dataset, we seek to answer questions related to licensees and competitors. In particular, we document to what extent the licensee brands of Keurig cup are able to leverage their brand from other categories into single cup. Using counterfactual analysis, we investigate what benefit is accrued to single cup licensees in contrast to the scenario where they did not enter the category until after the patent expired.

2 - Role of Advertising, Word-of-Mouth and Varieties in Preference Learning in Growing Experience

Bhoomija Ranjan, University of Rochester, 4-341, Carol Simon Hall, Rochester, NY, 14620, United States of America, Bhoomija.Ranjan@Simon.Rochester.edu, Mitchell Lovett

We study a rapidly growing consumer packaged goods category with multiple brand entries and new variety offerings. Growth is further fueled by product advertisements and online/offline word-of-mouth. These signals not only help consumers in evolving preferences for the brand, but also increase awareness/consideration for the entire category. Customers also find differing availability of brands and varieties depending on the stores they frequent, inducing heterogeneity in learning rates. We develop a learning model with changing quality (Lovett, Boulding & Staelin; 2008) that allows for the evolution of a brand's true quality with product development. We model for multiple quantity purchases in a given shopping trip and incorporate unobserved heterogeneity. We apply this model to a unique scanner panel dataset of yogurt category purchases across store locations of a major supermarket chain for a random sample of consumers. During our 102-week sample period, 4 brands and 7 new flavors were introduced in Greek yogurt. In the same period, Greek yogurt category share tripled, probability of purchase per store visit quadrupled from 1.8% to 7.8%, and average weekly category-level advertising expenditures increased from \$22,000 in the first quarter to \$286,000 in the last quarter. Combining scanner panel purchase information with advertising data, we investigate the relative effects of advertising, word-of-mouth and product assortment on category growth and cross-category penetration.

3 - Ratcheting versus Raising Rivals' Costs

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Future regulation is frequently set relative to technology or attributes currently available. In such markets, firms have an incentive to manipulate their behavior today, so as to change the level of regulation tomorrow. We aim to decompose two counteracting economic forces, ratcheting and raising rivals' costs, which affect firm behavior in such a context, by studying a unique regulatory regime in the flat panel television market. In this market, the regulator seeks to set a future energy efficiency standard that firms must achieve by selling products that are on average more efficient than the standard. The future standard is set at the level of the most efficient model currently available, thereby introducing incentives for forward-looking firms to alter their new product release decisions today. In this paper, we provide evidence suggesting that firms do react to such dynamic incentives introduced by the regulation. Furthermore, we attempt to measure the key economics forces, ratcheting and raising rivals' costs, by estimating a structural model of the television market. The measurement of these forces helps understand the costs and benefits of alternative policy designs.

4 - Perception Spillover and Cross-Category Interdependence

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United States of America, jc2428@cornell.edu, Vithala Rao

This paper presents a model of household multi-category purchases, which incorporates perception spillovers of brand quality across categories. It extends the existing literature on learning models and perception spillovers by including: 1) Variation of the magnitudes of spillovers of brand quality perception across product categories; 2) Inclusion of the impact of economic relationships among product categories; and 3) Asymmetry of the spillover effects. Assuming consumers are Bayesian learners, our model enables the recovery of the true brand quality and coefficients for perception spillovers for all brands in a product category. Using a three-year IRI scanner panel data, the proposed model is estimated using simulated likelihood for three subsets of categories: mayonnaise, mustard and coffee, potato chips and tortilla chips, toothbrushes and toothpastes; these subsets provide for substantial differentiation on branding strategies, market shares and economic relationships. This analysis reveals that perception spillovers are asymmetric across categories and their magnitudes are relatively greater among similar product categories. Further, this research finds that cross-category perception spillovers exist and are significant not only among umbrella brands but also among other related brands; such spillover effects exist for both substitutes and complementary product categories. Our counter-factual experiments indicate that perception spillovers are beneficial to brands with lower perceived quality but not to brands perceived as higher-quality ones.

5 - The Role of Consumer Brand Preference Evolution in New Product Entry

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Sridhar Narayanan

Introducing new products involves weighing the immediate sunk costs of entry against the post-entry stream of returns. The entrant's uncertainty lies in the latter: will realized demand be sufficient to provide a reasonable return on the upfront investment? This paper explores dynamics in post-entry payoffs and the potential of the entrant to assess them ex-ante, in the context of In-N-Out Burger's entry into the Texas market. Our broad research question is to understand how consumer learning about the new entrant, In-N-Out, brand loyalty for incumbents and advertising impacts the demand for the product over time and, in turn, influences entry decisions and determines the success of the firm's entry strategy. Thus, our work is positioned at the intersection of entry literature and literature documenting the drivers of brand preferences. We also consider both observable and unobservable heterogeneity in consumer preferences, noting that, in the present research, the heterogeneity in preferences is in itself an object of interest. By identifying the consumers who value the new product most and the markets in which these consumers reside, the new product entrant can better identify other promising markets of entry, both in terms of the short-run and long-run outcomes. Additionally, by understanding the impact of strategic levers at the new entrant's disposal (e.g., marketing, store roll-out), we can further address questions about how the firm should behave upon entry.

SA16

16- Fourth Floor, Essex C

Working Papers XXII

Contributed Session

Chair: Davide Proserpio, PhD Candidate, Boston University, 111
Cummington Mall, Boston, MA, 02215, United States of America,
dproserp@bu.edu

1 - The Impact of Privacy Policy on the Auction Market for Online Display Advertising

Garrett Johnson, Assistant Professor, Simon Business School,
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States of America, Garrett.Johnson@Simon.Rochester.edu

The advent of online advertising has simultaneously created unprecedented opportunities for advertisers to target consumers and prompted privacy concerns among consumers and regulators. This paper estimates the financial impact of privacy policies on the online display ad industry by applying an empirical model to a proprietary auction dataset. Two challenges complicate the analysis. First, while the advertisers are assumed to publicly observe tracking profiles, the econometrician does not see this data. My model overcomes this challenge by disentangling the unobserved premium paid for certain users from the observed bids. In order to simulate a market in which advertisers can no longer track users, I set the unobserved bid premium's variance to zero. Second, the data provider uses a novel auction mechanism in which first-price bidders and second price bidders operate concurrently. I develop new techniques to analyze these hybrid auctions. I consider three privacy policies that vary by the degree of user choice. My results suggest that online publisher revenues drop by 3.9% under an opt-out policy, 34.6% under an opt-in policy, and 38.5% under a tracking ban. Total advertiser surplus drops by 4.6%, 40.9%, and 45.5% respectively.

2 - Online Reputation Management: Estimating the Impact of Management Responses on Consumer Reviews

Davide Proserpio, PhD Candidate, Boston University, 111
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dproserp@bu.edu, Georgios Zervas

Failure to meet a consumer's expectations can result in a negative review, which can have a lasting, damaging impact on a firm's reputation, and its ability to attract new customers. To mitigate the reputational harm of negative reviews many firms now publicly respond to them. How effective is this reputation management strategy in improving a firm's reputation? We empirically answer this question by exploiting a difference in managerial practice across two hotel review platforms, TripAdvisor and Expedia: while hotels regularly respond to their TripAdvisor reviews, they almost never do so on Expedia. Based on this observation, we use difference-in-differences to identify the causal impact of management responses on consumer ratings by comparing changes in the TripAdvisor ratings of a hotel following its decision to begin responding against a baseline of changes in the same hotel's Expedia ratings. We find that responding hotels, which account for 56% of hotels in our data, see an average increase of 0.12 stars in the TripAdvisor ratings they receive after they start responding. Moreover, we show that this increase in ratings does not arise from hotel quality investments. Instead, we find that the increase is consistent with a shift in reviewer selection: consumers with a poor experience become less likely to leave a negative review when hotels begin responding.

Saturday, 10:30am - 12:00pm**SB01**

01-Third Floor, GB 1

Brands IV

Contributed Session

Chair: Harsh Dadhich, Doctoral Student, Indian Institute of
Management, Ahmedabad, Room 19, Dorm 14, IIM Main Campus,
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1 - Line Extensions and Consumer Attitudes: Consumer Attitudes as Existing Knowledge

Naoki Akamatsu, Chiba University of Commerce, Megurohoncho
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To launch new products, marketers frequently execute on line extensions (cf. Keller1998). The situation is same in Japan. Therefore, understanding how consumers evaluate new extension products is an important matter. This study assumes that consumers may evaluate new extension product by using attitudes toward core brands and also assumes that consumer attitudes is existing knowledge. That is, this study consider show to evaluate new extension products by focusing on consumer attitudes toward core brands. The data was gathered by using internet survey about the consumer attitudes toward both the core brand, the best sales beer brand in Japan, and the new extension product of that brand. Then we examined a regression analysis to find the relationship between the attitude toward the core brand and the attitude toward the extension product. The results indicated that consumer attitude toward the core brand is based on two elements, knowledge attributed to core brand and knowledge attributed to the relationship of consumers to core brand. These two elements have different effects on evaluating new extension products. For consumers who regularly purchase the core brand, they use only the knowledge attributed to the relationship of consumers to brands. On the other hand, for consumers who do not regularly purchase, they use both these knowledge. This finding is important to understand how to evaluate the extension product. We should distinguish knowledge and also we should distinguish the consumers who regularly purchase core brand or not.

2 - A Flexible Bayesian Nonparametric Model for Ordinal Responses

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Ty Henderson, Garrett Sonnier

Ordinal data is widely used in marketing to track measures such as consumers' perceptions of brand image, customer satisfaction, as well as product and service ratings. Such data are prone to exhibit heavy tails or multiple modes (e.g. a well-liked brand with some notable detractors), which indicate diversity in consumers' response profiles, and could cause biased inferences in a misspecified generalized linear model. In this paper, the authors propose a flexible Bayesian nonparametric ordered probit model with a Dirichlet process prior for the errors to deal with diversity in individual-level response profiles encountered in cross sectional ordinal data. Using some common scenarios for data generating processes for ordinal responses (e.g. a bimodal response profile), the authors show that, in contrast to a parametric ordered probit model, the proposed flexible nonparametric model yields unbiased estimates for the parameters of research interest, provides better fit to the data and results in more accurate posterior predictions. The authors apply the proposed model to a dataset containing brand perception ratings from a brand tracking survey in the luxury automobile category, and empirically investigate the interrelationship among several mindset metrics variables. The results highlight the flexibility of the model to accommodate common but frequently misspecified ordinal response profiles. Substantively, the results also provide some interesting insights into the relationship between brand imagery and overall brand associations—two fundamental building blocks of brand equity.

3 - Do Brands have Nationalities? Investigation of Consumers' Categorization of Foreign Brand Origins

Harsh Dadhich, Doctoral Student, Indian Institute of Management, Ahmedabad, Room 19, Dorm 14, IIM Main Campus, Ahmedabad, GU, 380015, India, harshd@iimahd.ernet.in, Abraham Koshy

Research finds that consumers have limited brand origin recognition accuracy (Balabanis & Diamantopoulos, 2008; Samiee, Shimp & Sharma, 2005). However, the country-of-origin and brand origin literature is replete with evidence that origins influence purchase decisions and brand evaluations. This paper offers a new theoretical framework to resolve this paradox. It builds on the category learning theory and argues that consumers will form similarity-based clusters of countries to better assimilate origin related cues. These clusters will be used for inferences and predictions regarding the country-of-origin of a brand. Based on two independent studies, this paper examines whether consumers classify brand origins of foreign brands to a cluster of countries or to individual countries, and these categories influence consumers' perceptions towards brands.

SB02

02-Third Floor, GB 2

Innovation II

Contributed Session

Chair: Rambod Dargahi, PhD Candidate, University of Houston, 334 Melcher Hall, Suite 385K, Houston, TX, 77204-6021, United States of America, rdargahi@bauer.uh.edu

1 - Managing Multi-Stakeholder Co-Creation for Radical Innovation: Evidence from China

Fine F. Leung, Doctoral Candidate in Marketing, The University of Hong Kong, K. K. Leung Building, Pokfulam Road, Hong Kong, Hong Kong - PRC, fleung@business.hku.hk, Sara Kim, Caleb H. Tse

Radical innovation is a highly lucrative strategy that firms cannot ignore in today's competitive markets. Yet a considerable body of research points to various challenges when firms try to pursue this strategy. The current research introduces co-creation with multiple stakeholders as a viable option to achieve better radical innovation performance. The authors suggest firms can co-create with two key stakeholders – customers and distributors – who play distinctive roles and contribute differentially to radical innovation. Although the logic of co-creating with different stakeholders for radical innovation seems intuitive, firms must manage their co-creation processes strategically to materialize the benefits of this endeavor. Through a multi-informant survey with paired directorial-managerial staff from firms across multiple industries in China, the authors show that effectuation, a theory-logic applicable to uncertain situations, provides strategic guidance for managing multi-stakeholder co-creation for radical innovation. Their proposed framework identifies customer and distributor assets as valuable co-creating resources, and highlights the significance of co-creating platform capability in activating the value embedded in these stakeholder resources. Moreover, the authors suggest firms should adopt malleable strategic mindsets in managing customer and distributor co-creation processes. By doing so, firms can concurrently meet the distinctive interests of the two stakeholders and orchestrate the strategic challenges involved when firms co-create with multiple parties. Taken together, the current research contributes to literature in radical innovation, co-creation, and effectuation, and provides managerial implications on how effectuation may benefit firm decisions in radical innovation development.

