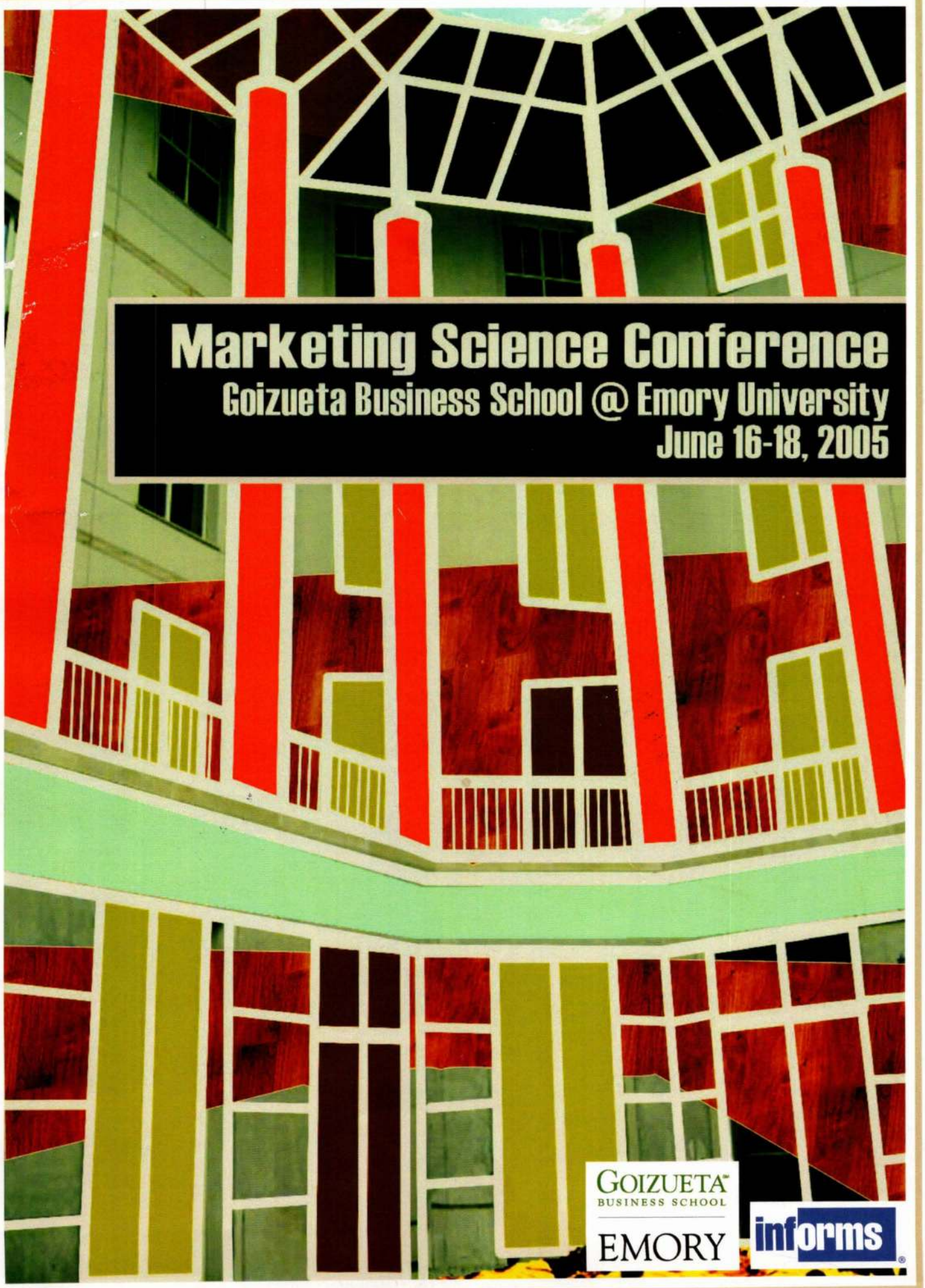

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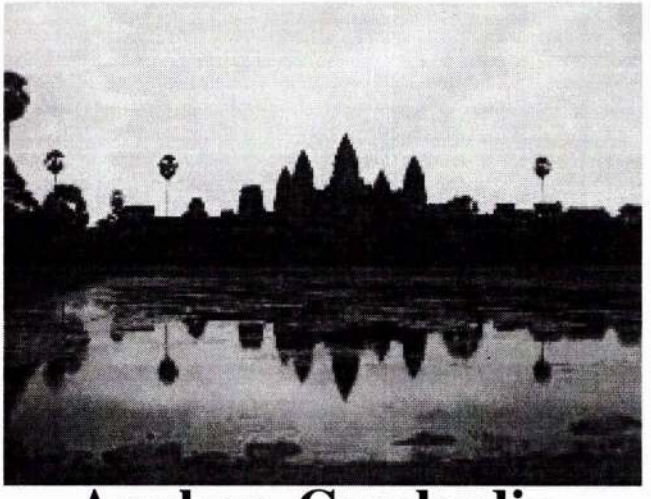


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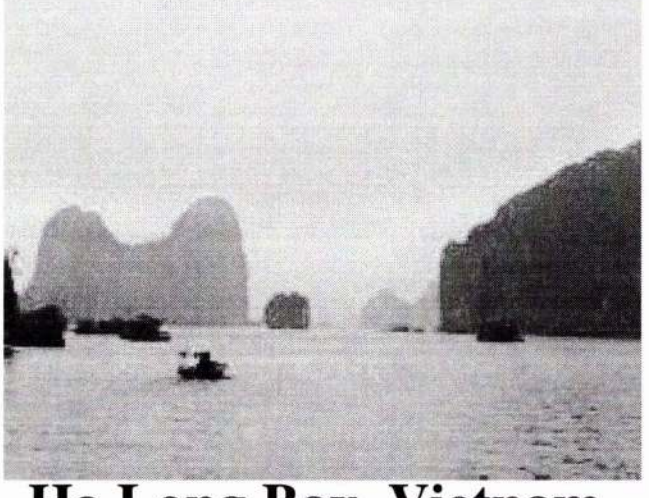
INFORMS Marketing Science Conference
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SINGAPORE: Getting there is half the fun !

Dave Montgomery, Sundar Bharadwaj, and Jin K. Han
www.smu.edu.sg



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INFORMS SOCIETY ON MARKETING SCIENCE

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Depart Goizueta for Holiday Inn Express		2:15pm		7:45pm

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Depart Goizueta for Marriott Courtyard		5:30pm		9:30pm
Depart Holiday Inn Express – N. Decatur Rd.	7:00am		6:15pm*	
Depart Goizueta for Holiday Inn Express		5:30pm		9:30pm

*Arrive at Emory Conference Center Hotel

Bus to Buckhead (6 miles) departs from Emory Conference Center Hotel at 9:30pm.

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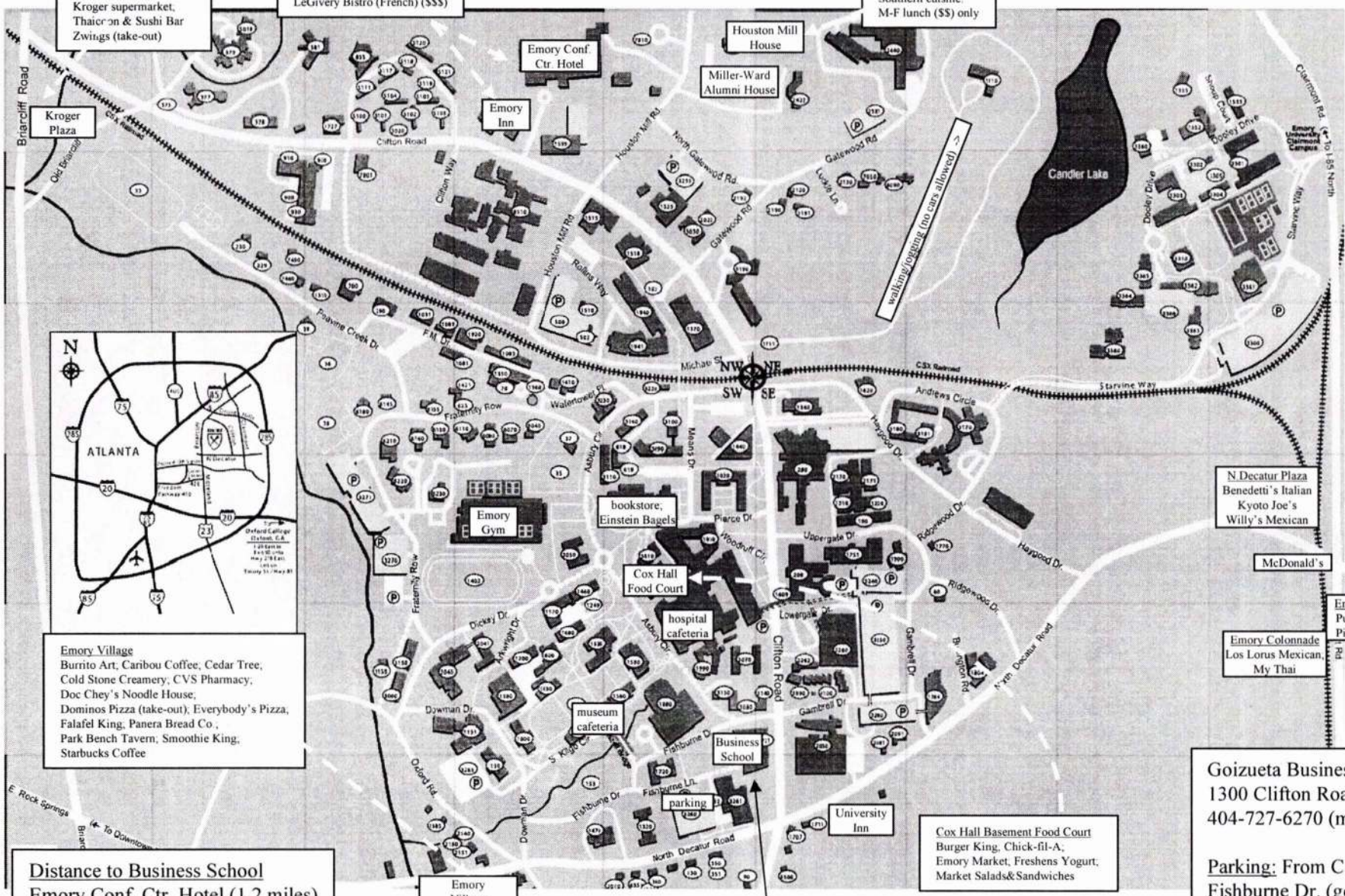
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Bus to Airport ($10 in cash): Departs Goizueta at 4:45pm. Arrive at Atlanta Airport at 5:30pm.
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Emory University Map



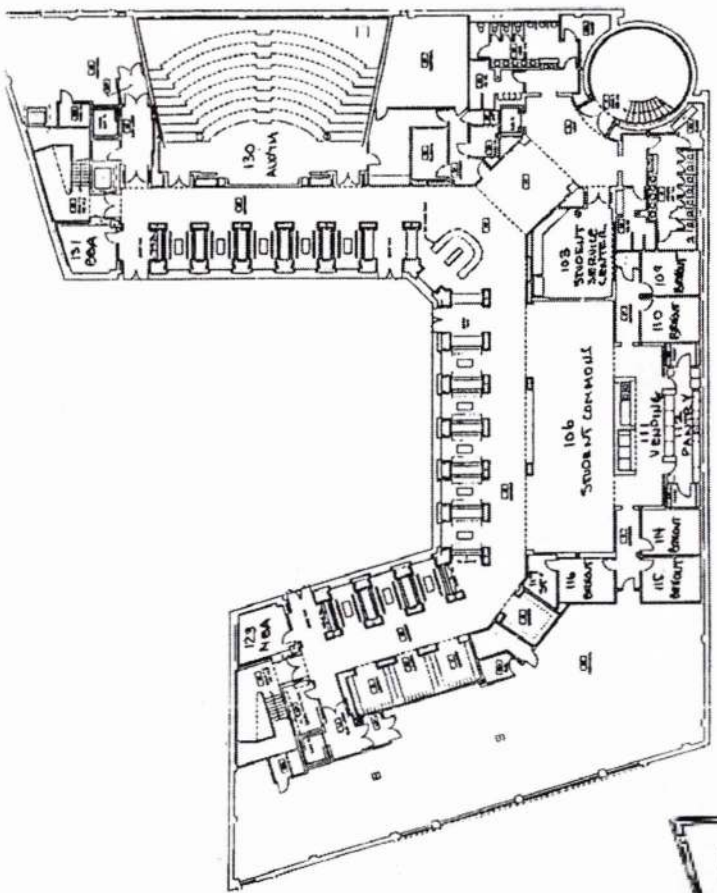
Distance to Business School

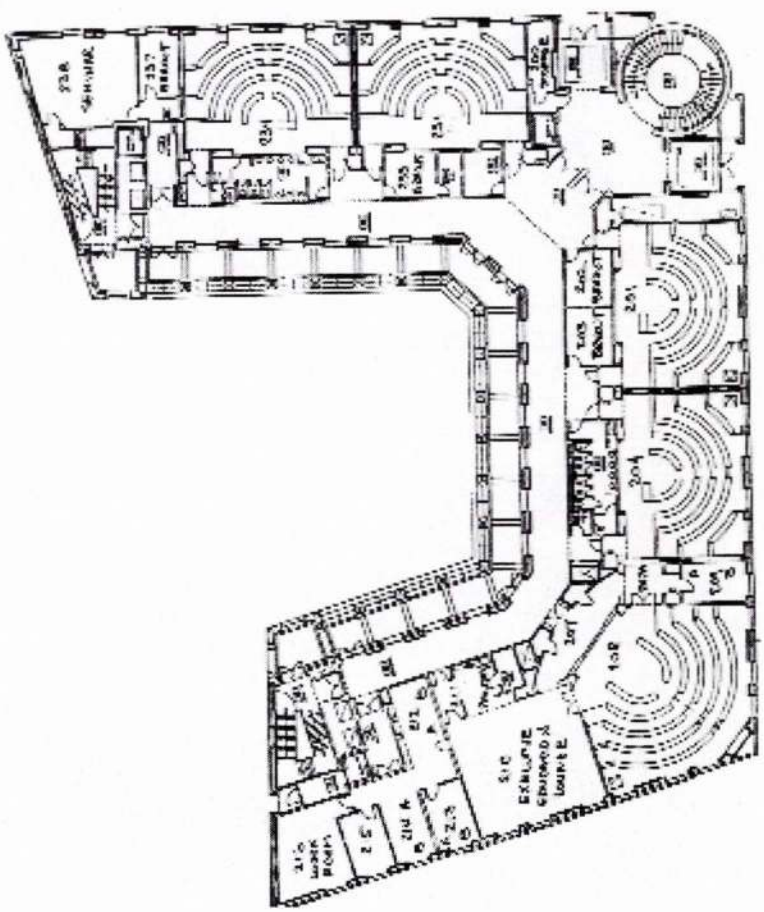
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Emory Inn (1.1 miles)
Holiday Inn Express (1.2 miles)
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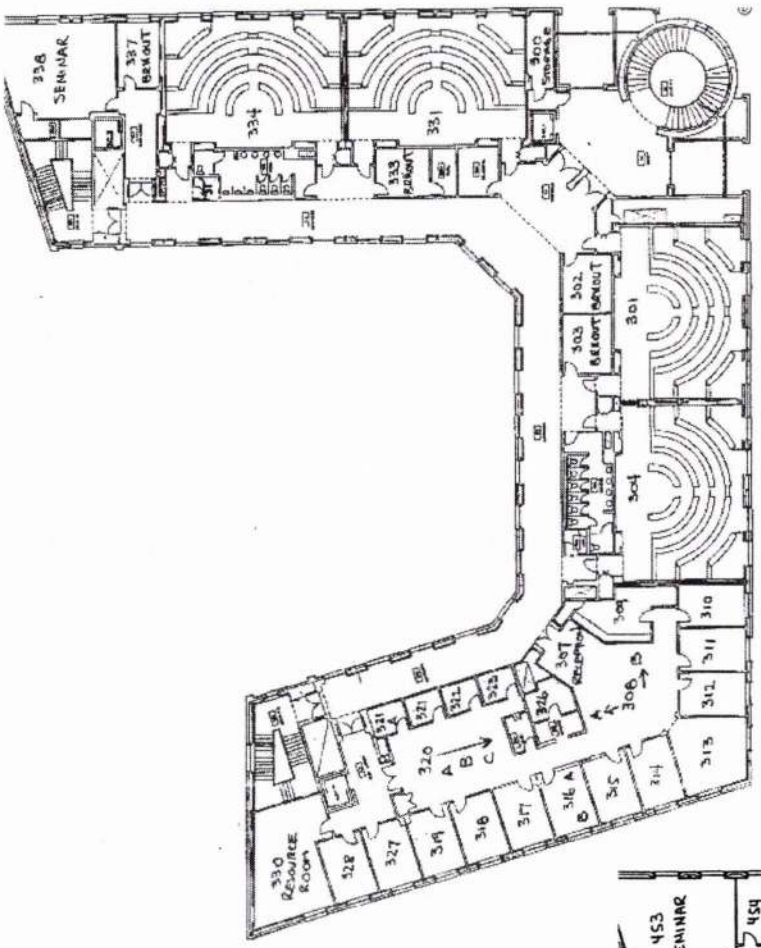
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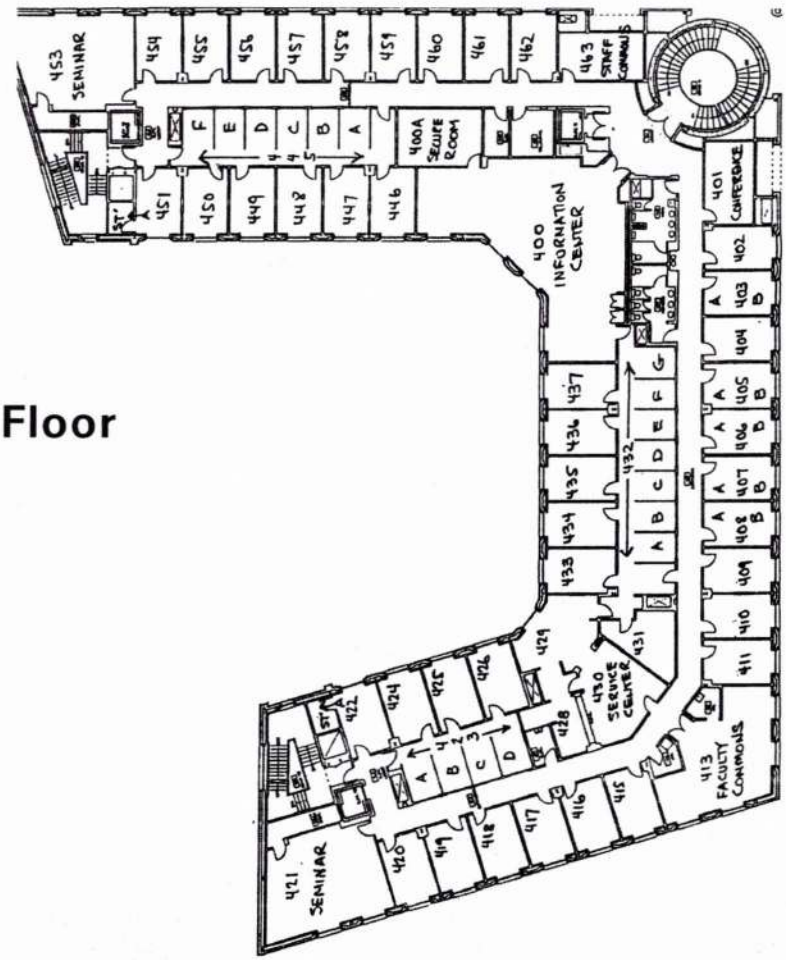
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Third Floor



Fourth Floor

2005 INFORMS MARKETING SCIENCE CONFERENCE, EMORY UNIVERSITY

Thursday, June 16, 2005 – 3:30-5:00pm (Session TD)