2 - When does Coopetition Help the Firm in Their Innovation Efforts?

Sungkyu Lee, Doctoral Student, Korea University, Korea, Sungbuk-gu Anam-dong, Korea University LG-Posco, Seoul, Korea, Republic of, andre525@korea.ac.kr, Tony Garrett, Jong-Ho Lee

Increasingly firms work with external partners to enhance the effectiveness of their innovation efforts. Although the benefits of customer, supplier and other value chain members are extensively examined, the role of the competitor as an innovation partner (coopetition) is only just emerging as a research area. Coopetition can influence product innovativeness, although few have either considered coopetition's effect on other innovation performance measures or the potential moderating effects. We contribute to this stream by developing and testing a conceptual model using a large sample of manufacturing firms. We argue that the importance of the competitor as an information source will influence the contribution of the coopetition (level of the competitor innovation involvement) to the exploratory (the development of new products and long-term knowledge) and exploitative (the development of new processes and practices; capabilities) innovation performance. We also argue the moderating effects of firm size and competition intensity. The overall model results show competitors importance as an information source has a significant influence on coopetition's contribution which then has a significant influence on innovation exploratory performance. There are however moderating effects. Firm size moderates the role and contribution of the competitor and their impacts on innovation performance in low and high competitive intensity environments. Specifically we find that small firms in both high and low competition intensity benefit from coopetition against large firms, who benefit mainly only on innovation exploratory performance (in low but not high competitive intensity). Discussion of the academic and managerial implications will be given.

3 - The Attractiveness of an Idea Contest

Rambod Dargahi, PhD Candidate, University of Houston, 334 Melcher Hall, Suite 385K, Houston, TX, 77204-6021, United States of America, rdargahi@bauer.uh.edu, James Hess

Crowdsourcing has become a popular way for companies to solicit new ideas and solutions from external sources. Idea contest, also known as innovation competition, is a simple and straightforward way to solicit the innovation of the crowd. A common challenge faced by a company to run an idea contest in order to leverage the collective intelligence, expertise, and creativity of the crowd, is how to design it. In this paper, we explore the effect of different design parameters -such as prize, contest period, visibility of entries, and feedback system- on the attractiveness of an idea contest from solvers' point of view. Individuals consider not only the prize of a contest, but other various factors to find a contest attractive enough to enter. Based on our field experiment data, we assess the relative importance of each design parameter as well as other contest features such as difficulty of the task and level of competition. We show that feedback system, contrary to the common expectation, plays an important role in attractiveness of a contest and must be taken into account by companies to design a better contest which attracts more solvers.

SB03

03-Third Floor, GB 3

International Marketing II

Contributed Session

Chair: Xin (Shane) Wang, Assistant Professor of Marketing, Ivey Business School, Western University, 1255 Western Road, London, ON, N6G0N1, Canada, xwang@ivey.uwo.ca

1 - From Bitcoin to Big Coin: The Impacts of Social Media on Bitcoin Performance

Xin (Shane) Wang, Assistant Professor of Marketing, Ivey Business School, Western University, 1255 Western Road, London, ON, N6G0N1, Canada, xwang@ivey.uwo.ca, Roger H. L. Chiang, Qing Bai, Zhe Shan, Feng Mai

As the world's first completely decentralized digital payment system, Bitcoin represents a revolutionary phenomenon in financial markets. This study examines predictive relationships between social media and bitcoin returns by considering the relative effect of different social media platforms (Internet forum vs. microblogging) and the dynamics of the resulting relationships using vector autoregressive and vector error correction models. The results suggest that more bullish forums have a positive, statistically significant relationship with future bitcoin returns at a daily level. Internet forum predictive metrics outperform microblogging ones at a daily frequency, but their effects are opposite at an hourly frequency. The user-generated content contributed by the vocal minority and the silent majority exhibit distinct relationships with bitcoin performance, in terms of both transaction volume and returns. The implications of these results for research and practice are notable with regard to the transformative power of social media analytics in networked business environments subject to the dynamics of bitcoin performance.

2 - Online Consumer Search Behavior and Firm Pricing Strategy: What Causes Price Dispersion?

Wenche Wang, Ph.D Candidate, University of Florida, 224 MAT, P.O. Box 117140, Warrington College of Business, Gainesville, FL, 32603-2276, United States of America, wangwc121@ufl.edu

Online market has received extensive investigation. The existing literature focus on two streams of research, market structure and consumer search behavior. The market structure analyses discuss the degree of competition compared to physical markets and firms' pricing strategies. The search literature emphasize on estimating search costs and exploring firms' behavior to strategically increase search cost, such as product differentiation and obfuscation. In this paper, we test both theories to determine the cause behind online price dispersion. We collected book-store listing data and consumer transaction record from Tmall.com, the largest online bookstore in China. We observe date, time, price, and quantity for each transaction over a one-month period and aggregate consumer review in both book level and store level for each book-store pair. We show that rather than price, consumers put more weight on store attributes when evaluating a listing. The high costs associated with return and exchange and the consumers' risk averse utility characterize this search behavior. We also find that large firms generally have stickier prices while small firms have more frequent price adjustments. Even though search cost is significantly reduced in an online market, stores face different demands due to their reputation from past purchases and word-of-mouth. In order to survive and expand market, new entrants have to conduct price promotions to raise awareness and build up reputation. Therefore we suggest that online price dispersion is largely due to small firms' sales strategies rather than differential consumer search costs.

3 - Product Concept Demonstrations in Trade Shows and Firm Value

Tridib Mazumdar, Professor, Syracuse University, The Whitman School of Management, 721 University Avenue, Syracuse, NY, 13244, United States of America, tmazumdar@syr.edu, Taewan Kim

Trade shows have become a popular venue for firms to demonstrate their new products and new product concepts that are months or years away from a commercial launch. Utilizing auto shows as a context, we employ event study methodology to investigate the effects of auto concept demonstrations on abnormal stock return and idiosyncratic risk of the demonstrating firms. We formulate the study as a two-stage problem, where the firm decides which of the several concepts in its new product pipeline to demonstrate and which venue to use for demonstrations; in the second stage, investors react to the demonstrated concepts as well as other information available at the time of demonstration to assess the firm value and risk. The two stages are estimated jointly. We find that concept demonstrations increase abnormal returns for the firm stocks, but the effect comes primarily from concepts that are demonstrated for the first time and incorporate an entirely new technology or incorporate significant design changes. However, concepts based on unproven technology increases the firm risks but those based on significant design changes do not have adverse effects on risk. We also find firms' propensity to select an auto show venue that matches with the firm's country of origin. The U.S. automakers tends to exhibit the matching behavior more than the Japanese automakers who tend to cross national boundaries to show case their innovations. Also, the positive effect of technology-focused concepts on firm value is present in trade show venues that match the demonstrating firm's country of origin, but not otherwise.

4 - An Investigation of International Joint Venture Dissolutions in a Developed-emerging Market Context

Kiran Pedada, PhD Student, Texas Tech University, 3002 4th St, C155, Lubbock, TX, 79415, United States of America, kiran.pedada@ttu.edu, Xinchun Wang, Mayukh Dass

Multinational corporations from developed markets are rapidly expanding into emerging markets such as India and China to break into the untapped potential of these fast growing markets. International joint venture (IJV) is one of the market entry modes that provides developed market firms the opportunity to establish footholds in emerging markets. Prior studies have shown that IJV partnerships confront high chances of dissolution with estimated rates in the range of 30-70 percent, leading to effects such as involuntary loss of potential revenues, uncompensated transfer of technology, and operational difficulties among the involved firms. Using a uniquely compiled database from ISI Emerging Markets and Capitalline databases and other secondary resources, this study complements the IJV literature and takes an initial look at the post dissolution effects on the long-term market performance of the involved firm from the emerging market, particularly in a developed-emerging IJV context. The study aims at offering important managerial insights to both developed and emerging market firms entering into IJV partnerships.

■ SB04

04-Third Floor, GB 4

Customer Relationship Management VII

Contributed Session

Chair: Yuping Liu-Thompkins, Professor and Chair of Marketing, Old Dominion University, Strome College of Business, 2123 Constant Hall, Norfolk, VA, 23529, United States of America, ping@yupingliu.com

1 - Design of Referral Reward Programs

Heike Wolters, University of Hamburg, Esplanade 36, Hamburg, 20354, Germany, Heike.Wolters@uni-hamburg.de, Christian Schulze, Karen Gedenk

Referral reward programs are a hugely popular instrument for the acquisition of new customers. In referral reward programs, current customers receive a reward when they successfully recommend a product to a new customer. But which referral rewards should companies offer to which customers in order to increase referral program effectiveness? In our study, we analyze how the size of monetary referral rewards and the value of existing customers influence the quantity (number) and the quality (profitability) of acquired new customers. Further, we analyze whether reward size has the same effect for encouraging referrals from existing customers with high vs. low profitability. We use data on more than 400,000 existing customers and more than 65,000 new (referred) customers over a period of 152 weeks of a large European telecommunication service provider. We estimate a multi-level Poisson model to analyze the effect of referral reward size and existing customer profitability on the number of new referred customers, and a linear multi-level model to analyze the effect of referral reward size and referrer profitability on the profitability of new referred customers. Our study contributes to the referral literature by (1) analyzing the effect of referral reward size on the profitability of new referred customers, (2) studying the effect of the profitability of existing customers on number and profitability of new referred customers separately, (3) comparing effect strength of referral reward size and existing customer profitability, and (4) analyzing the interaction effect between referral reward size and existing customer profitability.

2 - Towards More Accurate and Profitable Customer Churn Prediction

Stanislav Stakhovych, Dr, Monash University, P.O Box 197, Caulfield East, VIC, 3145, Australia, stanislav.stakhovych@monash.edu, Ali Tamaddoni Jahromi, Mike Ewing

Customer churn is a salient concept in both marketing theory and practice. Consequently, the ability to accurately predict churn is highly prized by both managers and scholars. Previous research has focused more on identifying profitable customers rather than on customers more likely to defect. Hence, this study considers likely defectors and whether pro-active retention campaigns can create value for both customers and firms. Findings confirm that the selective targeting of likely churners can generate positive returns in the short term. Moreover, by directly comparing different predictive techniques we are able to not only assess their ability to accurately predict churn, but also to guide managers to develop more profitable retention campaigns. Specifically, we utilize transactional data from a major FMCG retailer to construct churn prediction models using Boosting and Support Vector Machine (SVM) techniques from data mining and Pareto/NBD from probability modeling. We then benchmark these models against Logistic Regression, a popular and well-established churn prediction approach, as well as the RFM model, a simple managerial metric. Results suggest that the boosting technique, as one of the best-known ensemble learners, outperforms all other tested models based on both cumulative lift and profitability measures. We also find that as the number of covariates increases, SVM and logistic regression begin to gain ground on the boosting model.

3 - Habit Disruption and Consumer Attrition

Yuping Liu-Thompkins, Professor and Chair of Marketing, Old Dominion University, Strome College of Business, 2123 Constant Hall, Norfolk, VA, 23529, United States of America, ping@yupingliu.com, Nuo Xu, Leona Tam

While customer attrition can often be traced to dissatisfaction, competitive enticement, or variety seeking, another relatively neglected cause of attrition is the disruption of consumption habits. As habit represents a well-rehearsed behavioral routine automatically triggered by contextual cues (e.g., time or location), disruption in habit can alter consumers' purchase process and expose consumers to previously overlooked switching opportunities. This can make a customer vulnerable to defection. The current research proposes that purchase habit dynamics and habit disruption can serve as early warning signs of potential customer attrition and can help firms plan their marketing responses accordingly. Built on recent developments in individual-level habit measurement, we examine the relationship between habit change and customer attrition in both contractual and non-contractual settings. Using two datasets, one from a leading US satellite radio service provider and the other from a European credit card issuer, we find that continued deteriorations in habit strength indeed increase consumers' attrition risk in both settings. However, the pattern of effects differed between the two contexts. In a separate field study, we explore a promotional tactic that can be used to counter the threat of habit disruption. By building habit-inducing repetition into the promotion, previously habit-deteriorating customers were able to develop a new behavioral routine and exhibited even more positive post-promotion behavior than previously non-habit deteriorating customers. Taken together, the current research demonstrates the value of factoring habit dynamics into consumers' attrition decisions and suggests new marketing strategies that can be used to stem defection.