TD01
Practice Prize Set-up
Room 130 (Auditorium)

Not Available

TD02
Advertising; Word-of-Mouth
Room 238

The Added-Value of Online Word-of-Mouth to Advertising in New-Product Adoption
Fiona Sussan, Hirokazu Takada

Prerelease Online Word of Mouth: Does It Influence Movie Evaluation and Viewing Intention?
Anindita Chakravarty, Yong Liu, Tridib Mazumdar

The Informational and Signaling Roles of Movie Advertising
Yong Liu

Do We Listen to Experts or Amateurs: The Case of Movie Attendance
Dina Mayzlin, Abraham Ravid

Chair: Dina Mayzlin

TD03
Game Theory I
Room 234

Optimal Product Returns Policies and Product Variety with Consumer Education
Jeffrey Shulman, Anne Coughlan, Canan Savaskan

On Supermarket Positioning and Value of Analyzing Basket Composition Data
Seungwon Jeon, Nanda Kumar, Ram Rao

How Free Riding on Customer Service Affects Competition
Jiwoong Shin

Customer Loyalty Programs: Are They Really Profitable?
Siddharth Singh, Dipak Jain, Trichy Krishnan

Chair: Siddharth Singh

TD04
Product Line Management
Room 231

Revenue Consequences of Component Sharing Across Brands in the Vertical Product Line
Koen Pauwels, Peter Verhoef

To Add or Not to Add: Inferences about Base Products in the Presence of Add-Ons
Marco Bertini, Elie Ofek, Dan Ariely

Optimal Product Variety Over Time
Yogesh Joshi, Dave Reibstein

When More Alternatives Lead to Less Choice
Miguel Villas-Boas, Dmitri Kuksov

Chair: Miguel Villas-Boas

TD05
Channel Pricing and Coordination
Room 201

All-Units Quantity Discounts in B2B Markets: An Experimental Analysis
Noah Lim, Teck Ho

Estimating Bargaining Games in Distribution Channels
Sanjog Misra, Sanjib Mohanty

Pricing Policies in Distribution Channels: Product-Line Breadth & Product Differentiation
Chuck Ingene, Anne Coughlan

Forward Buying, Inventory, and Channel Coordination
Preyas Desai, Oded Koenigsberg, Debu Purohit

Chair: Preyas Desai

TD06
Consumer Learning
Room 204

The Impact of Consumers' Experimentation Behaviors on the Firm's Optimal Mailing Policy
Yupin Yang, Andrew Ching, Mengze Shi

What Have You Done For Me Lately?
Mitchell Lovett, Bill Boulding, Norris Bruce, Abhijit Guha, Rick Staelin

The Impact of Prior Thinking on the Preference for Experiences
Daniel Lieb, Joel Huber

An Experimental Investigation of the Rational Expectations Hypothesis
Wilfred Amaldoss, Sanjay Jain

Chair: Wilfred Amaldoss

TD07
Price Promotions
Room 207/208

Who's got the Coupon? Estimating Consumer Preferences and Coupon Usage from Aggregate Information
Andres Musalem, Eric Bradlow, Jagmohan Raju

Tracing the Impact of Price Promotions Aross Categories
Vincent Nijs

Competitive Multi Category Promotions: An Analytic Framework
Tarun Dewan

Embedded Premiums and Sales Promotion: The Impact of Linking a Brand with a Cause
Neeraj Arora, Ty Henderson

Chair: Neeraj Arora

Thursday, June 16, 2005 – 3:30-5:00pm (Session TD)

TD08
Innovations I; Multi-channel
Room 338

Modeling Spillover Effects in Vertically Differentiated Product Lines
Garrett Sonnier, Pradeep Bhardwaj, Yuxin Chen

Intertemporal Quality Allocation and Upgrade Options
Chun Qiu, Yanbin Tu

Secondary Markets and the R&D Decision
Sherif Nasser

Winners and Losers Due to Used Goods: The Case of DVDs
Pilsik Choi

Chair: Pilsik Choi

TD09
Auctions I
Room 334

The Effect of Consumer Learning and Experience on Bidding Behavior in Online Auctions
Yongfu He,
Peter Popkowski Leszczyc

Pricing in a Dual Channel of Posted Price and Online Auctions
Donglei Qiu, Young-Hoon Park, Xin Wang

Rationale and Impact of Buy-it-Now Pricing in Auctions: An Empirical Analysis
Young-Hoon Park, Vrinda Kadiyali, Tat Chan

The Impact of Anticipated Regret on Optimal Seller Strategies in Auctions
Eric Greenleaf, Yuxin Chen

Chair: Eric Greenleaf

TD10
Spatial Models
Room 331

Modeling Spatial Correlation in Consideration Set Membership
Andres Terech

Spatial Multiple-Product Recommendation Models
Sangkil Moon, Gary Russell

Modeling Household Response Heterogeneity
Sri Deepak, Tom Gruca, Kyuseop Kwak, Gary Russell

Spatial Differences in Consumer Segmentation Structure
Sachin Gupta, Anand Bodapati

Chair: Sachin Gupta

TD11
New Product Development; Market Research
Room 301

Capturing Spurious Awareness in the Tracking of New Products' Performance
Albert Bemmaor

New Solutions to the Measurement Issues in Concept Testing
Ling Peng, Adam Finn

The Effects of the Intensity of Terminal Subsidy on Consumer's Buying Behavior: PIS Case in Korea
Chan Son, Hyun Chung, Sung Soo Han

Too Many Attributes, Not Enough Resources? Scalable Preference Markets to the Rescue
Ely Dahan, Arina Soukhoroukova, Martin Spann

Chair: Ely Dahan

TD12
Retailing I; Price Competition
Room 304

Price Rigidity and Store Positioning in Grocery Supermarkets
Sourav Ray, Huang Xiaogong

Offering Low Price Guarantees To Improve Customer Retention
Bruce McWilliams, Eitan Gerstner

Price War: What is it Good For?
Harald van Heerde, Els Gijsbrechts, Koen Pauwels

Price Matching by Vertically Differentiated Retailers: Theory and Evidence
Sridhar Moorthy, Xubing Zhang

Chair: Sridhar Moorthy

TD13
Response Functions
Room 421

Optimal Integrated Marketing Communications in a Stochastic Monopoly Market
Ashutosh Prasad, Suresh Sethi

Consumer Dynamics and Optimal Price-Quality Trajectories for Durable Goods
Guilherme Liberali, Tom Gruca

Investigating Market Dynamics by Dynamic Impulse Response Functions
Shijin Yoo

Near-Optimal Rules for Allocation of a Marketing Budget with Stochastic Response Functions
Sonke Albers

Chair: Sonke Albers

TD14
Sales Force Management I
Room 453

To Motivate or Not To Motivate Your Sales Force In A New Product Launch
Frank Fu, Jim Hess

When Control Systems Collide In Sales Teams: A Contingency Perspective
Brian Murtha, Goutam Challagalla

Incorporating Quality of Sales Calls in Response Modeling: The Role of "Mirroring" and "Positioning"
Ying Xie

The use of Information Collected by Sales Representatives to Develop a Call Attractiveness Model
Franklin Carter, Ravi Chitturi

Chair: Franklin Carter

Friday, June 17, 2005 – 8:30-10:00am (Session FA)

FA01
Practice Prize Competition I
Room 130 (Auditorium)

8:30am:

Quantifying and Improving Promotion Profitability at CVS
Kusum Ailawadi, Jacques Cesar, Bari Harlam, David Trounce

9:15am:

An Assortment Wide Decision-Support System for Dynamic Pricing & Promotion Planning
Martin Natter, Thomas Reutterer, Andreas Mild, Alfred Taudes

Chair: Gary Lilien

FA02
Advertising Effectiveness
Room 238

On The Use of Expectations Data to Estimate the Effects of Advertising
Tat Chan, Barton Hamilton, Christopher Makler

Advertising Strategies for New Product Diffusion in Regulated Markets: Propositions and Analysis
Sanjeev Swami, Arindam Dutta

Assessing Short-term Effectiveness of TV Advertising via the Propensity Score
Makoto Mizuno, Shigeyoshi Takemura

A Dynamic Bayesian Model of Advertising Copy Effectiveness in a Telecom Industry
Norris Bruce, B.P.S. Murthi, Frank Bass, Sumit Majumdar

Chair: Norris Bruce

FA03
Analyzing Clickstream Data
Room 234

Clickstream Analysis of Web-Based Adaptive Experimentation with Dynamic ...
Fareena Sultan, John Hauser, Mahesh Kumar, Dmitriy Rogozhnikov-Katz, Thomas Stoker, Glen Urban

Online Behavioral Loyalty: Modeling from the Macro Perspective
Chun-Yao Huang

Should We Hope You Shopped Around? Effects of Prior Internet Search on ...
Michael Trusov, Randy Bucklin

An Empirical Two-Stage Choice Model with Decision Rules Applied to Internet Clickstream Data
Wendy Moe

Chair: Wendy Moe

FA04
Game Theory II; Pricing
Room 231

A Price Discrimination Theory of Rebates
Kutsal Dogan

Another Look at Price Promotion
Wen Cao

Edgeworth Cycles in Competitive Promotional Strategies: An Experimental Study
Sungchul Choi, Paul Messinger

Price Promotional Strategies For Traffic Generation and Cross Selling
Cenk Kocas

Chair: Cenk Kocas

FA05
Topics in Pharmaceutical Marketing
Room 201

When and How to Introduce a New Product?: Pharmacy Drugs
Trichy Krishnan, Srini Srinivasan

Measuring the Effects of Peer Influences on the Prescription...
Ram Bezawada, Tolga Akcura, Manu Kalwani

Effects of Generic Drug Launching on the Competitors of the Same Category
Jorge Gonzalez, Shantanu Dutta, Catarina Sismeiro

Optimal Launch-Timing of OTC Versions of...
Murali Mantrala, Gila Fruchter

Firms' Strategic Innovation Decision and the Dynamics...
WonJoon Kim, Paris Cleanthous, Dick Wittink

Chair: Murali Mantrala

FA06
Learning and Uncertainty
Room 204

Task Specific Thinking Style: Measure Development, Validation and Application
Donna Hoffman, Tom Novak

Models of Miswanting and Regret of Customized Products
Niladri Syam, James Hess, Partha Krishnamurthy

Purchase Decision Uncertainty: Dimensions and Implications
Jade Sturdy, Ajay Kohli

Action-Based Learning: Goals and Attention in the Acquisition of Market Knowledge
Eric Eisenstein

Chair: Eric Eisenstein

FA07
Sales Force Management II
Room 207/208

Team Selling and the Nature of Selling Tasks
Pradeep Bhardwaj, Ganesh Iyer, David Soberman

How Control Systems Influence the Salesperson's Objective Performance: An Empirical Investigation
Erin Anderson, Vincent Onyemah

A Dynamic Model for Assessing Sales Contest Effectiveness
Srinath Gopalakrishna, Jason Garrett, Murali Mantrala, David Moore

Salesperson Performance and Role Stress- Empirical Evidence of an Inverted-U Relationship
Vincent Onyemah

Chair: Vincent Onyemah

Friday, June 17, 2005 – 8:30-10:00am (Session FA)

FA08
Innovations II; Adoption
Room 338

A Base Line Model for Identifying Adopter's Category (Adoption Time) with Social Character Score
Masataka Yamada, Xiaoying Zhu

Consumer's Willingness to Embrace Mobile Commerce: Technology Adoption Perspective
Ramendra Thakur, Dena Hale

Grasping Innovation Adoption by Understanding its Process; Modeling the Drivers of Adoption Stages
Joep Arts, Ruud Frambach

Adoption of Ethical Drugs: The Role of User-Agent Interaction
Elisa Montaguti, Phil Stern

Chair: Elisa Montaguti

FA09
Auctions II
Room 334

Autonomous Agents for Search Engine Marketing
Brendan Kitts, Benjamin Leblanc, Parameshvyas Laxminarayan

The Buyer-Determined Multi-Attribute Auction - An Experimental Investigation
Ernan Haruvy

Seller Strategies for Auctioning Multiple Products
Michael Yingtao Shen, Gerald Häubl, Peter Popkowski Leszczyc, Paul Messinger

Multi-Object Auctions of Complements or Substitutes: The Optimality of Bundling vs. Sequencing
R. Venkatesh, Ramanathan Subramaniam

Chair: R. Venkatesh

FA10
Market Research Methods
Room 331

Performing Hypothesis Tests on the Shape of Functional Data
Ashish Sood, Gareth James

A Randomized Panel Design for Customer Monitoring
Rengert Segers, Philip Hans Franses

A Global Investigation into the Individual and Cultural Drivers of Socially Desirable Responding
Jan-Benedict Steenkamp, Hans Baumgartner, Martijn de Jong

Moderating Effects: The Myth of Mean Centering
Hubert Gatignon, Joachim Vosgerau

Chair: Hubert Gatignon

FA11
Evolution of Technology
Room 301

Competition and Diffusion of Technology Standards: A Two-sided Market Framework
Edison Tse, Mingchun Sun

Radical vs. Incremental Innovation: Competitive Signaling and R&D Decisions
Ozge Turut

The Continuity of Seemingly Discontinuous or Radical Innovations
Peter Golder, Debanjan Mitra, Rachel Shacham

How Should Strategic Technology Choices Be Assessed?
Len Parsons, Koert Van Ittersum

Chair: Len Parsons

FA12
Retailing II; Pricing
Room 231

Dynamic Drivers of Retail Prices and their Consequences
Shuba Srinivasan, Vincent Nijs, Koen Pauwels

How Optimal Pricing and Merchandising Decisions Influence Retail Profit
Subir Chakrabarti, Subir Bandyopadhyay

The Impact of Manufacturers' Wholesale Prices on Retailer's Shelf-Space and Pricing
Sihem Taboubi, Guiomar Martín-Herrán, Georges Zaccour

Quantity Surcharges in Tuna: An Explanation Based on Hassle Costs
Kissan Joseph, Vivek Patil

Chair: Kissan Joseph

FA13
Response Models
Room 421

A Model of Household Purchase Timing Accounting for Random Purchasing Behavior
Demetrios Vakratsas

A Brand Choice Model for the Analysis of New Product Positioning
Kyuseop Kwak, Tom Gruca, Gary Russell

A Structural Model of Temporal and Horizontal Variety Choice
Liang Guo

A Modeling Framework for Cross-Category Promotion Resource Allocation
Anocha Aribarg, Neeraj Arora

Chair: Anocha Aribarg

FA14
Topics in Channels and Distribution
Room 421

Inter-Industry Variation in the Vertical Integration of Advertising Services
Sharon Horsky, Steven Michael, Al Silk

Price and Advertising Competition in a Differential Game of a Dual Marketing Channel
Olivier Rubel

Measuring Online Reputation Effects: An Online Experimental Study
Dubravko Radic, Thorsten Posselt

Exploratory Model of the Determinants of Disintermediation Given a Manufacturer's Virtual Presence
Sharmila Chatterjee, Chiayin Chung

Chair: Sharmila Chatterjee

Friday, June 17, 2005 – 10:30am-noon (Session FB)

FB01
Practice Prize Competition II
Room 130 (Auditorium)

10:30am:

The Right Product for the Right Person: Product Recommendation from Infrequent Events
Marty Vrieze, David Freed, Brendan Kitts

11:15am:

Customer Equity and Lifetime Management
Giuliano Tirenni, Cesar Berrospi, Andre Elisseeff, Abdel Labbi

Chair: Gary Lilien

FB02
Social Welfare
Room 238

Brand Building Towards Social Values: Associating to Public Goods
Francisco Guzman, Jordi Montaña, Vicenta Sierra

Study Of Perception About Tsunami Disaster To Identify Ways For Quick Recovery Of Tourism Industry
Makarand Gulawani, Jean-Louis Nicolas

Competitive Dynamics amongst Charities
Merel van Diepen, Bas Donkers, Philip Hans Franses

Chair: Merel van Diepen

FB03
Online / Offline
Room 234

On- and Off-line Music Contents Consumers Segmentation in Korea
Ho Jang, So Young Kim, Byungsub Kim, Youngsik Kwak

The Effect of Online Non-transactional Activities on Offline Category Sales
Marije Teerling, Eelko Huizingh, Peter Leeflang, Erjen van Nierop

Evaluating Customer Channel Migration Activities: A Case of Banking Customers
Sonya Gensler, Martin Boehm

Online Customer Service – Differentiation or Homogeneity?
Monica Perry, Catherine Atwong

Chair: Monica Perry

FB04
Pricing Dynamics
Room 231

Competitive Pricing Analysis in Mature & Evolving Markets: A Time Series Approach
Joy Joseph

Dynamic Equilibrium Pricing with Purchase Event Feedback and Reference Pricing Effects
Hernan Bruno, Naufel Vilcassim

State Dependence in Demand and Long-Run Pricing
Maria Ana Vitorino, Jean-Pierre Dube, Guenter Hitsch

An Empirical Analysis of Events in the Facial Tissues Category
Andre Bonfrer, Jagmohan Raju

Chair: Andre Bonfrer

FB05
Information and Uncertainty in Distribution Channels
Room 201

Opaque Products: How Much Information Should Be Hidden From Customers?
Scott Fay

Information Sharing In a Strategic Distribution Channel
Chuan He, Johan Marklund, Thomas Vossen

Communication and Information Sharing in a Vertical Channel
Dmitri Kuksov, Amit Pazgal

Uncertainty Revelation in a Distribution Channel
V. Padmanabhan, Ganesh Iyer, Amit Pazgal

Chair: V. Padmanabhan

FB06
Decision Research
Room 204

The Goal-Gradient Hypothesis: Purchase Acceleration, Illusionary Goal Progress & Customer Retention
Oleg Urminsky, Ran Kivetz, Yuhuang Zheng

Affective Underpinnings of Decision Heuristics
Ritesh Saini

Applying Experimental Economics to Model Equilibrium Behavior in Pricing Games
Hai Che, Teck Ho, Thomas Palfrey

An Evolutionary Basis for the Prospect Theory Value Function
Roland Rust

Chair: Roland Rust

FB07
Detailing; Physician Choice Behavior
Room 207/208

Physicians' Persistence and its Implications for Marketing Communication
Ramkumar Janakiraman, Shantanu Dutta, Phil Stern, Catarina Sismeiro

A Demand and Supply Model of Pharmaceutical Detailing
Xiaojing Dong, Pradeep Chintagunta, Puneet Manchanda

Modeling Key Drivers of Physician's Choice of Prescription Drugs
Tulikaa Bhatia, Lakshman Krishnamurthi

The Effects of Detailing on Prescribing Decision under Quality Uncertainty
Andrew Ching

Chair: Andrew Ching

Friday, June 17, 2005 – 10:30am-noon (Session FB)

FB08
Innovations III; Partnering
Room 338

Product Innovation in New Product Alliances: When is the Impact of Alliance ...
Nukhet Harmancioglu, Roger Calantone, Cornelia Droge

Buyer-supplier Marketing Learning in Joint New Product Development
Corine Noordhoff, Benedict Dellaert, Kyriakos Kyriakopoulos, Pieter Pauwels

Ingredient Co-branding: A Channel Coordinated Signaling Scheme
Liyuan Wei

Image Reinforcement or Impairment: The Effects of Co-Branding on Attribute ...
Tensev Geylani, Jeff Inman, Frenkel Ter Hofstede

Chair: Tensev Geylani

FB09
Auctions III
Room 334

Propose-Your-Price: Effects of Price-Elicitation Format on Bidding Behavior in Reverse Pricing
Martin Spann, Martin Bernhardt, Gerald Häubl, Bernd Skiera

Optimal Pricing by Service Providers Using a Name-Your-Own-Price Channel
Tuo Wang, Rabi Chatterjee, Esther Gal-Or

The Influence of Reserve Price on Competition and Auction Outcome
Junjun Xie, Terry Elrod, Peter Popkowski Leszczyc

Bidding Costs in Auctions - Profit Implications in a Reverse Pricing Scenario
Martin Bernhardt, Martin Spann