4 - More Miles, More Loyalty? How FFP Tiers Change Our Mind

Tong Guo, PhD Student, University of Michigan, 701 Tappan Street, Ann Arbor, MI, 48109, United States of America, tongguo@umich.edu, Yesim Orhun

Although Frequent Flyer Programs (FFP) are offered by almost every airline worldwide, little has been done to measure the influence of these programs on consumer behavior. This project studies the impact of the FFP's tier-qualification requirement on members' trip purchase decisions. I analyze the database of entry-level members from a major US airline and find that prices these members pay are higher than the prices they would have paid as they get close to achieving the requirement, after the trip differences, time trends and individual heterogeneity are controlled for. Intriguingly, the extent of such an effect is bigger in markets where the target airline has smaller shares, implying that the payment increases as the result of members sacrificing potential cheaper alternatives to switch to the target airline. Meanwhile, as members get close to the requirement, the average distance per trip decreases, implying that they substitute short-distance transportation, such as driving, with flying. A close investigation into members' purchase behavior suggests that a binding deadline for tier upgrade acts as the major incentive. We also find that there are simultaneous shifts in members' choice for discount tickets, time of advanced booking, and channel of booking. All these observations suggest that by setting up the tier-qualification requirement, FFP effectively changes the trip purchase decisions of its members.

SB05

05-Third Floor, GB 7

Working Papers XXIV

Contributed Session

Chair: Kwok Way Leung, Lecturer, The Hong Kong Polytechnic University, PolyU West Kowloon Campus, 9 Hoi Ting Road, Yau Ma Tei, Hong Kong, Hong Kong - PRC, ccwleung@hkcc-polyu.edu.hk

1 - Emotional Content Mining from Online Reviews and its Impact on Box Office Revenue

Rahat Ullah, PhD Student, KAIST, CMP Lab, GSCT, KAIST, South Korea, Deajeon, Korea, Republic of, rahatkaist@kaist.ac.kr, Wonjoon Kim, Naveen Amblee, Atya Zeb

Online word-of-mouth, most commonly encountered in the form of online customer reviews, has received considerable attention recently by both academics and practitioners alike. Previous works studied the impact of product reviews on sales by measuring the volume and numerical ratings of reviews. We argue that product reviews are multifaceted, and hence the textual contents of product reviews are important determinants of consumers' choices over and above the valence and volume of the reviews. An important antecedent for the generation of word-of-mouth is a strong emotional response, which triggers the consumer to post a review online. In this paper, we examined emotional contents in the movie reviews distribution and their impact on economic outcomes such as movie sales. Our results suggest that the overall fraction of positive emotions is greater than negative emotions. We also find that there is more positive emotional content toward positive extreme ratings than negative emotional content toward negative extreme ratings. More important, we find that there is more emotional content as well positive emotional content in movie reviews in the opening weeks compared to the pre-release week. Furthermore, there is negative emotional content in movie reviews in the later weeks compared to prerelease and release week. Finally, we find a significant impact of emotional content on movie sales.

2 - Ladies or Gentlemen: Effects of Death Anxiety on Product Gendering

Kwok Way Leung, Lecturer, The Hong Kong Polytechnic University, PolyU West Kowloon Campus, 9 Hoi Ting Road, Yau Ma Tei, Hong Kong, Hong Kong - PRC, ccwleung@hkcc-polyu.edu.hk, Yu Wei Jiang

The current working paper investigates the impact of death anxiety on perception, evaluation, and purchase intention of gender-stereotyped products. Three experiments were conducted to test various predictions derived from the terror management theory. The first experiment supported the hypothesis that consumers primed with death anxiety prefer a product perceived as masculine over the one perceived as feminine. Subsequent experiments revealed the underlying mechanism of this effect. Once consumers' anxiety was made salient, they believed that products perceived to be feminine were less competent and thus liked them less (Experiment 2). This effect of death anxiety on consumers' attitude toward feminine products disappeared when an external focus of control was primed (Experiment 3), presumably because self-competence is less important in coping with the threat of death when people believe that their fate is not in their hands. Theoretical as well as practical implications are discussed.

SB06

06-Third Floor, GB 8

Decision Neuroscience V

Contributed Session

Chair: Ryan Webb, Assistant Professor, University of Toronto, 105 St George, Toronto, On, M5D3E6, Canada, ryan.webb@utoronto.ca

1 - Differential Gaze Processing in Attractive and Anomalous Faces: A Social Affordance Approach

Yi Zhang, University of Virginia, Darden School of Business, VA, United States of America, ZhangY@arden.virginia.edu

According to the Gibsonian perceptual theory, all behaviors, social behaviors in particular, are driven by the perceptual system, as it help people detect unique interaction opportunity, also known as affordances. The current paper explores how gaze and facial attractiveness influence the perception of social affordances by differentially engaging neural regions that process social stimuli. Participants were scanned by fMRI while viewing dynamic images of faces with variations in gaze and attractiveness. Activations in the reward regions (lateral and medial orbitofrontal cortex) show that direct eye gaze creates positive affordance in attractive faces, but negative affordance in anomalous faces. More interestingly, averted gaze creates negative affordance in attractive faces, but positive affordance in anomalous faces. In addition, regions in the pain network (anterior and posterior insula, thalamus) do not show differential response to gaze cues in anomalous faces but differentially respond to averted gaze in attractive faces. Part of the social cognition network (left posterior STS, bilateral TPJ) responded differentially to gaze cues in attractive faces, while other parts (right posterior STS) responded to gaze regardless of attractiveness. Finally, the medial prefrontal cortex shows greater activation to averted gaze than direct gaze in anomalous faces, reflecting the greater likelihood of mentalizing. Together these findings supported the ecological theory of social perception, and show that neuroimaging findings bring a richer understanding of how people navigate their social surroundings.

2 - Rationalizing Context-Dependent Preferences

Ryan Webb, Assistant Professor, University of Toronto, 105 St. George, Toronto, On, M5D3E6, Canada, ryan.webb@utoronto.ca, Paul Glimcher, Kenway Louie

In this article, we examine novel forms of IIA violations that are necessarily predicted by a resource constraint known to be imposed on neurobiological systems. The observation that biology influences choice behaviour (and should explain economic characteristics) is not novel in the economic literature (Robson, 2001; Robson and Samuelson, 2010; Netzer, 2009). This includes the observation that a constrained decision process implies behaviour we might strictly term irrational ex-ante, but is in fact an optimal response to some biological constraint (Simon, 1979). The recent literature on rational inattention, for example, examines how constraints on information-processing (Shannon, 1948) can explain observed departures from rational expectations, expected utility, and the traditional random utility model (Sims, 2003; Woodford, 2012; Caplin and Dean, 2014). Similarly, Rayo and Becker (2007) demonstrate that the utility representation must be adaptive and depend on the distribution of the domain of utility, given constraints on the representation similar to those we identify. Our contribution is to provide a neural mechanism for how such choice-set dependence arises from neurobiological constraints, explore its predictions for substitution patterns between choice alternatives, provide behavioural evidence for its existence, and demonstrate that it implements a solution to the neurobiological choice problem.

SB07

07-Third Floor, GB 9

Promotion

Contributed Session

Chair: Peter T. L. Popkowski Leszczyc, Professor of Marketing, University of Alberta, 4-20 F School of Business, Edmonton, AB, T6G 2R6, Canada, ppopkows@ualberta.ca

1 - The Impact of Conditional Promotion on Customer Transaction Pattern - Evidence from Credit Card Market

Yaxin Ming, Fudan University, No. 670 Guoshun Road, Shanghai, China, yaxinming@gmail.com, Xing Zhang, Deqiang Zou, Linyin Jin

The paper studies how conditional promotion strategy affects customers' consumption behavior. Conditional promotion is an innovative type of promotion that some condition has to be met for the customer to acquire the benefits. In practice, we can find such promotions conditional on transaction amount, transaction frequency or customers' social relationship. Despite some behavioral research evaluating the general influence of conditional promotion through experiments, few studies empirically test its effectiveness. We address the following research questions with individual level transaction data that spans 44

months from a large national bank: 1. Does conditional promotion impact customers' transaction pattern? 2. If so, how does it influence customers' transaction pattern? 3. How does it vary across customers' lifecycle or among different segments of customers? We found that most conditional promotion strategy would significantly decrease customers' dropout rates and increase customers' consumption amount and frequency. However, when the condition involves customers' social relationship, the effect is just the opposite. These effects do vary in the different stages of customers' lifecycle and are much larger for those customers who are more likely to dropout. Our findings have strong managerial implications in terms of whether and how firms should implement conditional promotion to manage customer lifetime value.

2 - Managing the Interplay between Promotion and Product Portfolio

Feng Wang, Michigan State University, North Business Complex, 632 Bogue S., East Lansing, MI, 48824, United States of America, wangf@broad.msu.edu, Roger Calantone

Marketing literature on promotion effectiveness and consumer responses mainly focused on the monetary and nonmonetary value of promotion. However, such parsimonious economic perspective fails to explain a number of interesting consumer behaviors. In this study, we propose an alternative classification – high communicated promotion (feature, display, feature and display) and low communicated promotion (mainly temporary price reduction), and examine the impacts of promotion on both new and current products. Our empirically results indicate that communicated promotion is desired for premium new products while TPR is ideal for new products with less relative price. Also, we found that communicated promotion generally has positive impact on sales performance and such relationship is attenuated as relative price increases. In addition to the interplay between promotion and product portfolio, we include firms NPD policy and competitive NPD intensity. Cannibalization occurs more frequently than product switching when introduce new products. Communicated promotion on current products can potentially relax cannibalization.

3 - Marketing Star or Marketing Myth? The Promotion Effectiveness of Group Buying and Its Drivers

Peter T. L. Popkowski Leszczyc, Professor of Marketing, University of Alberta, 4-20 F School of Business, Edmonton, AB, T6G 2R6, Canada, ppopkows@ualberta.ca, Kanliang Wang, Jun Pang

This research investigates the advantage of group buying in promoting product sales and explores its drivers from a consumer's perspective. We propose that compared with regular coupons, group buying is superior in promoting sales and this advantage is driven by two unique features of group buying, namely sales signal and upfront payment. Building on Acquisition-Transaction Utility theory, we develop a conceptual framework to explain the underlying mechanisms. Results from a field experiment find that a group buying promotion results in higher sales than a comparable coupon promotion. This difference is largely driven by sales signal and upfront payment. Results of a lab study provide further evidence for the consumer-driven mechanisms that underlie these effects. Sales signal has a positive effect on deal value, and this effect is positively moderated by prior attitude toward the brand. Upfront payment has a positive effect on deal proneness, and this effect is negatively moderated by consumer procrastination. Furthermore, the latter effects are mediated by impulsiveness.

SB08

08-Third Floor, GB 10

Working Papers XXVI

Contributed Session

Chair: Gelareh Roushan, Acting Deputy Dean Education, Bournemouth University, Talbot Campus, Fern Barrow, Poole, BH12 5BB, United Kingdom, groushan@bournemouth.ac.uk

1 - Determinants of Pharmaceutical Sales Representative Access Limits to Physicians

George Chressanthi, Professor of Healthcare Management and Marketing, Temple University, 618 Alter Hall, 1801 Liacouras Walk, Philadelphia, PA, 19122, United States of America, george.chressanthi@temple.edu

Pharmaceutical companies have traditionally relied on product-specific in-person calls to physicians (detailing) to market their drugs. However, US pharmaceutical sales representative access to physicians is decreasing, resulting in important changes in marketing strategy, sales force optimization and operations, and other processes. Despite these changes, no studies have examined the determinants of pharmaceutical sales representative access limits to physicians. We analyzed effects from prescription volume, managed care control, group practice size, urban location, and physician-level attributes for three product cases involving type 2 diabetes and dyslipidemia covering 58,647 to 72,114 US physicians using an ordered multinomial logistic regression model. A database available to and used by US pharmaceutical companies was utilized that measures sales representative physician-level access limits. Results revealed physicians with moderate managed care control had greater access limits than physicians with high or low managed care control, as did physicians with higher prescription volume, in smaller practices, and fewer years since graduation. Access limits also significantly varied by specific urban location. The results fit a time allocation model explaining how physicians and sales representatives allocate their time, and suggest effects from physician adoption of newer digital channels for medical information and changing norms at medical schools toward industry representatives. Commercial implications of restrictive access limits for companies are discussed as well as future extensions of this research.

2 - Impact of Heritage and Cultural Capital and Destination Perceived Quality & Values

Gelareh Roushan, Acting Deputy Dean Education, Bournemouth University, Talbot Campus, Fern Barrow, Poole, BH12 5BB, United Kingdom, groushan@bournemouth.ac.uk, Raphaël Akamavi, Edward Hall, Mohamed Elsayed

Tourism is widely documented nonetheless that the tourism experience and destination attachment have been superficially represented. Scholars agree that the field of tourist experience and destination attachment is under-researched. The extant tourism literature is very scant and embryonic on cultural capital, heritage capital, and tourist experience and destination passion & love. Hence, this study examines the effect of cultural capital, heritage capital and tourists' destination attachment passion through tourist destination perceived quality and values in Turks and Caicos Islands. Drawing upon various disciplines: sociology for cultural capital construct, geography for heritage capital, marketing and tourism for tourist experience and destination attachment passion, we operationalise the aforementioned scales of our research instrument which was piloted, and then administered to 199 participants with 176 usable cases. The results of structural equation modelling analysis indicate that our hypothetical predictions are supported with the exception of heritage capital which does not directly lead to tourist satisfaction. Consequently, this study provides rich and insightful explanations of tourist passion for tourism destination attachment.