Chair: Marin Bernhardt

FB10
Survey Research Methodologies
Room 331

Using Item Response Theory to Measure Extreme Response Style in Marketing...
Martijn de Jong, Hans Baumgartner, Jean-Paul Fox, Jan-Benedict Steenkamp

Bests and Worsts in Best-Worst Scaling: Tests of Convergent, Discriminant and Predictive Validity
Keith Chrzan, Mohaiman Mohaimani

The Coefficient Alpha Index of Reliability: How Good is Good Enough?
Anne Coughlan, Adam Duhachek, Dawn Iacobucci

DEPFAC: Factor Analysis for Dependent Observations
Bas Donkers

Chair: Das Bonkers

FB11
Foreign Market Entry & Exits
Room 301

Accounting for Persistence and Heterogeneity in Firms' Foreign Entry Mode Choice
Sudha Mani, Kersi Antia, Aric Rindfleisch

Religion, Opportunism, and International Market Entry via Non-equity Alliances or Joint Ventures
Ning Li

Foreign Direct Investment (FDI) Determinants in Sub-Saharan Africa (SSA)
Etienne Musonera

Mode of Entry for Emerging Markets
Joseph Johnson, Gerry Tellis

Chair: Joseph Johnson

FB12
Retailing III; Store Performance
Room 304

Benchmarking Spatial Performance of a Retail Store: An Application in the Grocery Market
Debabrata Talukdar, Andrei Strijnev, Minakshi Trivedi

Win-win Strategies at Discount Stores
Barbara Deleersnyder, Marnik Dekimpe, Oliver Koll, Jan-Benedict Steenkamp

Market Structure and Store Performance in the Retail Discount Industry
Ting Zhu, Vishal Singh

Assessing Store Performance Equitably
Minakshi Trivedi, Pauler Gabor, Dinesh Gauri

Chair: Minakshi Trivedi

FB13
Stochastic Models
Room 421

A Multivariate NBD Model for Internet Reach and Frequency Prediction
Peter Danaher

Quantifying the Double Jeopardy Relationship
Cullen Habel, Cam Rungie

Modeling the "Pseudodeductible" in Insurance Claims Decisions
Michael Braun, Eric Bradlow, Pete Fader, Howard Kunreuther

Customer Lifetime Value Measurement
Sharad Borle, Dipak Jain, Siddharth Singh

Chair: Michael Braun

FB14
Information Presentation and Framing
Room 453

Analogical Discourse: A Method of Conducting Inquiry into Complex and Abstract Concepts
James Kirley, Robert Orwig

The Effect of Message Framing on Product Choice and Skepticism
Rex McClure, Siva Balasubramanian

Presentation of Time in Stated Preference Experiments. Does it Really Matter?
Moshe Givon, Itzhak Ditzian

What to Say When: How the Delayed Presentation of Persuasive Information Influences Consumer Choice
Xin Ge, Gerald Häubl

Chair: Moshe Givon

Friday, June 17, 2005 – 1:30-3:00pm (Session FC)

FC01
Marketing Strategy in Practice
Room 130 (Auditorium)

Branding Internal E-Business Systems
Todd Stephens

Measuring MBA Program Quality: A Skill Development Perspective
Scott Dacko

Managerial Identification of Competitors: Accuracy and Performance Consequences
Bruce Clark, Bernard Marr

Chair: Bruce Clark

FC02
Game Theory III; Retailing
Room 238

The Effect of Store Brand Introduction on Channel Price Leadership
Hwan Chung, Eunkyu Lee

Store Competition on Locations and Promotions
Yu Ma, Tat Y. Chan, Chakravarthi Narasimhan, Vishal Singh

Shelf-Space Allocation for National and Private Brands: A Game Theory Approach
Nawel Amrouche, Georges Zaccour

Profit Sharing and Channel Structure in the Motion Picture Industry
Andrei Strijnev, Nina Baranchuk

Chair: Andrei Strijnev

FC03
E-Commerce / E-Marketing I; Information
Room 234

Online Provision of Free Ridable Product Information
Yacheng Sun, Xing Pan

Strategic e-Detailing to Improve Marketing ROI
Ravi Chitturi, Franklin Carter

Feedback Control for Interactive Choice Model to Maximize User Information Rate
Anjala Krishen, Pushkin Kachroo, Reza Kheirandish, Kent Nakamoto, Steven Suhr

Information Overload: Evidence from the Field
Steven Huff, Miguel Villas-Boas

Chair: Steven Huff

FC04
Pricing Asymmetries
Room 231

A Dynamic Model of Asymmetric Price Negotiation
James Lemieux

Positive and Negative Roles of Price in Product Evaluations
Franziska Voelckner, Henrik Sattler

How Asymmetric Price/Share Effect Works: The Moderating Role of Market Structure
Liu Hsiu-Wen, Lichuang Jen

Negative Asymmetry in Price Adjustment Patterns: Online High-Tech Shops
Charles Wood, Paul Messinger, Sourav Ray

Chair: Charles Wood

FC05
Channel Governance
Room 201

Are More Relational Ties Always Better? The Performance Consequences of Relational Norms
George John, Mrinal Ghosh, Susan Rosen

The Antecedents and Performance Implications of Cooperative Exchange Norms
Sandy Jap, Janet Bercovitz, Jackson Nickerson

Rationale for Multi-Unit Governance Structure in Franchising
Rupinder Jindal

Reconciling Power and Efficiency Theories of Marketing Channel Governance
Stephen Carson, Mrinal Ghosh

Chair: Sandy Jap

FC06
Customer Lifetime Value I: Extensions of the Pareto/NBD
Room 204

Incorporating Satisfaction into Customer Value Analysis: Optimal Investment in Lifetime Value
Teck Ho, Young-Hoon Park, Yong-Pin Zhou

RFM and CLV: Using Iso-value Curves for Customer Base Analysis
Pete Fader, Bruce Hardie, Ka Lee

Customer-Base Analysis with Discrete-Time Transaction Data
Bruce Hardie, Paul Berger, Pete Fader

Chair: Pete Fader

FC07
Special Session: Store Brands in the Mfr-Retailer-Consumer Relationship
Room 207/208

A Review of Analytical Models of National Brand vs. Store Brand Competition
Raj Sethuraman

Vendor Selection in a Supply Chain: Quality and Clientele Effects
Ram Rao, Nanda Kumar, Suresh Radhakrishnan

Store Brand Use and Store Loyalty
Pen-che Ho, Kusum Ailawadi, J.B. Steenkamp, Koen Pauwels

The Impact of the Business Cycle on Private Label
Lien Lamey, Marnik Dekimpe, Barbara Deleersnyder, Jan-Benedict Steenkamp

Integrative Discussion: Stephen Hoch
Chair: Kusum Ailawadi

Friday, June 17, 2005 – 1:30-3:00pm (Session FC)

FC08
Loyalty and Satisfaction
Room 338

The Great Leap of Faith: Managing Trust in Electronic Marketplaces through Reputation Mechanisms
Tirtha Dhar, Paul Chwelos

Antecedents of Long-term Relationships in the Context of CRM: An EQS Approach
Dena Hale, Ramendra Thakur

Effects of Customer Satisfaction and Recommendation on the Customer Relationship Duration
Jaesung Cha, Youngchan Kim

A Cross-National Assessment of the Satisfaction-Loyalty Relationship: The Role of Customer Delight
Ad de Jong, Ko de Ruyter, Martin Wetzels

Chair: Ad de Jong

FC09
Market Research; Generalizations
Room 334

A Meta-Analytic Review of Social Networks
Leslie Vincent, Sundar Bharadwaj

The Intellectual Structure of New Product Development Literature: A Bibliometric Study
Boris Durisin, Giulia Calabretta

Identification Bias and Equivalence in Mediator Models
James Hess, Julie Lee

Globalization of Authorship in the Marketing Discipline
Stefan Stremersch, Peter Verhoef

Chair: Stefan Stremersch

FC10
Bayesian Models I
Room 331

Estimating State-Space Models of Consumer Behavior: A Hierarchical Bayes Approach
Ling-Jing Kao, Greg Allenby

A Bayesian Model for Estimating Spousal Influences on Consumer Preferences of Television Programs
Vishal Narayan, Henry Assael, Sha Yang

Modeling Asymmetric Price Effect under Nonhomothetic Demand for Variety
Jaehwan Kim

Estimating Nested-Logit Models for Purchase Incidence Without Access to Purchase Incidence Data
Anand Bodapati, Sachin Gupta

Chair: Anand Bodapati

FC11
Market Entry & Exits I
Room 301

Delayed Product Introduction
Qiuhong Wang, Kai-Lung Hui

Why Do Products Exit Markets?
Michael Luchs, Raji Srinivasan

Competition in Local-Serive Sectors: The Video Rental Case
Kathleen Cleeren, Marnik Dekimpe, Frank Verboven

Response to Competitive Entry in a Differentiated Durable Goods Market
Rick Staelin, Norris Bruce, Preyas Desai

Chair: Rick Staelin

FC12
Retailing IV; Assortment
Room 304

Using Out of Stocks to Identify Super SKUs
Peter Boatright, Sharad Borle, Kirthi Kalyanam

Opportunities for Active Stock-Out Management in Online Stores: The Impact of the Stock-Out Policy on Online Stock-out Reactions
Els Breugelmans, Katia Campo, Els Gijsbrechts

Brand Level Effects of SKU Reductions
Jie Zhang, Aradhna Krishna

Chair: Jie Zhang

FC13
Topics in International Marketing
Room 421

A Model of the Effect of Institutional Environment and Cognitive Style on Export Channel Coordination
Meng Zhu, Daniel Bello

May Counterfeit Products Help Sales of Genuine Products?
Boonghee Yoo, Seung-Hee Lee

Shift in Marketing Paradigm from Supply Chain Focus to Providing ROI: Case of Indian Railways
C. Raghuram, Rekha Jain

Chair: Chris Shao

Friday, June 17, 2005 – 3:30-5:00pm (Session FD)

FD01
Game Theory IV
Room 130 (Auditorium)

Hotelling Model with Variety-seeking Consumers
S. Sajeesh, Jagmohan Raju

Product Line Design with Persuasive Advertising
Yuanfang Lin, Chakravarthi Narasimhan