SB09

09-Third Floor, Dover AB

Digital Marketing Platforms

Cluster: Special Session

Invited Session

Chair: Georgios Zervas, Boston University, School of Management, Boston, MA, United States of America, zg@bu.edu

1 - Mobile Trajectory-Based Advertising: Evidence from a Large-Scale Randomized Field Experiment

Anindya Ghose, New York University, New York, NY, United States of America, aghose@stern.nyu.edu, Beibei Li, Siyuan Liu

We propose a new mobile advertising strategy that infers consumer preferences by leveraging full information on consumers' offline moving trajectories from different mobility dimensions. We extract these multidimensional trajectory features from large-scale, fine-grained individual behavioral data, and learn individual preferences from the trajectory information using statistical and machine learning methods including kernel-based similarity functions, dense sub-graph detection algorithm for graph-based clustering and collaborative filtering. Finally, to examine the effectiveness of this new mobile trajectory-based advertising strategy, we conduct a randomized field experiment in one of the world's largest shopping malls, located in Asia.

2 - Slack Time and Innovation

Avi Goldfarb, Professor of Marketing, Rotman School of Management, University of Toronto, 105 St. George Street, Toronto, ON, M5S 3E6, Canada, AGoldfarb@Rotman.Utoronto.Ca, Ajay Agrawal, Christian Catalini

We explore how the interaction of human capital and slack time influences entrepreneurial experimentation. We document a sharp rise in projects posted on a major crowdfunding platform when colleges are on break. The timing is strongly coincident with breaks - we observe no pre-trend. Furthermore, projects are consistent with student expertise: we observe a positive effect on technology projects when top engineering schools are on break and similarly for design and artistic projects when art and design schools are on break. Our results suggest that slack time allows students to perform execution-related tasks in marketing and finance rather than ideation and product development. Specifically, projects are disproportionately posted in the early days of the break, and are relatively polished, having begun over 60 days before the start of the break. In addition, projects posted during breaks exhibit active engagement of funders by the project creators.

3 - Dynamic Pricing and Labor Supply in the Sharing Economy

Chris Nosko, The University of Chicago Booth School of Business, Chris.Nosko@chicagobooth.edu

This paper investigates the effect that dynamic pricing has on the labor supply decisions of drivers on a ride sharing marketplace. Using panel data from one such firm, we document the extent to which labor supply varies with wages, and demand fluctuates with prices. Leveraging exogenous variation in prices and wages, we estimate the primitives of a driver labor supply model. We then undertake a series of counterfactuals that illustrates the powerful effect that dynamic pricing can have on markets. We compute new equilibria that constrains the firm to charging a single price that doesn't vary across time or with demand conditions. We study the effect that this has on labor supply and overall welfare.

4 - The Rise of the Sharing Economy: Estimating the Impact of Airbnb on the Hotel Industry

Georgios Zervas, Boston University, School of Management,
Boston, MA, United States of America, zg@bu.edu, John Byers,
Davide Proserpio

Airbnb is an online community marketplace facilitating short-term rentals ranging from shared accommodations to entire homes that has now contributed more than ten million worldwide bookings to the so-called sharing economy. Our work addresses a central question facing the hospitality industry: to what extent are Airbnb stays serving as substitutes for hotel stays, and what is the impact on the bottom line of affected hotels? Our focus is the state of Texas, where we identify Airbnb's impact by exploiting significant spatiotemporal variation in the patterns of adoption across city-level markets. Using a dataset we collected spanning all Airbnb listings in Texas and a decade-long panel of quarterly tax revenue for all Texas hotels, we develop a nuanced estimate of Airbnb's material impact on hotel revenues. Our baseline estimate is that a 1% increase in Airbnb listings in Texas results in a 0.05% decrease in quarterly hotel revenues, an estimate compounded by Airbnb's rapid growth. To further isolate Airbnb's impact, we employ hotel segments that consumers are less likely to substitute for Airbnb stays as additional control groups. We find that the impacts are distributed unevenly across the industry, with lower-end hotels and hotels not catering to business travelers being the most affected. Finally, by simulating various regulatory interventions informed by current events, such as limiting Airbnb hosts to a single listing, we find only a moderate mitigating impact on hotel revenues.

SB10

10-Third Floor, Dover C

Analytics

Contributed Session

Chair: Huanhuan Shi, Doctoral Student, Penn State University, Smeal Business Building, University Park, PA, 16802, United States of America, huanhuanshi@psu.edu

1 - Temporal Clustering of Customers Based on Customer Relationship Dynamics using Unsupervised Learning

Anita Luo, Assistant Professor, Georgia State University,
35 Broad Street NW, Atlanta, GA, 30303, United States of
America, aluo@gsu.edu, V Kumar, Xi Zhang

The central theme of CRM is to identify distinct phases of customer relationships and manage these relationships strategically. There is an extant stream of research that uses Hidden Markov Models (HMMs) to capture the dynamics of customer relationships by examining the effect of relationship marketing actions on customer-brand relationships and customer choice behavior. However, they assume a pre-defined Hidden Markov model structure based on the model fit of aggregate data, and generally impose heterogeneity on a few parameters such as marketing response parameters or intercepts. In reality, some customers are fundamentally different than other customers, and may not display too many dynamics in their relationships with firms. Therefore, it is strategically important to identify these customers and cluster them based on their dynamic relationship stages. This study introduces a heuristic algorithm to determine the optimal number of clusters for various Hidden Markov model structures with different parameters and optimal allocations of various customers to different clusters with the best model fit based on each customer's purchase history. The cluster-forming process paper gives researchers the liberty of assigning individual customers into the best fitting model. This study extends previous marketing literature by applying model-based unsupervised learning to distinguish different groups of customers by observing the sequences of their purchasing history. Companies can therefore segment customers based on state dependence, marketing elasticity, and dynamics in customer relationships using this temporal clustering technique. With the proposed method, companies can better cluster their existing customers and reallocate resources for profit maximization.

2 - Bayesian Semiparametric Modeling of Cohort Lifecycles

Ryan Dew, Doctoral Student, Columbia University, Columbia
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Asim Ansari

Mobile application developers are interested in understanding the dynamic patterns of spending by customers, and how those patterns are affected both by the firm's actions, such as the nature and timing of software and content updates, and by the duration of customers' use of the product. Crucial to such understanding is modeling distinct cohorts of customers, who are distinguished by their timing and channel of acquisition, and who differ in their long-run value and in their spending dynamics over the their use of the app. In this paper we use a Bayesian semiparametric Gaussian process propensity model to specify the likelihood of a customer spending in a given time interval. The propensity is semiparametrically estimated using a combination of explicitly defined time-varying covariates and an unspecified propensity function that comes from a Gaussian process prior. This results in a highly flexible discrete time hazard model. We estimate the model on data from a mobile video game application. In addition to yielding insights about cohort lifecycles, current results indicate that the model has the potential to correct for omitted temporal variables, whose

omission could result in misleading estimates of the impact of marketing efforts. We also show that the flexibility afforded by our semiparametric approach results in significantly improved fit to the frequency of spend curves when compared to predictions by benchmark parametric hazard models. While our data comes from a mobile game context, the modeling framework is easily generalizable to spending decisions within other mobile app categories and for other CRM contexts.

3 - Replacing an Exiting Salesperson: Clone, Rookie, or Star?

Huanhuan Shi, Doctoral Student, Penn State University,
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States of America, huanhuanshi@psu.edu, Shrihari Sridhar,
Rajdeep Grewal, Gary Lilien

In B2B contexts, buyers' relationships with sellers are often linked through a key contact salesperson. When a salesperson exits an account, often due to turnover, account sales usually decline despite efforts to find an appropriate replacement. The purpose of this research is to determine what sellers can do to mitigate lost sales associated with salesperson turnover. We propose a typology of three replacement strategies: clone (the replacement salesperson is similar in customer and industry experience to the exiting salesperson), rookie (relatively new replacement salesperson), and star (the replacement salesperson is a current top performer). In cooperation with a Fortune 500 B2B firm, we use a before-and-after-with-control-group analysis to overcome selection issues and other exogenous confounding factors to quantify the effect of salesperson exiting on sales. In our empirical setting, we find that the average customer quarterly sales loss when a salesperson exits is 15% of the account sales. The use of a star salesperson helps eradicate this loss, while the use of clone salespersons or rookies exacerbate the loss. We then use model estimates to calculate the gain or loss of each replacement strategy and identify the most effective loss-mitigating strategy, subject to regional constraints on the supply of salesperson-types. The model-based replacement scheme projects sales loss mitigation to be 45%.

SB11

11-Third Floor, Atlantic

Dynamic Models III

Contributed Session

Chair: Masakazu Ishihara, Assistant Professor of Marketing, NYU Stern,
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1 - Modeling Mean-Deviation-and-Heuristic-Based Expectation: An Application to Consumer Level Progression

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The rational expectation assumption, wherein agents are assumed to calculate the statistical expected values or means to facilitate decision making, has been widely adopted in modeling how decision makers form expectations under uncertainty. Although being convenient and versatile, such assumption fails to capture some commonly recognized human tendencies for biases and heuristics. In this paper, we develop a new approach for modeling how economic agents form expectations, namely the mean-deviation-and-heuristic-based (MDHB) expectation approach. Such approach allows agents to form expectations based on any point on the distribution as perceived by agents, enabling a flexible way of capturing human psychological tendency for biases like optimism and pessimism, and tendency for applying heuristics when making complicated evaluations. We develop our model in the context of player level progression in online gaming. Players make play-or-quit decisions at each level of the game, and for each completed level, can observe their actual abilities measured by the number of points required for level completion divided by their operation quantity. We model individual players' learning on the evolutionary patterns of their abilities, and the two alternative approaches of how players form expectations on their ability and the associated playing utility. Such expectations will then affect individual players' decision to continue to play or quit at a level. We cast the individual play-or-quit decisions in a dynamic framework with forward looking players, and develop the algorithm for estimating such dynamic models under the MDHB expectation. We test our model using level progression data associated with an online game from 471 real players. We find clear evidence on consumer adoption of such MDHB expectation. In particular, the majority of players in the sample are found to be optimistic when forming expectations on their future playing ability and utility, and a small group of players show neither optimism nor pessimism. Comparing the two groups, we find that optimists tend to derive a higher utility from the process of playing (i.e. the "Experiencers"), whereas those realists are more goal oriented and derive a higher benefit from completing the entire game (i.e. the "Achievers"). Counterfactual analysis shows that the proposed model can help configure a more effective level-progression point schedule to better engage players and improve the game developer's revenue potential.

2 - Optimal Product Versioning Strategy in Durable Goods Markets: The Case of the US Video Game Industry

Masakazu Ishihara, Assistant Professor of Marketing, NYU Stern, 40 West 4th Street, New York, NY, 10012, United States of America, mishihar@stern.nyu.edu, Joost Rietveld, Yuzhou Liu

Product versioning strategy (e.g. standard versus limited editions) has been used as an effective segmentation/price-discrimination tool in many durable goods industries such as computer software, video games, books, and cars. Despite the popularity and importance of this phenomenon (e.g. sales of limited edition video games can comprise up to 15% of total product sales), little empirical work has been done in this area. This paper studies the antecedents and consequences of product versioning strategy in the U.S. video game industry between 2005 and 2012. Specifically, we examine (1) when firms should introduce multiple versions of a durable good, (2) how versioning strategy helps firms to better segment price sensitive consumers when they are also able to price-discriminate intertemporally, and (3) whether product versioning improves social welfare. To answer these questions, we collect rich product- and firm-level panel data on sales, prices, product characteristics (genre, critic/user ratings, award, series, version and associated special features/collector items, etc.), and firm characteristics (product portfolio, reputation, etc.). Using this data set, we first estimate a simple model of firms' decisions on introducing a single version versus multiple versions of a video game, and uncover factors that affect product versioning decisions. We then develop and estimate a dynamic structural model of consumer adoption decisions by controlling for the endogeneity of versioning and pricing strategies. Finally, using the demand estimates, we conduct a series of supply-side counterfactual experiments to investigate the optimal versioning strategy, the optimal pricing paths, and their welfare implications. Our analysis offers managerial implications for how firms could effectively use joint versioning and price-skimming strategies to improve the profitability of their products.

3 - Causal Impact of Online Reviews on Durable Goods Adoption: The Case of the U.S. Video Game Market

Yuzhou Liu, PhD Candidate, NYU Stern, 40 West 4th Street, New York, NY, 10012, United States of America, yliu@stern.nyu.edu, Masakazu Ishihara

Firms in durable goods markets face demand uncertainty when consumers' perceived quality of new products remain uncertain. In such cases, product reviews may play important roles in determining the success of new products since they provide consumers with product quality information. However, such review information only becomes available around product release date (i.e., critic reviews), and afterwards (i.e., consumer reviews). In this paper, we propose a dynamic structural learning model to quantify the causal impacts of critic reviews and consumer review bias on forward-looking consumer adoption of video games in the U.S. market. Our datasets combine a novel dataset of pre-order sales (sales realized prior to product launch) and post-release sales and prices at product level from 2009 to 2012. We also collect individual-level online critic and consumer reviews using computer-programming techniques. Our studies include two parts. First, we leverage the pre-order information to separately identify the impacts of critic reviews and consumer prior knowledge on firm's profits. Second, we find systematic differences between critic reviews and consumer reviews that also have significant direct impact on sales: the average of consumer reviews tends to become lower (higher) when critics are higher (lower). Therefore, a standard Bayesian learning model cannot be directly applied since such systematic differences are not merely driven by the sampling errors when quality signals are drawn from distributions of true product quality. We posit that such differences could be driven by consumer review bias due to reference point effect and self-selection effect. We propose a consumer evaluation function that can explain the observed review bias and estimate this function within the structural model. Using the structural model estimates, we examine the impacts of critic reviews and consumer review bias on firm's optimal prices, sales, and profits, as well as consumer welfare. To assess these impacts, we conduct counterfactual experiments by simulating firm's optimal price, sales, and profits in the case where we eliminate the critic reviews and consumer review bias. The results of our model can provide important managerial implications with respect to dynamic pricing and preorder strategies.

We test our conceptual framework with a panel dataset containing more than 1,000 consumer electronics products with over 90,000 reviews in total. The empirical evidence supports our hypotheses that numerical cues as well as informative and persuasive elements of reviews affect sales.

2 - Management Response to Online Customer Word of Mouth

Yang Wang, PhD student, Rice University, 2540 Prospect St., Unit F, Houston, TX, 77004, United States of America, yang.wang@rice.edu, Alexander Chaudhry

Significant academic research has been dedicated to understanding the impact of online reviews on customers' preferences, attitudes, and choices. However, management's public response to online word of mouth has been a relatively sparsely studied area. We investigate the effect of management responses to online reviews in two ways. First, we investigate the effect of management response on subsequent online reviews by comparing reviews and ratings between TripAdvisor and Hotels.com for the same set of hotels using a difference in differences approach. We find that managerial responses lead to higher ratings. In particular, we find that ratings converge between TripAdvisor and Hotels.com after managers begin to respond on the former site. Second, we investigate the impact of management response on sales by comparing bookings of a cross section of hotels before and after managers begin to respond to online reviews. We find discontinuous jumps in bookings for midrange hotels when managers respond to reviews. We argue that the large concentrations of positive reviews for high end hotels minimizes the potential gains to management responses while low end hotels compete primarily on price.

3 - Preaching to the Choir: The New Chasm Between Top Ranked Reviewers, Mainstream Opinion, and Product Sales

Elham Yazdani, University of Utah, 1655 Campus Center Drive, Salt Lake City, UT, United States of America, Elham.Yazdani@business.utah.edu, Shyam Gopinath, Steve Carson

Opinion leaders are typically defined as consumers who generate a high volume of influential word of mouth (WOM). Since influence is rarely measured directly, marketers trying to identify opinion leaders usually look for users who generate a high volume of content along with feedback from other users such as helpfulness ratings or subscribers that serve as a proxy for influence. While the influence of top ranked reviewers is often assumed without much critical assessment, it is an open question as to the extent to which they actually influence other reviewers and product sales. To gain insight into these issues, we study the review and sales activity for 182 music CDs in audio format, released between January 21, 2014 and April 15, 2014 on Amazon.com. We find that top ranked reviewers act as opinion leaders for newly released products, but their influence is largely limited to other top ranked reviewers (as evidenced by subsequent reviews). In contrast, the reviews of followers (non-highly-ranked reviewers) have a far greater influence on the opinions of other followers and product sales. The impact of reviews from the two groups on sales is shown to vary by product type (mainstream vs. niche) and the variance of reviews for the product. Top ranked reviewers are comparatively more influential for mainstream product releases and for products that lack consensus among existing reviews. In contrast, followers are relatively more influential for niche products and for products with low review variance. The findings of the study are in-line with theory based on reviewer similarity (homophily) and credibility.

4 - A Dynamic Change-point Model for Online Product Opinions

Yue Wang, PhD, National University of Singapore, BIZ 2 Building, 01-01, 1 Business Link, Singapore, 117592, Singapore, a0018820@nus.edu.sg, Dai Yao

It has been prevalent for customers to communicate their opinions about products in online platforms, usually in the form of product ratings and reviews. Whereas researchers have recently demonstrated the impact of such online opinions on product sales and have started to investigate the underlying drivers that affect an individual's decision to contribute these opinion (i.e., when to contribute, and what to contribute), little attention has been paid to the longitudinal change in the individual's posting behavior, which ultimately shapes the opinion dynamics in online market places. A reviewer new to an online platform differs from herself some time later on the same online platform, in terms of the different incentives and considerations with respect to posting a product rating, which are usually reflected by her reactions to the previously posted ratings. We develop a dynamic change point model to account for the behavioral change of an individual across different product rating occasions, and the behavioral difference across all the individuals. Applying the model to our empirical setting of online movie reviews, we uncover two different roles an individual may play in her tenure: a naive reviewer and a sophisticated reviewer. The two different roles exhibit substantive differences in terms of how the review environment affects the timing of contribution and the rating value. Through simulations, we shed new lights on how these dynamics affect the evolution of online product opinions.

SB12

12-Third Floor, Bristol

Social Influence IV

Contributed Session

Chair: Werner Reinartz, University of Cologne, Alerbutus Magnus Platz, Cologne, Germany, werner.reinartz@uni-koeln.de

1 - Reading between the Lines: The Impact of Online Review Content on Sales

Werner Reinartz, University of Cologne, Alerbutus Magnus Platz, Cologne, Germany, werner.reinartz@uni-koeln.de, Mark Elsner, Maik Eisenbeiss

It is well established that online consumer reviews have emerged into a robust influence on purchase behavior. Prior research has mainly focused on different aspects of star ratings (e.g. average rating, dispersion, share of five star ratings vs. one star ratings, etc.). While we regard these heuristic cues as important drivers of purchase behavior, we develop an extended framework based on the dual-process theory. In our study we thus argue that heuristic numerical cues as well as systematically processed content affect the purchase decision. In particular we model the effect of star ratings as well as the informative and persuasive elements of the written reviews, operationalized through the linguistic style of the content.

■ SB13

13- Fourth Floor, Harborside A

Social Media II

Contributed Session

Chair: Karthik Sridhar, Assistant Professor, Baruch College - The City University of New York, 55 Lexington Ave, 12-240 Vertical Campus, New York, NY, 10010, United States of America, karthik.sridhar@baruch.cuny.edu

1 - Understanding In-Store Consumer Experiences via User-Generated Content from Social Media

Karthik Sridhar, Assistant Professor, Baruch College - The City University of New York, 55 Lexington Ave, 12-240 Vertical Campus, New York, NY, 10010, United States of America, karthik.sridhar@baruch.cuny.edu, Syagnik Banerjee, Ashwin Aravindakshan

Social media sites like Twitter and Foursquare have increased the significance of Word-Of-Mouth (WOM) on an individual's purchase decisions and experiences. This instant WOM can reflect not only consumers' (dis)satisfaction of prior purchases, but also of their ongoing purchase experiences. Prior literature in the area used past WOM to measure firm-specific outcomes. Though research has shown that consumers' reactions to product-related stimuli vary depending on whether they are at home or in the store, no study has used the more relevant and actionable real time WOM such as micro-blogging content to understand its impact on ongoing purchase experience. This study contributes to the literature by addressing this gap. Specifically, we analyze the online conversations in their immediate physical contexts – when customers are inside the store, during the purchase process. To achieve this we linked location check-ins via Foursquare with corresponding posts made on Twitter, and merged it with the customers' publicly available profile information from Facebook. Applying this method, we collected over 100,000 in-store tweets tied to several brands across multiple cities. Using this data, we make the following contributions to the literature: a) develop a method to connect multiple social networks to obtain a better picture of the customer and the conversation, b) make the content analysis of tweets more actionable in real time and c) illustrate when and how firms can choose to react while customers are immersed in the purchase process.

2 - What You Said and What People Said About You – Do They Concur with Each Other?

Chunyao Huang, National Taiwan University, 1, Sec. 4, Roosevelt Rd., Taipei, Taiwan - ROC, chunyaohuang@ntu.edu.tw, Pingyu Liu

Marketing researchers today are equipped with more powerful tools and much richer resources for explorations that were unimaginable a few decades ago. In the past, a firm's strategic orientation, its brand equity, and customers' opinions about its product/service offerings were always studied independently and separately. Nowadays, as this research would showcase, we are able to look at these dimensions altogether and get insights unavailable before. Conducting computer aided text analysis, we infer a publicly listed company's strategic orientation by text-analyzing its annual reports. We then investigate to what extent the online consumer reviews that the company got reflect the strategic orientation revealed in its annual reports. The results thus derived are further triangularized with brand equity measures. As a company may manage several brands, the research first focuses on companies that are branded houses. The empirical research thus designed looks at multiple product/service categories and makes comparisons across them.

3 - Television Advertising and Online Word-of-Mouth: An Empirical Investigation of Social TV Activity

Beth Fossen, Emory University, 1300 Clifton Road NE, W462, Atlanta, GA, 30322, United States of America, bfossen@emory.edu, David Schweidel

Online word-of-mouth (WOM) impacts customer acquisition, television program ratings, and sales. While the positive consequences of online WOM have been well founded in the marketing literature, research on the drivers of online WOM is still in its infancy, and questions remain concerning how marketers can encourage online chatter about their brands. In this research, we investigate how television advertising drives online WOM. Specifically, we explore if television advertising has the ability to drive online WOM about (1) the brand advertised and (2) the program in which the advertisement airs. We further examine if the media context in which the advertisement is served – the television program – impacts the relationship between television advertising and online WOM. Using data containing television advertising instances and the volume of minute-by-minute social media mentions, our analysis reveals that television advertising impacts online WOM for both the brand advertised and the program in which the advertisement airs. Moreover, the program in which the advertisement airs affects the extent of online WOM following TV advertising. Furthermore, we find evidence that the programs that receive the most online WOM aren't necessarily the best programs for advertisers. Our findings have implications for media planning strategies, advertiser-network negotiations of media buys, and ad design strategies.

4 - The Untold Story of Social Media on Offline Sales: The Impact of Facebook in the U.S. Auto Industry

Yen-Yao Wang, Michigan State University, N204 Business College Complex, East Lansing, MI, 48824, United States of America, wangyen@broad.msu.edu, Anjana Susarla, Roger Calantone, Vallabh Sambamurthy

With the explosion of social media, firms have been trying to work out how to harness social media in promoting consumer-firm relationships and in improving their market performance. The literature on integrated marketing communications (IMC) assumes that media channels should operate as a system; advertising in one media channel can increase promotion effectiveness in other channels (Smith et al. 2006, Stephen & Galak 2012). We examine the relationship between social media, traditional media, and sales, in the context of the U.S. automobile industry. While prior research has studied the relative impacts of social media and traditional media on sales, most existing work focuses only on a single social media channel such as a blog (e.g. Dewan and Ramaprasad 2014). Most prior work also focuses on a single company, and typically examines online sales (e.g., Stephen & Galak, 2012). Very limited work exists on the interplay between a firm's social media efforts, its traditional media efforts, and offline sales in the context of an industry. We collected detailed data including the official Facebook pages of 31 car companies in the U.S. and supplemented the data from these firms' traditional media efforts (i.e. TV, radio, magazines, newspapers, and outdoor displays), and car sales (which typically occur through dealerships) from 2009 to 2014. Furthermore, we distinguished firm-generated posts and user-generated posts to capture the dynamics of interactions on Facebook. We employ a panel vector autoregression (PVAR) model that allows us to treat our main variables as endogenous and to investigate the interrelationship between social media, traditional media, and car sales. Our findings shed light on how firms can optimize their media channels to affect sales. Implications for research and practice are also discussed.

■ SB14

14- Fourth Floor, Harborside B

Pharma

Contributed Session

Chair: Bruce McWilliams, Professor, ITAM, Av. Camino a Santa Teresa 930, Mexico, DF, 10700, Mexico, bruce@itam.mx

1 - Donation of Tears: The Economic Value of Self-Sacrifice

Gil Peleg, Ben-Gurion University of the Negev, Gluskin 32/6, Rehovot, Israel, gilpel@post.bgu.ac.il, Danny Shapira, Oded Lowengart

Individuals might try to brand themselves as pro-social by donating money or time. It is clear that for such a branding process to be successful, these donations must aid the beneficiaries. In this work, we posit that the donor's self-sacrifice plays an important role in gaining social recognition even though the self-sacrifice per se has no economic value as far as the beneficiary is concerned. As a result, there might be cases where donors are inefficiently putting effort into their actions, but the outcome is not necessarily meaningful for the beneficiaries. In other cases, efficient donations may not gain the intended recognition from society. We propose a conceptual framework that is based on the individual's social reputation that captures such a potential pitfall by the inclusion of self-sacrifice, in addition to donations of time or money. Using a choice-based conjoint experiment, we support this assertion and the differences in social recognition between monetary donations and volunteering work that are derived from this framework. Our findings can be useful for non-profit organizations in their fundraising activities and in communications with potential donors and volunteers.