Surprise and Secrets as a Competitive Tool
Steve Shugan, Jinhong Xie

Combative Advertising
John Zhang, Yuxin Chen, Yogesh Joshi

Chair: John Zhang

FD02
Choice
Room 238

Mass Customization versus Mass Production: Variety and Price Competition
Aydin Alptekinoglu, Charles Corbett

Consumer Demand for Internet Access: the Effect of Consumer Heterogeneity
Yingshi Jin

Consideration and Choice—Unveiling the Effect of Self-Congruity on Store Patronage
Andre Menck

Modeling Customer Preferences for the Automatic Construction of Personalized Customer Interfaces
Bob Price, Russ Greiner, Gerald Häubl

Chair: Bob Price

FD03
E-Commerce / E-Marketing II; E-Agents
Room 234

Search Engine Advertising with Rational Customers and Branded Products
Amit Mehra, Rajiv Dewan, Marshall Freimer

Recognizing Our Non-Human "Customers": Marketing to Shopbots, Search Engines, and Electronic Agents
Eric Overby

Affiliate Programs: Sales-based versus Customer-based Compensation Plans
Yusong Wang, Jagmohan Raju

Internet Product Recommendations: Effectiveness in Context
Jon Bohlmann

Chair: Jon Bohlmann

FD04
Pricing Psychology
Room 231

Differentiating Among Reference Prices
K.N. Rajendran

A Theory of Value Formation with Price Priming and Context Effects
Jose Silva

Making Sense of Ignoring Cents: Price Points and Price Rigidity under Rational Inattention
Mark Bergen, Haipeng Chen, Robert Kauffman, Dongwon Lee, Daniel Levy

Reservation Price as a Range: An Incentive Compatible Measurement Approach
Rabi Chatterjee, R. Venkatesh, Tuo Wang

Chair: Rabi Chatterjee

FD05
Relationships and Alliances
Room 201

Value Creation in Asymmetrical Alliances: Insights from the Info. Technology Industry
Kartik Kalaignanam, Venky Shankar, Rajan Varadarajan

From Perceptions to Collaboration: Role of Perceived Trust in HQ-Subsidiary Relations
Burcu Tasoluk, Roger Calantone

The Formation of Buyer-Supplier Relationships: Detailed Contract Drafting & Close Partner Selection
Stefan Wuyts, Inge Geyskens

Antecedents to Partner Satisfaction in Non-Equity Based Contractual Alliance Forms
Scott Colwell, Conor Vibert

Chair: Scott Colwell

FD06
Customer Lifetime Value II
Room 204

Improving the Prediction and Diagnosis of Customer Churn: A Heterogeneous Hazard Modeling Approach
Zainab Jamal, Randy Bucklin

Modeling and Managing Customer Lifetime Value in a Multichannel Setting
George Knox, Josh Eliashberg, Pete Fader

What's in your Wallet? Estimating Customer Total Category Requirements
Bianca Zadrozny, Paulo Costa, Wagner Kamakura

Choosing the Proper Discount Rates in Customer Lifetime Value Calculations
Ward Hanson

Chair: Ward Hanson

FD07
Special Session: Brand Metrics Linking Marketing to Financial Performance
Room 207/208

Marketing's Impact on Firm Value
Leigh McAlister, MinChung Kim

Staying Ahead in the Innovation Race; New Product Introductions and Relative Firm Value
Jorge Silva-Risso, Dominique Hanssens, Koen Pauwels, Shubu Srinivasan

Valuing the Brand Asset and Its Components
Natalie Mizik, Bob Jacobsen, Ed Lebar

The Pay-off of Brand Building Investments in Early Stage of Product Lifecycle: Some Empirical Evidence
Raj Srivastava, Sundar Bharadwaj, Debdulal Mallick

Chair: Raj Srivastava

Friday, June 17, 2005 – 3:30-5:00pm (Session FD)

FD08
Satisfaction; Consumer Heterogeneity Patterns
Room 338

Changes in Customer Preference Heterogeneity Patterns
D. Sudharshan, Andreas Mild

Spatial and Demographic Influence on the Satisfaction Loyalty Association
Jianjun Zhu, Lopo Rego, Gary Russell

Beyond Satisfaction: Measuring and Managing Customer Disposition in the IT Industry
Ravi Venkataraman

Chair: Jianjun Zhu

FD09
Marketing Research Applications
Room 334

Using GIS as Decision Support Tool: The Case of Automobile Dealership Network Planning
Lihua Zhao, Gary Gregory, Alan Mann, Mark Uncles

Application of the Left-Truncated Normal Distribution to Store-Level QC
Julia Tsai, Avrid Johnson, Michael Kruger, Trevor Mason

Evaluation of Distributional Assumptions for Retail Sales Movement Data
Michael Kruger, Avrid Johnson

Modeling Chain Store Location Decision
Dae-Yong Ahn, Frenkel Ter Hofstede

Chair: Dae-Yong Ahn

FD10
Bayesian Models II
Room 331

Control of Consumer Attention: Stimulus and Memory Factors in Brand Search
Ralf van der Lans, Rik Pieters, Michel Wedel

Scoring Massive Customer Datasets Using Hierarchical Bayesian Models and Parallel Processing
Douglas Willson, Jim Gallagher

A New Look at Maximum Difference Scaling: Accounting for Scale Differences in Best-Worst Analysis
Rickard Enström, Terry Elrod, Adam Finn

Bootstrap Inference on a Nonlinear Time Series Model of Advertising Effects
Miguel Arranz

Chair: Miguel Arranz

FD11
Market Entry & Exits II
Room 301

Survival of the Fittest or the Wheat from the Chafe?: Survival and Sales Determinants in E-tailing
Ralitza Nikolaeva, Nadya Toskova

Dissolution Versus Acquisition: The Differental Effects of Product-Market Strategy on Type of Firm Exit
Raji Srinivasan, Gary Lilien, Arvind Rangaswamy

Second Mover Strategies
Botao Yang, Sridhar Moorthy

Dynamic Equilibrium Model of Firm Entry, Stay and Exit Decisions
Sriram Venkataraman, Vrinda Kadiyali

Chair: Sriram Venkataraman

FD12
Not for Profit; Public Policy
Room 304

Understanding How Embedding a Social Cause in a Product Affects Consumer Choice
Ty Henderson, Neeraj Arora

The Rural-urban Digital Divide: A Content Valuation Perspective
Dominic Thomas, Adam Finn, Stuart McFadyen

Assessing the Value of the Alberta SuperNet
Adam Finn, Stuart McFadyen, Dominic Thomas

The Effects of Appeals, Content, and Delivery on Fundraising Donations
Mark Vandenbosch

Chair: Mark Vandenbosch

FD13
Customer Loyalty Management
Room 421

Some Empirical Evidence
Gurram Gopal

Customer Intention As Key to Successful CRM Implementation
Obaid Al-Shuridah, Siva Balasubramanian

Repurchase Behavior of Customers as a Population
Geonha Kim, Dae Ryun Chang, Ohno Takahiro

Managing Consumer Switching Costs through Loyalty Incentives
Mengze Shi

Chair: Mengze Shi

FD14
Durable Goods Pricing
Room 453

Trade-ins in Durable Goods Markets
Rao Raghunath, George John, Om Narasimhan

How Strategic are Firms When Deciding on How Much to Lease?
Srabana Dasgupta, S. Siddarth

Leasing Versus Selling as Governance Devices: An Investigation in Industrial Markets
Mrinal Ghosh

Paid Placement with Optimal Cost-Per-Click Prices
James Wolf, Yifan Wang

Chair: Mrinal Ghosh

Saturday, June 19, 2005 – 8:30-10:00am (Session SA)

SA01
Special Session: Non-Traditional Models of Consumer Prefs and Choice
Room 130 (Auditorium)

Consumer Inferences in Product Design and Evaluations
Lan Luo, P.K. Kannan, Brian Ratchford

Representation and Inference of Lexicographic Preference Models and Their Variants
Rajeev Kohli, Kamel Jedidi

Table Stakes: Non-compensatory Consideration-then-Choice Inference
John Hauser, Ely Dahan, Jim Orlin, Michael Yee

Modeling and Exploiting Response Time in Conjoint Analysis
Rom Schrift, Olivier Toubia, Jacob Goldenberg

Chairs: T. Evgeniou, J. Hauser, O. Toubia

SA02
Game Theory V
Room 238

Incorporating Behavioral Theories into Analytical Pricing Models: Further Empirical Perspectives
Freddy Lee

Voluntary Information Disclosure by High and Low Quality Firms
Fabio Caldieraro, Dongsoo Shin, Andrew Stivers

Media Bias, Competition, and Information Efficiency
Yi Xiang, Miklos Sarvary

Who Benefits From Market Expansion?
Tieshan Li, Dan Putler, Chuck Weinberg

Chair: Tieshan Li

SA03
E-Commerce / E-Marketing III
Room 234

The Flip Side of Technology: A Study of the Impact of Connection Speed on Online
Anupama Ramachandran, P.K. Kannan, Paul Zantek

Analysis of Herding on the Internet – An Empirical Investigation of Online Software Download
Wenjing Duan, Bin Gu, Andrew Whinston

Web Orientation and Value Chain Evolution in the Tourism Industry
Michelle Bonera, Elisabetta Corvi

Competing with Illegal Free Goods: Penn State – Napster Service
Arvind Rangaswamy, Michel Clement, Srikant Vadali

Chair: Arvind Rangaswamy

SA04
Pricing I
Room 231

A Theory of Consumer Options
Preethika Seshasainam, Sridhar Balasubramanian, Barry Bayus

Coordination of Marketing and Production for Price and Lead-time Decisions
Pelin Pekgun, Paul Griffin, Pinar Keskinocak

Limited Brand Loyalty and Equilibrium Pricing Strategies
Bing Jing, Zhong Wen

Behavior and Location Based Price Discrimination: Is it a Winning Play and if so When?
Amit Pazgal, David Soberman

Chair: Amit Pazgal

SA05
Special Session: Multiple Channels of Distribution I
Room 201

Customer Channel Migration
Carl Mela, Asim Ansari, Scott Neslin

Multichannel Shopping Behavior: Drivers and Consequences
Tarun Kushwaha, Venky Shankar