2 - The Diffusion of A/B Testing Technology at a Broadcaster

Christopher Berry, Sr. Manager, Product Intelligence, Canadian Broadcasting Corporation, 250 Front St W, Toronto, ON, Toronto, On, M5V 3G5, Canada, christopher.berry@cbc.ca

Several digital publishers have identified the activity of A/B testing as a critical competitive differentiator. There are significant barriers to adoption of A/B testing at large corporations. Can the adoption of A/B testing amongst product managers, technologists, and producers be predicted using the Bass Diffusion Model? How can institutional entrepreneurs use that model to influence better adoption rates? This work in progress will highlight the use Recency-Frequency login data and testing success rates from an A/B testing product pilot.

3 - Cloned Rivalry: Motivating Sales Growth in the Pharmaceutical Industry

Bruce McWilliams, Professor, ITAM, Av. Camino a Santa Teresa 930, Mexico, DF, 10700, Mexico, bruce@itam.mx, Cristobal Thompson, Edgar Cochran

We document and test the effectiveness of a strategy that we call "cloned rivalry" in the pharmaceutical industry. In cloned rivalry a firm that already has a successful brand creates a second brand with identical product and price characteristics to compete directly with its existing brand. The specific intention of this strategy is to create a competitive internal environment that motivates the sales force, leading to increased sales and market share of the combined brands. While creating multiple brands of a single molecule by one firm is common in the

pharmaceutical industry, the new brands generally compete in different markets and at different prices, taking care to not cannibalize the mother brand. In contrast, in cloned rivalry the two brands explicitly define the clone rival as their principal competition, with the salespeople being rewarded for taking market share from the rival without resort to price tactics. That is, the rival brands compete in the same markets and at similar prices. Using time series data we find that introducing cloned rivalry leads to growth in both the original and new rival brands. Moreover, these brands are able to maintain high prices and market share even as new patented brands enter the market and as generic substitutes gain significant market share. This is the first study we know of that looks specifically at cloned rivalry in any market.

■ SB15

15- Fourth Floor, Essex AB

Applied Theory on Product & Platform Design

Cluster: Special Session

Invited Session

Chair: Yi Zhu, Assistant Professor, University of Minnesota-Twin Cities, Carlson School of Management, Minneapolis, MN, 55455, United States of America, yizhu@umn.edu

1 - Designing Crowdfunding Campaigns

Mark Bender, Doctoral Candidate in Marketing, University of Pittsburgh, Pittsburgh, PA, mtb34@pitt.edu, Esther Gal-Or, Tansey Geylani

Determining the funder reward and setting the campaign goal are two important decisions made by entrepreneurs in crowdfunding campaigns. We show the conditions under which an entrepreneur offers a more generous reward to encourage higher pledges from funders. We also demonstrate that the entrepreneur never finds it optimal to set the campaign goal above the level that allows her to cover the development cost of the product. The optimal level of this goal depends on the entrepreneur's ability to access traditional capital markets. When the entrepreneur has access to traditional capital markets, we demonstrate that this optimal level declines as the platform shares more of the crowdfunding revenues with the entrepreneur. The results further show that in addition to raising capital the crowdfunding campaign can serve as a vehicle to facilitate price discrimination. As such, it enables more successful extraction of consumer surplus than uniform pricing. This happens when heterogeneity in the consumer population is sufficiently large and when the development cost of the product or the anticipated surplus generated from it is relatively small.

2 - The Marginal Role of the Salesperson

Mark Bergen, Associate Dean, James D Watkins Chair in Marketing Marketing, University of Minnesota, Twin Cities, Department of Marketing, Minneapolis, MN, United States of America, mbergen@umn.edu, Zuhui Xiao, Yi Zhu, Mark Zbaracki

Using a combination of ethnographic field data and economic modeling, we study the triadic role of the salesperson "working at the margin" to facilitate exchange between firms and customers. We build a theoretical model to explore this "marginal role" of the salesperson and its impact on information provision, pricing and market exchange. We find that the salesperson provides a social lubricant that is central to market exchange by selectively revealing customer information to the firm. Consistent with ethnographic field data, we find salespeople sometimes truthfully reveal (broker) customer information, and sometimes fail to reveal (buffer) customer information, in order to get both parties to agree to a deal. We go on to characterize when failing to reveal information (buffering) is required for market exchange depending on the parameters of the model.

3 - Strategic Product Design Outsourcing

Kangkang Wang, Assistant Professor, University of Alberta., Edmonton AB, T6G 2R6, Canada, ka8@ualberta.ca, Chunhua Wu

Original design manufacturer (ODM) is a new form of global outsourcing, in which the manufacturer not only produces, but also designs and develops the specifics of the product for a brand. We investigate the brands' incentives in the strategic choice of keeping the development process in-house (OEM model) vs. outsourcing it to an external party (ODM model). Our analytic model reveals that channel power and brand competition are two important factors that determines brands' outsourcing strategy in a competitive market. We show that, all combinations of ODM vs. OEM strategy can be the equilibrium outcome in a marketplace. Interestingly, we find that asymmetric equilibria exist when neither the brand nor the manufacturer has a dominant power in the channel. It is possible that the strong brand will adopt an ODM strategy while the weak brand adopts an OEM strategy in equilibrium. Overall, our findings resonate with different strategies in the current industry practices, and provide insights to supply chain management in today's dynamic market environment.

4 - Prominent Attributes

Yi Zhu, Assistant Professor, University of Minnesota-Twin Cities, Carlson School of Management, Minneapolis, MN, 55455, United States of America, yizhu@umn.edu, Anthony Dukes

Evidence shows that marketers may try to make certain attributes "prominent" by influencing which attribute(s) consumers evaluate during decision making. This research aims to better understand the interaction between prominent attributes and consumers' evaluation and studies how this interaction affects firms' decisions on which of their product's attributes to make prominent. We develop a model in which firms sell products with two attributes (e.g. styling and performance) after selectively promoting one of them as prominent. The new feature in our model is that consumers' evaluation decisions are influenced by firms' promotion strategy and that they may have limited attention to fully evaluate and compare products on all of their attributes, even when both attributes are prominent. Our model shows that (1) symmetric firms may make the same attribute prominent; (2) asymmetric firms may continue to make the same attribute prominent, even when one firm has a quality disadvantage in that attribute; (3) If one firm has the quality advantage in both attributes, then under certain conditions firms may randomize which attribute is prominent.

■ SB16

16- Fourth Floor, Essex C

Working Papers XXV

Contributed Session

Chair: Ananya Sen, Toulouse School of Economics, 21, rue des Amidonniers, Toulouse, Toulouse, 31000, France, ananyasen100@hotmail.com

1 - Predicting Social Influence based on Dynamic Network Structures

Mantian Hu, Assistant Professor, Chinese University of Hong Kong, Room 1105, Cheng Yu Tung Building, No. 12, Chak Cheung Street, Shatin, Hong Kong - PRC, mandyhu@baf.cuhk.edu.hk, Jianmin Jia, Chih-Sheng Hsieh

This study examines how network structure and dynamics interplay with the effect of social influence to facilitate diffusion. The context we consider is the diffusion of a new smartphone from a major wireless carrier in two medium-sized cities in China. The study is carried out in three stages: (1) New phone adopters (seeds) are selected within our sample period, and a two-layer snowball sampling of their mobile contacts is used to extract individual networks. (2) Given longitudinal networks and temporal adoption behaviors, the stochastic actor-based dynamic network model is used to determine the homophily effect on network formation and the social influence effect on adoptions. (3) The measures of the network structure are linked to the estimated effects of social influence based on meta-analysis. As a result, the two most significant network measures related to social influence are diversity of connection and time variation of edge numbers, after controlling for network size and density. The simulation further reveals that a certain amount of initial adopters is needed to trigger positive social influence during the diffusion process. Our findings provide a new perspective on buzz marketing campaigns by emphasizing the appropriate selection of social networks prior to the selection of individuals.

2 - Clicks and Editorial Decisions: How Does Popularity Shape Online News Coverage?

Ananya Sen, Toulouse School of Economics, 21, rue des Amidonniers, Toulouse, Toulouse, 31000, France, ananyasen100@hotmail.com, Pinar Yildirim

This paper analyzes how demand side incentives shapes news media reporting in the context of online news. With news available online, editors have the ability to track reader demand (i.e., the number of clicks) for individual stories. Using online news data from a large Indian English daily newspaper, we provide evidence that editors expand coverage of stories which receive more clicks. To establish a causal link, we instrument the clicks received by articles using days with rain and days with electricity shortage as exogenous shocks to reader attention. Further, we find that the newspaper responds by giving additional coverage based only on the higher clicks received by "hard" news stories. Hence, we provide evidence of "hard" news potentially crowding out "soft" news, at least in the short run. Moreover, we find suggestive evidence that editorial decisions, responding to clicks, in some instances may be driven by events orthogonal to the newsworthiness of stories, and this may be detrimental to information provision to readers and newspaper profits.

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 Kamai, Tomohito FD02
 Kanazawa, Yuichiro FD02
 Kanetkar, Vinay SA09
 Kang, Moon Young TC10, FD14
 Kannan, PK TA15, TB13
 Kar, Pravat Surya TC11
 Kar, Wreetabrata TA16, TD03
 Kathuria, Abhishek FC02
 Katsumata, Sotaro FC04
 Kawai, Kei FB16
 Ke, Tony TB16
 Keller, Kristopher O. TD12
 Kemper, Jan TA03, TB02
 Kes, Isabelle FA13, SA02
 Kettle, Keri L. TC03
 Khodakarami, Farnoosh FB04
 Khwaja, Ahmed TB09
 Kiessling, Timothy FA02
 Kikumori, Mai SA04
 Kim, Bumsoo
 Kim, Byungyeon TB11
 Kim, Dong Young FB04
 Kim, Jaehwan TB11, FD14
 Kim, JaeWook TA08

Kim, Ji Yoon FB02
 Kim, Jikyung TB14
 Kim, Jun SA03
 Kim, Keunwoo TB11
 Kim, Kihyun Hannah FA04
 Kim, Minki FD04
 Kim, Minkyung FB10
 Kim, Sang TC07
 Kim, Sang-Hoon FC14
 Kim, Sang Yong TA14, FB02, FB04
 Kim, Sara SB02
 Kim, Shin-Hye TB04
 Kim, Su Jung FD15
 Kim, Taewan FD02, SB03
 Kim, Tongil TI FC16
 Kim, Wonjoon SB05
 Kim, Youngsoo TA14
 Kirmani, Amna TD09
 Klein, Roy SA05
 Koenigsberg, Oded SA05
 Kohli, Rajeev TC03, FB11
 Kolay, Sreya FB12
 Kong, Guangwen FD07
 Kong, Pianpian FC09, SA15
 Konsynski, Benn FC02
 Konus, Umut TC02
 Kopalle, Praveen TC01, FB09
 Korfiatis, Nikolaos TC01
 Koschmann, Anthony TB10
 Koshy, Abraham SB01
 Koslow, Scott FC05
 Kosyakova, Tetyana FB11
 Krämer, Florentin FC07
 Krider, Robert FB14
 Krishnan, Trichy FC07, FD10
 Krosch, Amy R. FB06
 Kubo, Tomokazu TA10
 Kuehnl, Christina TC11
 Kuksov, Dmitri TB05
 Kumakura, Hiroshi TD01
 Kumar, Piyush TD12, FA10, FB08, SA12
 Kumar, Subodha TD02
 Kumar, V TB04, TB10, TC12FA04, FA04, FB09, FC02, SA11, SB10
 Kumar, Vineet FC09
 Kurz, Peter FC11
 Kwak, Kyuseop FA11
 Kwon, Jun Bum FD01

L

Lambert-Pandraud, Raphaëlle FC14
 Landry, Peter TB11
 Langmaack, Michael TD12
 Larson, Ronald FA03
 Laurent, Gilles FC14
 Lechner, Michael SA05
 Lee, Hyeong-Tak TD10
 Lee, Jaehyun FC13
 Lee, Janghyuk TA14
 Lee, Jei Young FA14
 Lee, Ji-Hyun FD04
 Lee, Jin Won FB02
 Lee, Jong-Ho SB02
 Lee, Leonard FB04
 Lee, Nick FD11
 Lee, Seoungwoo TB10, TC14
 Lee, Sungkyu SB02
 Lee, Youseok FC14

Leigh, Thomas W. FB08
 Lemaire, Alain TB15, TD15
 Lemon, Katherine (Kay) FB09
 Lerner, Josh TA04
 Leszkiewicz, Agata FA04
 Leung, Fine F. SB02
 Leung, Kwok Way SB05
 Levy, Daniel TD10
 Li, Alice FA16
 Li, Beibei SB09
 Li, Chenxi FA15
 Li, Chunyu TB13
 Li, Jiaoyang FC01
 Li, Jing TC02
 Li, Ke FA04
 Li, Ning FD03
 Li, Shanjun FC01
 Li, Shibo TA10
 Li, Ting TC01, TD01
 Li, Xiaolin FD13
 Li, Xinxin TC05
 Li, Yi FA03
 Li, Yiwei FC03, FD12
 Li, Yiyi TC13
 Liang, Lan SB01
 Lianos, Gerasimos FD05
 Libai, Barak FD08
 Liberali, Gui SA09
 Lilien, Gary SB10
 Lim, Hyunwoo FB16, SA07
 Lim, Joon Ho TD02
 Lim, Leon Gim TA15
 Lim, Noah FC08
 Lim, Yeji FA10
 Lin, Chen TD13, FA15
 Lin, Hsin-Chen TC13
 Lin, Yi-Chin SA14
 Lin, Yusan FC03
 Linzmajer, Marc TB14
 Liu, Hongju TD01
 Liu, Jia TB15, FB04
 Liu, Liu TC15
 Liu, Pengfei TD07
 Liu, Pingyu SB13
 Liu, Qiang TD01, SA14
 Liu, Qing TC16
 Liu, Richie TB04
 Liu, Siyuan SB09
 Liu, Xiao FD17
 Liu, Yan FC01
 Liu, Yizao TD11
 Liu, Yuzhou SB11, SB11
 Liu, Zhuping SA01
 Liu-Thompkins, Yuping SB04
 Lo, Desmond TC02
 López, Julio TC15
 Louie, Kenway SB06
 Lovett, Mitchell TA01, FC09, SA15, SA15
 Lowengart, Oded SB14
 Lu, Michelle FA07
 Lu, Qiang (Steven) TA13
 Lu, Shijie FD17, TB13
 Lu, Tong TC03
 Luo, Anita SB10
 Luo, Hong FD09
 Luo, Xiaomeng FD07
 Luo, Xueming FA15, FB15, FD15

M
 Ma, Judy FA03
 Ma, Junzhao SA14
 Ma, Liye FA01
 Ma, Minghui TD08
 Ma, Yu SA14
 Ma, Zecong TD03
 MacDonald, Emma TC02
 Maeng, Hyun Chul TC07
 Mahajan, Vijay TA07, FD07, SA01
 Maheshwari, Nidhi
 Maheswarappa, Satish FD05
 Mahmood, Ammara FB14
 Mai, Feng SB03
 Majid, Kashef TC12
 Mallapragada, Girish FC12
 Malshe, Ashwin SA13
 Malthouse, Edward FD15
 Mandel, Naomi TA03
 Mantrala, Murali FA10, FB09
 Maraun, Nadja TD03
 Marci, Carl D. FD06
 Marinova, Detelina FB10
 Mark, Tanya FC01
 Markellos, Raphael TC01
 Matanda, Margaret SA01
 Matsumura, Naohiro FD13
 May, Jerrold FB11
 Mazumdar, Tridib SB03
 McAlister, Leigh TA02
 McCarthy, Daniel TB12, FB13
 McWilliams, Bruce SB14
 Mee, Robert FD13
 Meierer, Markus FA04
 Meissner, Martin TA04
 Mejia, Jorge TA03
 Mela, Carl TB14, SA03
 Messarra, Nasri FC03
 Messinger, Paul TB03
 Meyer, Bob TD09
 Meza, Sergio FC01
 Miklos-Thal, Jeanine FA07
 Miller, Amalia FC12
 Miller, Chadwick TA03
 Miller, Rohan TA13
 Mills, Paul FA14
 Ming, Yaxin SB07
 Mione, Anne FC03
 Mirzaei, Abas FC01
 Misra, Kanishka FB17
 Misra, Sanjog TA11, TB11
 Mitra, Debanjan TA08, TD14
 Mizuno, Makoto TD14
 Molitor, Dominik FB15
 Montaguti, Elisa TD11
 Montgomery, Alan TD02, FC07, FD17
 Montoya, Ricardo TC15, FD11
 Moon, Jihwan TA08, SA07
 Moon, Sangkil TC10
 Mora, Jose Domingo FC03
 Morren, Meike FB14
 Morrison, Pamela TA02
 Morrow, W. Ross TD15
 Mugica, Jose Miguel FC16
 Muir, David TB14
 Muller, Eitan TB15, FA14, FD08, FD08, SA05
 Murphy, William FD03
 Musalem, Andres TD04

N
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 Nahata, Babu FD16
 Nair, Harikesh TA09
 Namin, Aidin FB14
 Narasimhan, Sridhar TD04
 Narayan, Vishal FC12
 Narayanan, Sridhar SA15
 Narayandas, Das FC10
 Nastasoiu, Mihaela Alina FB04
 Nattamai Kannan, Karthik Babu TD04
 Navarro, Salvador FB04
 Nayak, Abhishek FA01
 Neslin, Scott FA02, FB01
 Netzer, Oded TB15, TC09, TC15, TD17, FD11
 Neuerburg, Christian FB11
 Neupane, Ganesh Prasad FA12
 Newberry, Peter FB17
 Nguyen, Hang FD04
 Ni, Jian TB07, TC04, TD07
 Nikolov, Atanas TC12
 Nishida, Mitsukuni TC16
 Nishimoto, Akihiro FC04
 Nistor, Cristina FA02
 Nosko, Chris SB09

O
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 Oh, Wonseok FD15
 Ohashi, Hiroshi SA15
 Oldham, Jeffrey FD01
 Ong, L. Lin TC08
 Onishi, Ken FB16
 Orhun, Yesim TC11, SB04
 Osborne, Matthew FD09
 Osuna, Ignacio TC10
 Otter, Thomas FB11, FC11
 Ou, Yi-Chun TB08
 Ozer, Ozalp TA05
 Ozturk, O. Cem TD11

P
 Paas, Leo FB14
 Pachali, Max FC11
 Padilla, Nicolas FD11
 Padman, Rema SA14
 Pagani, Margherita FB02
 Palazzolo, Mike TD15
 Palekar, Udatta FB02
 Pallant, Jason TD02
 Pan, Yang FB07
 Pancras, Joseph TB13, TC11
 Pandey, Neeraj TD13
 Pang, Jun SB07
 Papageorge, Nicholas FD12
 Papatla, Purushottam TC10, SA13
 Papiés, Dominik FD14
 Park, Eunho FD12
 Park, Hee Chan FB02
 Park, Hee Mok TC11, TC13
 Park, Insu FC02
 Park, Sungho FD15
 Park, Sungsik TD14
 Pathak, Surya SA12
 Patil, Ashutosh FC10
 Paul, Michael TD13

Pavlou, Paul TD01
 Pazgal, Amit TB02, TD11
 Pedada, Kiran SB03
 Pedram, Mahmood TA04
 Peleg, Gil SB14
 Peng, Jing FC13
 Peng, Ling TB13
 Peres, Renana TA01
 Pescher, Christian FB03
 Petersen, J. Andrew FB04
 Piskorski, Mikolaj Jan FC12
 Platzter, Michael TD04
 Pocheptsova, Anastasiya FC15
 Popkowski Leszczyc, Peter T. L. SB07
 Prabhu, Jaideep TA01, FB12
 Pradhan, Debasis FA08
 Prasad, Ashutosh TB05, FD07
 Proserpio, Davide SA16, SB09
 Pulletturthi, V Swamy TC02
 Purohit, Debu TC07
 Purushottam, Neha TA05
 Putsis, William TD16
 Pyo, Tae-Hyung SA13

Q
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 Qian, Jinghui FB01
 Qian, Yi TA04
 Qu, Yingge SA11

R
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 Rajagopalan, Sampath FD07
 Raju, Jagmohan TD07
 Rand, William TD14, FD08
 Rangaswamy, Arvind TD06, SA03
 Ranjan, Bhoomija SA15
 Rao, Anita FB17
 Rao, Raghunath TA07
 Rao, Vithala FD02, SA15
 Ratchford, Brian TD06, FA16, FB14
 Ratchford, Mark FB08
 Ratner, Rebecca TC03
 Ratneshwar, Ratti TB06
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 Reddy, Srinivas FC13
 Reeck, Crystal FB06
 Reibstein, David SA01
 Reichhart, Philipp FB15
 Reinaker, Andrew FA15, FD15
 Reinartz, Werner SB12
 Renard, Damien TC14
 Reutterer, Thomas TD04
 Richards, Timothy TB03
 Riedl, Edward TA15
 Rietveld, Joost SB11
 Ringel, Daniel FC17, FD04, SA03
 Rishika, Rishika TD02, FD12
 Risselada, Hans SA12
 Roberts, John TA02, TB15
 Rodriguez, Omar FD10
 Rohani, Khalil SA09
 Rossi, Federico TD11
 Rossi, Peter TA11
 Roushan, Gelareh SB08
 Roy, Abhik FD07

Rubera, Gaia FD12
 Rujeearpaiboon, Pattara SA04
 Russell, Gary FB11
 Rust, Roland TD09, TD14, SA10

S

Saboo, Alok FA12, FC02
 Sahni, Navdeep TA09
 Sahoo, Nachiketa SA11
 Salman, Faryal FD03
 Samaraweera, Manoshi TA01, FC12
 Sambamurthy, Vallabh SB13
 Samper, Adriana TA03
 Sandor, Zsolt FA11, FD01
 Sardashti, Hanieh TA12
 Sarin, Rakesh TD03
 Sashi, C. M. TC14
 Satyavageswaran, Prakash TA10
 Schaefer, Richard TA07
 Schellong, Daniel TB02
 Scheuffelen, Stefan TA03
 Schlather, Martin SA04
 Schmidbauer, Eric FB07
 Schmidt, Klaus M. FC07
 Schoeler, Lisa TA15
 Scholderer, Joachim TC08
 Schramm, Mary FD07
 Schramm-Klein, Hanna TC11
 Schulze, Christian TA02, TC04, TD10, SB04
 Schwartz, Eric FB13
 Schweidel, David SB13
 Seenivasan, Satheesh SA14
 Seetharaman, P.B. TD11
 Seiler, Stephan FC09
 Sen, Ananya SB16
 Seo, Joo Hwan
 Sett, Rahul FB03
 Seyed Ghorban, Zahra SA01
 Shacham, Rachel FD11
 Shaikh, Nazrul TD17
 Shan, Zhe SB03
 Shankar, Venkatesh FA12
 Shapira, Danny TC09, SA12, SB14
 Shapiro, Bradley FB17
 Sharma, Amalesh TB10
 Sharma, Ashish TD12
 Shehu, Edlira SA03
 Shi, Huanhuan SB10
 Shimizu, Akira FB03, SA04
 Shin, Jiwoong FA07
 Shin, Sangwoo SA14
 Shin, Woochoel FB07, TB07
 Shinbo, Naoki TD14
 Shugan, Steven SA07
 Shulman, Jeffrey D. FA07
 Sim, Woo Chan TA14
 Simpson, Dayna SA01
 Singh, Jagdip FB10
 Singh, Shubhranshu TB07, TC07
 Singh, Sunil FB10
 Sinha, Atanu FB08
 Sinha, Rajiv FC07
 Sinha, Shameek TB02, FA01
 Sismeiro, Catarina FB14
 Siuki, Helen (Elham) TC13, FC01

Skiera, Bernd TA15, TD06, TD10, FA10, FA13, FC17, FD04, SA03
 Sloev, Igor FD05
 Slotegraaf, Rebecca TA15
 Smith, Michael FC14, FD06
 Soberman, David TA07, TD05
 Soch, Harmeen
 Sokolova, Tatiana
 Son, Jungmin TB14
 Song, Inseong FD04
 Song, Yicheng SA11
 Song, Yiping TB13
 Sonnier, Garrett SB01
 Sood, Ashish SA01
 Sorescu, Alina TA15
 Southam, Colette FC01
 Soysal, Gonca FB07
 Spann, Martin FB03, FB15, FC07, SA02
 Sridhar, Karthik TB04, SB13
 Sridhar, Shrihari SB10
 Srinivasan, Kannan TB06, FD17
 Srinivasan, Raji FD12
 Srinivasan, Seenu TB06
 Srinivasan, Shuba TA15, TD01, SA11
 Sriram, S. TB09, TC11
 Srivastava, Ekta FD05
 Srivastava, Raj TB06
 Staelin, Richard TB06
 Stahl, Florian TC09
 Stakhovych, Stanislav SB04
 Steffener, Jason FB06
 Stephen, Andrew T. TC09, FD08
 Stern, Phillip FC02
 Stich, Lucas FC07
 Stock, Axel FB07
 Stourm, Ludovic FC11
 Stummer, Christian TA04
 Su, Meng FA08
 Subramania, Upender TA05
 Sud, Bharat TC01
 Sudharshan, D. TB06, SA04
 Sudhir, K FB10, TB16
 Sun, Baohong TC04, FA01
 Sun, Monic TC05, FA07
 Sun, Qi FC01
 Sun, Tianshu FC13
 Sunder, Sarang TB10
 Susarla, Anjana SB13
 Swaminathan, Viswanathan TA16
 Swartz, Richard J. TD11
 Swinney, Robert TC07
 Syam, Niladri TB02, FC10
 Szocs, Attila FD01