Who are the Multichannel Shoppers and How do they Perform?: Correlates of Multi-channel Shopping Behavior
V. Kumar, Rajkumar Venkatesan

Browsing Versus Buying: Determinants of Customer Search and Buy Decisions in a Multi-Channel Environment
Peter Verhoef, Scott Neslin

Multichannel Marketing
Scott Neslin, Peter Verhoef

Chairs: Peter C. Verhoef and Scott A. Neslin

SA06
Customer Relationship Marketing I; Product Portfolios
Room 204

Incorporating Sequence Information into Multinomial Choice Models: An Empirical Comparison
Dirk Van den Poel, Anita Prinzie

Modeling Adoption and Adoption Timing of a New Service: A CRM-Perspective
Remco Prins, Peter Verhoef

Portfolio Dynamics and the Multi-Service Firm: Customer Evolution Since Acquisition
David Schweidel, Eric Bradlow, Pete Fader

Managing Customer Profitability: The Role of Relationship and Product Portfolio
Jonathan Lee, Shantanu Dutta, Jisook Hong

Chair: Jonathan Lee

SA07
Marketing Metrics
Room 207/208

Linking Consumer- and Firm-Based Brand Equity: An Integrated Approach to Brand Equity Management
Benjamin Kartono, Vithala Rao

Impact of Marketing Metrics on Shareholder Value
Thorsten Wiesel, Bernd Skiera

The Impact of Marketing Metrics Use on Product Sales and Profit in a Transition Economy
John Farley, Scott Hoenig, Don Lehmann, Hoang Thuy Nguyen

Marketing Dashboards: A Decision Support System for Assessing Marketing Productivity
Dave Reibstein, Paul Farris, Yogesh Joshi, David Norton

Chair: Dave Reibstein

Saturday, June 18, 2005 – 8:30-10:00am (Session SA)

SA08
Market Orientation
Room 338

Antecedents and Consequences of the Entrepreneurial Orientation of a Firm
Iryna Pentina, H. Strutton

Market Orientation and Performance at the "Bottom of the Pyramid": The Case of Zimbabwean Retailers
Steve Burgess

Market Orientation Strategies and Organizational Effectiveness
Amir Grinstein, Arieh Goldman

Creating the Market-Oriented Firm: A Longitudinal Qualitative Study of Organizational Transformations
Gary Gebhardt, Greg Carpenter, John Sherry

Chair: Gary Gebhardt

SA09
Market Research
Room 334

Generalized Structured Component Analysis: Empirical Applications and Recent Developments
Heungsun Hwang, Bill Dillon, Naresh Malhotra, Yoshio Takane

Generalizing the Logit Model
Charles Romeo

An Evolutionary Approach for Dual Objective Segmentation
P.V. Balakrishnan, Subodha Kumar, Peng Han

Comparing the k- means Approach to a Neural Network Method to Analyze Data in a Dynamic Perspective
Anne-Francoise Audrain-Pontevia

Chair: Naresh Malhotra

SA10
Bayesian Applications
Room 331

Optimizing Marketing Mix Decisions Given Uncertain and Incomplete Comp. Info.
S. Chan Choi, Patrali Chatterjee, Sharan Jagpal, Shibo Li, Ying Xie

Targeting New Costumers using Aggregated Household Characteristics at the Zip-code Level
Bram Van Dijk, Richard Paap

Solution Selling and its Impact on Key Business Variables
Neeraj Bharadwaj, Frenkel Ter Hofstede

Meta-Analysis of Determinants of Sales: Fixed, Random And Bayesian Approaches
Cem Bahadir, Sundar Bharadwaj, Michael Parzen

Chair: Cem Bahadir

SA11
New Product Performance
Room 301

Location, Location, Location: How Structural Embeddedness Affects Project Success ...
Girish Mallapragada, Rajdeep Grewal, Gary Lilien

The Moderating Influence of Innovation, Product Superiority and Entry Order on NPD Screening Model Success Factors
John Green, Dustin Cox, Allan Rohrbaugh

The Chance Criterion as a Predictor for the Market Success of New Product Introductions
Sascha Fabian, Oliver Heil

Effects of Organizational Slack and Environmental Appraisal on Product Exploration
Deepak Sirdeshmukh, Glenn Voss, Zannie Voss

Chair: Deepak Sirdeshmukh

SA12
Diffusion I
Room 304

Segmental New-Product Diffusion
Alastair Robertson, Robert Fildes, Didier Soopramanien

Diffusion of Services
Renana Peres, Barak Libai, Eitan Muller

The Role of Expectations about the Future Diffusion for the Adoption of Network Effects Products
Christina Rabe, Markus Voeth

A Mathematics for Multigenerational Diffusion Models
Portia Isaacson Bass

Chair: Portia Isaacson Bass

SA13
Choice; Continuous Services
Room 421

Product Adoption Dynamics: A Regime Switching Approach
Seymour Douglas

Model for Dual Consumer Learning in Service Contexts
Raghuram Iyengar, Asim Ansari, Sunil Gupta

Bagging and Boosting Classification Trees to Predict Churn. Insights from the U.S. Telecom Industry
Aurélie Lemmens, Christophe Croux

Consumer Behavior under Self-selecting Tariffs
Agnieszka Prokopowicz, Anja Lambrecht, Bernd Skiera

Chair: Agnieszka Prokopowicz

SA14
Services Marketing I
Room 453

Managing Customer Experiences: An Integrative Review of the Temporal Aspects of Service Encounters
Paulo Oliveira, Gabriel Bitran, Juan Carlos Ferrer

Dynamic Service Capabilities: The Conceptualization and Longitudinal Investigation
Xing Pan, Xueming Luo

Service Convenience: Scale Development and An Empirical Test
Alison Holden, May Aung, Scott Colwell, Vinay Kanetkar

Consumer Trust Norms in Self-Service Technology Firms
Devon Johnson

Chair: Devon Johnson

Saturday, June 18, 2005 – 10:30am-noon (Session SB)

SB01
Special Session: Adaptive Preference Measurement and Estimation
Room 130 (Auditorium)

Adaptive Self-Explication of Multi-Attribute Preferences
Seenu Srinivasan, Oded Netzer

Generalized Hierarchical Bayes Estimation for Polyhedral Conjoint Analysis
Srikant Vadali, Arvind Rangaswamy, John Liechty

Non-Deterministic Polyhedral Methods for Adaptive Choice-Based Conjoint Analysis
Olivier Toubia, John Hauser, Rosanna Garcia

Optimization Conjoint Models for Adaptive Questionnaire Design with Aggregate Customization and Estimation
Theodoros Evgeniou

Chairs: T. Evgeniou, J. Hauser, O. Toubia

SB02
E-Commerce / E-Marketing IV; Shopping
Room 238

Good and Bad Times in Goal-oriented Intrastore Web Visits
Maria Kratcholova, Ulf Bockenholt

Perceived Shopping Channel Risks and Product Specific Risks for Browsers and Internet Shoppers
Didier Soopramanien

Shopping Cart Abandonment at Retail Websites
Shibo Li, Patrali Chatterjee

Is there a Difference between Web-Based Shoppers from the Developing and Developed Countries?
Rajeev Kamineni

Chair: Rajeev Kamineni

SB03
Topics in Consumer Behavior
Room 234

A Probabilistic Model for Analysis of Consumers Hypermarket Choices
Bo-chiuan Su, Hsiu-Hua Chang, Chun-Der Chen, Sheng-Pao Shih, Eric T.G.Wang

Individual Differences in Sensory Modality Dominance and its Influence ...
Leo Paas, Jaap Boter, Jeff Inman, Michel Wedel

Emotion in Trust: A New Paradigm for Evaluating Trust in Human-computer Interactions
Ulf Bockenholt, Remi Desmeules

Interpreting Strategic Delay in Marketing Negotiations
Dipankar Chakravarti, Rajesh Bagchi

Chair: Dipankar Chakravarti

SB04
Pricing II
Room 231

Minimum Price Guarantees with Endogenous Search: Theory and Market Experiments
HongYuan, Aradhna Krishna

Pricing Internet Access with Three-Part Tariffs
Anja Lambrecht, Katja Seim, Bernd Skiera

Performance-Contingent Pricing: A Competitive Pricing Strategy for IT Goods and Services
Hemant Bhargava, Shankar Sundaresan

A Solution to the Endogeneity Problem in Discrete Choice Models
Ashwin Aravindakshan, Brian Ratchford

Chair: Ashwin Aravindakshan

SB05
Multiple Channels of Distribution II
Room 201

Surplus Distribution for a Conventional Retailer and an Internet Entrant
Ramesh Arjunji, Subrata Sen

Assessing the Economic Value of Multi-Channel, Multi-Product Strategies of Firms
Junhong Chu, Pradeep Chintagunta, Naufel Vilcassim

Integrating a Direct Channel without Upsetting your Channel Partners
Rajiv Lal

Chair: Rajiv Lai

SB06
Customer Relationship Marketing II
Room 204

Modeling Multiple Acquisition & Defection Spells: CRM at Online Subscription Websites
Patrali Chatterjee

Customer Profitability: A Function of the Pattern of Transactions that Characterize Relationships?
Tanya Mark, Kersi Antia, Niraj Dawar, Rakesh Niraj

Identifying Four Types of Consumer Groups: A New Taxonomy and Empirical Evidence
Kanghyun Yoon

Customization with Crossed-Basis Subsegmentation
Ed Malthouse, Ralf Elsner

Chair: Ed Malthouse

SB07
Market / Brand Dynamics
Room 207/208

The Moderating Effect of Short-term versus Long-term Tactics on the Marketing Mix
Doug Bowman, Sundar Bharadwaj, Sriram Venkataraman

Building Brands
Berk Ataman, Carl Mela, Harald van Heerde

Segmenting the Long-Run Dynamics of Marketing Activity: An Application to Pharmaceutical Panel Data
Randy Bucklin, Natalie Mizik, Catarina Sismeiro

A Dynamic Model of Brand Choice when Price and Advertising Signal Product Quality
Tülin Erdem, Michael Keane, Baohong Sun