T

Tam, Leona SB04
 Tamaddoni Jahromi, Ali SB04
 Tamrakar, Chanchal SA13
 Tan, Laypeng
 Tan, Lina TA02
 Tayi, Giri FB05
 Tellis, Gerard TB12, TD13, FB12, FC04
 Ter Hofstede, Frenkel SA01
 Teramoto, Takashi FB03, SA04
 Tewari, Ishani TB16
 Thieme, Niklas FB12
 Thomadsen, Raphael TB09, FB10
 Thomas, Suman Ann FC07
 Thompson, Cristobal SB14
 Tirunillai, Seshadri FD11
 Tong, Chunyang FD07
 Topaloglu, Omer SA12
 Toubia, Olivier TB15, TC15, TD15
 Trivedi, Minakshi FA14
 Trudel, Remi TC03
 Trusov, Michael TA03, TC09, FC15
 Tsai, Yi-Lin SA10
 Tse, Caleb H. SB02
 Tucker, Catherine FC12
 Tuli, Kapil TA15, TD12

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Uetake, Kosuke FB10, FB16
 Ullah, Rahat SB05
 Uppal, Abhinav TD07

V

Valenti, Albert TA14
 Valentini, Sara TD11
 Van den Bulte, Christophe FC13, TD17
 Van der Maelen, Sara TC10
 van Diejjen, Myrthe TB12
 van Heerde, Harald TC01, TD14
 van Hoeve, Willem TD02
 van Lin, Arjen FA10
 Vana, Muhammad Yahya FD03
 Vandenbosch, Mark FB04
 Venkataraman, Sriraman TD10, TD11
 Venkatesan, Rajkumar FB04
 Venkatesh, R. FD07
 Venkatraman, Vinod FB06
 Verhoef, Peter TB13, FB03
 Villanueva, Julian TC10
 Villas-Boas, J. Miguel TB07, TD09
 Viswanathan, Madhu FD02
 Viswanathan, Siva FC13
 Viswanathan, Vijay FD15
 Vlastakis, Nikolaos TC01
 Vo, Khoi FB06
 Voleti, Sudhir TC08
 von Wangenheim, Florian TB14

W

Wager, Tor D. FB06
 Waiser, Rob FC10
 Wang, Chu FC05
 Wang, Emily FD09
 Wang, Feng SB07
 Wang, Hanson FB15
 Wang, Huihui TC10, TD07
 Wang, Kangkang SB15
 Wang, Kanliang SB07
 Wang, Li TD10
 Wang, Paul FA11
 Wang, Qi TD03
 Wang, Rebecca Jen-Hui TB04
 Wang, Rui TD17
 Wang, Ruxian TB11
 Wang, Wenbo FC09
 Wang, Wenche SB03
 Wang, Xiaoyi FA15
 Wang, Xin (Shane) TD16, SB03
 Wang, Xinchun SB03
 Wang, Yang SB12
 Wang, Yen-Yao SB13
 Wang, Yi FC02
 Wang, Yu TA05, FA03
 Wang, Yue SB12
 Wang, Yusong FB02
 Wang, Zihao FC12
 Wang, Zizhuo TB11
 Watson, Jared FC15
 Webb, Ryan SB06
 Webber, Elke U. FB06
 Webster, Cynthia M. TC13
 Wedel, Michel TC14
 Wei, Jiang TA13
 Wei, Yanhao (Max) FA09
 Weinberg, Charles TD10, SA09, SA11
 Wen, Xiaohan FD04
 Wetzels, Martin TB10
 Wheeler, Christian TA09
 Wieringa, Jaap FC02
 Wiesel, Thorsten TB13
 Wijnberg, Nachoem SA11
 Wilbur, Kenneth C. TA09
 Williams, Kevin FD09
 Willmann, Daniel TA12
 Wilson, Hugh TC02
 Winer, Russ TB06, FB06
 Wloemert, Nils FD14
 Woisetschlaeger, David FA13, SA02
 Wolters, Heike SB04
 Wu, Chunhua SA09, SB15
 Wu, Fang FC01, FD02
 Wu, Jiabin FC08
 Wu, Yue TB07
 Wu, Yufei FC04
 Wuyts, Stefan TB12, FD04

X

Xia, Feihong FB11
 Xia, Jing FD09
 Xiang, Yi TD05
 Xiao, Li TD15
 Xiao, Zuhui FC08, SB15
 Xie, Wei FD15
 Xie, Ying TC13
 Xin, Yi TC04
 Xiong, Guiyang FA12
 Xu, Linli TA01
 Xu, Nuo FD11, SB04
 Xu, Yixiang FC03

Y

Yalcin, Taylan FA02
 Yamamoto, Hikaru FD13
 Yang, Bicheng FB10
 Yang, Botao FC08
 Yang, Guoli TA03
 Yang, Haiyang FC06
 Yang, Jing TD08

Yang, Liangbin Katie FB13
 Yang, Sha TB13, FC08,
 FD17, SB11
 Yang, Shuai TB13
 Yang, Yang FC15
 Yang, Zhuqing TB16
 Yao, Dai FC11, FD08, SB12
 Yao, Kai FA08
 Yao, Song FC09
 Yazdani, Elham SB12
 Yeh, Yi-Hsin FD01
 Yi, Jisu FC14
 Yildirim, Pinar FA09, SB16
 Yilmaz, Tuba TB12, SA02
 Yim, Chi Kin Bennett TA08
 Yim, Sean TB04
 Yoo, Byungjoon FD12
 Yoo, HyeonMi TA08
 Yoo, Onesun TD03
 Yoon, Carolyn TC06
 Yoon, Dae-Hee FA07
 Yoon, Sangsuk SA07
 Yu, Shan FD02

Z

Zamudio, Cesar FA14
 Zanmarone, Giorgio TC02
 Zantedeschi, Daniel FB13, FC11
 Zbaracki, Mark SB15
 Zeb, Atya SB05
 Zeng, Fue FD03
 Zervas, Georgios TA14,
 SA16, SB09
 Zhang, Chen FA15
 Zhang, Jie TB10, TC14, TD02
 Zhang, Jonathan FA02
 Zhang, Juanjuan FA07
 Zhang, Thomas SA02
 Zhang, Wayne TD13
 Zhang, Wei TB03
 Zhang, Xi TB04, SB10
 Zhang, Xing SB07
 Zhang, Yi SB06
 Zhang, Yifan SA03
 Zhang, Yuchi TC09, FB15
 Zhang, Yufei TD13
 Zhao, Meng TA12

Zhao, Yi FD11, SA11, SB11
 Zheleva, Elena FC13
 Zheng, Xin FD03
 Zheng, Yilong (Eric) FD10
 Zheng, Zhiqiang TC13
 Zhou, Bobby TB01, TC07
 Zhou, Jing FB15
 Zhou, Wenjun FD13
 Zhu, Meng FC15, TC03
 Zhu, Ting TD10
 Zhu, Yi SB15
 Zia, Mohammad TB05
 Zou, Deqiang SB07
 Zou, Lili Wenli TA08
 Zou, Tianxin FA05
 Zubcsek, Peter FA15

Thursday, 8:30am - 10:00am

TA01	Advertising I
TA02	Channel I
TA03	Consumer Behavior I
TA04	New Product I
TA05	Working Paper I
TA07	Game Theory I
TA08	Customer Relationship Management I
TA09	Analyzing Advertising Content
TA10	Retailing I
TA11	Bayesian
TA12	Marketing Finance I
TA13	Digital Marketing I
TA14	Internet I
TA15	Building the Marketing-Finance Interface – Substantive and Methodological Issues
TA16	Working Paper II

Thursday, 10:30am - 12:00pm

TB01	Advertising II
TB02	Channel II
TB03	Consumer Behavior II
TB04	Customer Relationship Management II
TB05	Working Paper III
TB06	Remembering Allan D. Shocker: I A Celebration of Intellectual Leadership
TB07	Game Theory II
TB08	Working Paper V
TB09	Modeling the Persistent and Downstream Effects of Strategic Firm Decisions
TB10	Retailing II
TB11	Choice Models I
TB12	Marketing Finance II
TB13	Digital Marketing II
TB14	Internet II
TB15	Developments in the Measurement and Modeling of Consumer Preferences I
TB16	Working Paper IV

Thursday, 1:30pm - 3:00pm

TC01	Advertising III
TC02	Channel III
TC03	Decision Making
TC04	Internet and Incentives
TC05	Working Paper VI
TC06	Decision Neuroscience I (Origins and Applications)
TC07	Game Theory III
TC08	Network
TC09	The Interplay between Social Networks and Consumer Behavior
TC10	Retailing III
TC11	Location Decisions
TC12	Marketing Strategy I
TC13	Digital Marketing III
TC14	Internet III
TC15	Developments in the Measurement and Modeling of Consumer Preferences II
TC16	Working Paper VII

Thursday, 3:30 - 5:00pm

TD01	Advertising IV
TD02	Channel IV
TD03	Consumer Behavior III
TD04	Customer Relationship Management IV
TD05	Working Paper VIII
TD06	Panel Discussion: What's Next for Online Marketing? Frontiers in Research
TD07	Game Theory IV
TD08	Strategy
TD09	Meet the Editors I
TD10	Retailing IV
TD11	Choice Models II
TD12	Marketing Strategy II
TD13	Digital Marketing IV
TD14	Internet IV
TD15	Developments in the Measurement and Modeling of Consumer Preferences III
TD16	Working Paper IX
TD17	Customer and Firm Behavior in Social Networks

Thursday, 5:15pm - 6:00pm

TE13	You Can Get Data from the Wharton Customer Analytics Initiative
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Friday, 8:30am - 10:00am

FA01	Advertising V
FA02	Channel V
FA03	Consumer Behavior IV
FA04	Customer Relationship Management V
FA05	Working Paper X
FA07	Game Theory in Marketing
FA08	Working Paper XII
FA09	Models on Information and Media Economics
FA10	Retailing V
FA11	Choice Models III
FA12	Marketing Strategy III
FA13	Banner Advertising
FA14	Mobile Marketing
FA15	Mobile Ads and Consumer Insights
FA16	Working Paper XI

Friday, 10:30am - 12:00pm

FB01	Advertising VI
FB02	Channel Strategy
FB03	Consumer Behavior V
FB04	Customer Relationship Management VI
FB05	Working Paper XIII
FB06	Decision Neuroscience II (Behavioral Insights)
FB07	Pricing I
FB08	Working Paper XV
FB09	Meet the Editors II
FB10	Sales Force I
FB11	Choice Models IV
FB12	Marketing Strategy IV
FB13	Customer Relationship Management III
FB14	Internet VI
FB15	Mobile Coupons and Networks
FB16	Working Paper XIV
FB17	New Trends in Structural Modeling in Marketing I

Friday, 1:30pm - 3:00pm

FC01	Brands I
FC02	Competition I
FC03	Consumer Behavior VI
FC04	New Product II
FC05	Working Paper XVI
FC06	Decision Neuroscience III (Insights from Health Research)
FC07	Pricing II
FC08	Behavior Game/IO
FC09	New Trends in Structural Modeling in Marketing II
FC10	Sales Force II
FC11	Choice Models V
FC12	Social Influence I
FC13	Digital Marketing V
FC14	Entertainment I
FC15	The Effect of Numerical Markers on Consumer Inferences and Decisions
FC16	Working Paper XVII
FC17	ISMS Doctoral Dissertation Proposal Competition Winners I

Friday, 3:30pm - 5:00pm

FD01	Brands II
FD02	Competition II
FD03	Consumer Behavior VII
FD04	New Product III
FD05	Working Paper XVIII
FD06	Decision Neuroscience IV (Applied Consumer Neuroscience)
FD07	Pricing III
FD08	Marketing in a Fast Changing Digital Environment
FD09	Recent Development in Dynamic Structural Models
FD10	Sustainability
FD11	Dynamic Models I
FD12	Social Influence II
FD13	Digital Marketing VI
FD14	Entertainment II
FD15	Mobile Marketing and Quantitative Models
FD16	Working Paper XIX
FD17	ISMS Doctoral Dissertation Proposal Competition Winners II

Saturday, 8:30am - 10:00am

SA01	Brands III
SA02	Innovation I
SA03	International Marketing I
SA04	New Product IV
SA05	Working Papers XXI
SA07	Pricing IV
SA09	Movies and Marketing
SA10	Empirical Methods
SA11	Dynamic Models II
SA12	Social Influence III
SA13	Social Media I
SA14	Health Science
SA15	Product Entry - Effects on Preference Evolution
SA16	Working Papers XXII

Saturday, 10:30am - 12:00pm

SB01	Brands IV
SB02	Innovation II
SB03	International Marketing II
SB04	Customer Relationship Management VII
SB05	Working Papers XXIV
SB06	Decision Neuroscience V
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