Chair: Tülin Erdem

Saturday, June 18, 2005 – 10:30am-noon (Session SB)

SB08
Media Planning
Room 338

Does Your Optimizer Make REAL Optimal Media Plan? A New Formulation of Media Optimization Problem
Yuriko Isada, Nobuko Igaki, Yuji Nakagawa, Shigetaka Yamakawa

Optimal Media Budget Allocation: Target Markets and the Effects of Response Bias
MinChung Kim, Frenkel Ter Hofstede, Macro Vriens

A DEA Approach to Media Selection
Katsuaki Tanaka, Kaori Setoguchi

Dynamically Optimal Advertising Sharing Rules in Franchising
Anand Krishnamoorthy, Ramarao Desiraju

Chair: Anand Krishnamoorthy

SB09
Product Quality
Room 334

Consumer Feelings and Product Quality
Ganesh Iyer, Dmitri Kuksov

Product Information and Infomediary Marketing
Yubo Chen, Jinhong Xie

Competition of Experts and Internet
Tolga Akcura, Kemal Altinkemer, Zafer Ozdemir

Chair: Tolga Akcura

SB10
Market Structure; Competitive Set
Room 331

Incorporating Functionality on Market Structure Analysis
Jaime Romero, María Jesús Yagüe

Dynamic Market Structure in a Durable Goods Market: The Effect of a New Product Form
Jackie Yuan, Norris Bruce, K. Sudhir

Calculating Product Differentiation Across Markets
Vera Magin, Oliver Heil

A Mixture Model Approach to Market Structure Analysis: Identifying Brand Associative Sets
Andrea Godfrey, Leigh McAlister, Maytal Saar-Tsechansky

Chair: Andrea Godfrey

SB11
Payoffs from New Product Development
Room 301

What Are the Financial Payoffs for Introducing New Products?
Barry Bayus, Wooseong Kang, Neil Morgan

The Financial and Market Impact of Prescription Drug Withdrawals
Jason Zhang, Srini Reddy, Chandrashekhar Sattiraju

New Product Forecasting: The Stock Market as Crystal Ball
Dmitri Markovitch, Joel Steckel

Chair: Dmitri Markovitch

SB12
Diffusion II
Room 304

Diffusion of New Labor Saving Industrial Products
Dan Horsky, Sanjib Mohanty

Modeling the Hype Curve of New Product Diffusion
Martin Nunlee, Amiya Basu

The Virtual Bass Model and the Left-Hand Data-Truncation Bias In Product Diffusion Studies
Frank Bass, Portia Isaacson Bass

New Product Diffusion with Independents and Imitators
Christophe Van den Bulte, Yogesh Joshi

Chair: Christophe Van den Bulte

SB13
Bundling
Room 421

Modeling the Effects of Consumer Bundling
Renate Weissbacher, Markus Voeth

The Analysis of Product Bundles: Methodology and Applications
Alberto Marcati

Strategic Price Competition and Product Bundling
Subramanian Balachander, Bikram Ghosh

A Study on Value Evaluation of Bundled Services: In case of Portable Internet Service (PIS) in Korea
Hyun Chung, Sung Soo Han, Chan Son

Chair: Hyun Chung

SB14
Services Marketing II
Room 453

Co-production for Mutual Benefit: Measurement and Determinants of Effective Customer Participation
Marion Buettgen

Competing Models on Job Satisfaction, Affective Commitment and Service Quality of Frontline Employees
Avinandan Mukherjee, Neeru Malhotra

Consumers' Strategic Anticipation of Congestion in Capacity-Constrained Services
Benedict Dellaert, Qi Han, Harry Timmermans, Fred van Raaij

Service Quality Evaluation: An Information Economics Approach
Amiya Basu, Saad Andaleeb

Chair: Amiya Basu

Saturday, June 18, 2005 – 1:15-2:45pm (Session SC)

SC01
Special Session: Optimizing Product Design and Customer Targeting
Room 130 (Auditorium)

Optimal Realizable Product Line Design via Analytical Target Cascading
Fred Feinberg, Feray Adiguzel, Peter Ebbes, Jeremy Michalek, Panos Papalambros

Modeling Customer Response as Markov Decision Process to Optimize Marketing Campaigns: A Machine Learning Approach
Andre Elisseeff, Daniel Ramage, Cesar Berrospi, Abderrahim Labbi, Giuliano Tirenni

To Discriminate Between Marginal Consumers, Do Not Analyze Extreme Cons.
Ganaël Bascoul, Gilles Laurent

Direct, Nonparametric Product Optimization Using Interactive Genetic Algorithms
Kamal Malek, Kevin Karty, John Hauser

Chairs: T. Evgeniou, J. Hauser, O. Toubia

SC02
E-Commerce / E-Marketing V; Pricing
Room 238

Understanding Online Price Dispersion: Efficiency, Store Characteristics, and Longitudinal Analyses
Silva Balasubramanian, Pingjun Jiang

Cross-Country Analysis of Price Levels and Dispersion Among Retailer Types
Fabio Ancarani, Frank Jacob, Frederic Jallat, Venky Shankar

Price Acceptability in e-Marketplaces
Hyongjae Rhee

Chair: Hyongjae Rhee

SC03
Customer Satisfaction & Loyalty
Room 234

The Effects of Service Failure and Service Recovery on Satisfaction in a Consumer Setting
Brian Rutherford, Cheryl Brown

An Examination of the Relationship Between Awareness/Attitude and Behavioral Loyalty
Ian Durbach, Jan Hofmeyr, Jeff Inman, Kutlwano Ramaboa

Reputation Management Online: The Role of Satisfaction, Expertise and Category Relevance
Purushottam Papatla

Chair: Purushottam Papatla

SC04
Pricing III
Room 231

Estimating the Compiled Value of 10+ Items with Different Prices
Koert Van Ittersum, Joost M.E. Pennings, Brian Wansink

Discovering Daily Price Rigidity and Price Adjustment Patterns on the Internet
Dongwon Lee, Mark Bergen, Robert Kauffman

The Perceived Fairness and the Efficiency of Used Car Markets
Pingjun Jiang

Price-Dependent Discrepancy between Intention and Behavior
Luc Wathieu, Marco Bertini

Chair: Luc Wathieu

SC05
Multiple Channels of Distributions III
Room 201

The Impact of the Internet Channel Introduction in a Market with Competing Manufacturers
Weon Yoo, Eunkyu Lee

Managing Customer Channel Adoption
Rajkumar Venkatesan, V. Kumar, Nalini Ravishankar

Managing Multiple Channels Of Distribution In Industrial Markets
Ursula Sullivan, William Qualls, Tianjiao Qiu

Chair: Ursula Sullivan

SC06
Customer Relationship Marketing III
Room 204

Timing and Targeting of Promotions
Peter Bouman, Vincent Nijs

Imputing Customers' Share of Category Requirements
Rex Du, Wagner Kamakura, Carl Mela

An Empirical Investigation of Customer Satisfaction for Out-Sourced Service Center
Baohong Sun, Shibo Li, Rong Zhou

The Impact of Airline Reward Programs on Customer Purchase Behavior: A Dynamic Structural Model
Praveen Kopalle, Scott Neslin, Baohong Sun, Vanitha Swaminathan

Chair: Praveen Kopalle

SC07
Branding; Consumer Behavior
Room 207/208

Antecedents of Brand Loyal Behavior: Investigating the Influences of Brand Attitude and Brand Belief
Subir Bandyopadhyay

Stretching the Bounds of Credibility: How Far Can You Go and How Much Does it Hurt Your Brand?
Ujwal Kayande, Gary Lilien, John Roberts

Categorization Effects on the Competitive Positioning and Elasticity Structure of a Product Category
Lutz Hildebrandt, Lea Michaelis

Quantifying the Pareto "Share" of Brand Knowledge
Jenni Romaniuk, Byron Sharp

Chair: Jenni Romaniuk

Saturday, June 18, 2005 – 1:15-2:45pm (Session SC)

SC08
Customer Satisfaction
Room 338

The Application of Emotional Labor to Service Development and Its Cust Sat Effect
Yongsik Nam, Wan-woo Cho, Yoonsik Kwak, Sookyung Paik, Junglm Won

Personalization in Mobile Commerce Technology: Antecedents of Consumer Satisfaction and Delight
Hsiu-Yueh Sonya Hsu, Songpol Kulviwat

Determinants of the Shape and Strength of the Satisfaction-Loyalty Association
Lopo Rego, Sri Deepak, Tom Gruca

The Role of the Consumer in Retailing, Distribution Services and Determinants ...
Roger Betancourt, Monica Cortinas, Margarita Elorz, Jose Miguel Mugica

Chair: Roger Betancourt

SC09
Conjoint Analysis
Room 334

Using Upgrading Auctions for Eliciting Preferences for Products with Massive Attributes
Vithala Rao, Min Ding, Young-Hoon Park

Self-Modeling Functional Data Analysis in Consumer Research
Terry Elrod, Xin Ge

The No Choice Option and Dual Response Choice Designs
Bill Moore, Jeff Brazell, Kate Karniouchina, Pierre Uldry

Truth-Telling Mechanisms for Conjoint Analysis
Min Ding

Chair: Min Ding

SC10
Choice Under Uncertainty
Room 331

The Effects of Effort and Intrinsic Motivation on Risky Choice
Ran Kivetz

Temporal Effects On Preference Uncertainty: The Role Of Unobserved Stochastic Variation
Linda Court Salisbury, Fred Feinberg

Reverse Time-Inconsistency
Serdar Sayman, Ayse Onculer

Models of Consumer Choice under Uncertainty
Ed Fox, John Semple, Suzanne Shu

Chair: Ed Fox

SC11
Strategy and Innovation
Room 301

Why Innovation Leads to Increasing Escalation of Commitment
Abhijit Guha, Bill Boulding, Rick Staelin

Investigating Market Boundaries
Mukesh Bhargava, Andrew Baker, Kim Serota

Pioneer, Early Mover or Late Mover: Who Gets the Biggest Share?
Marc Fischer, Sonke Albers, Alexander Himme

Do Product Preannouncements Increase Shareholder Value?
Alina Sorescu, Tarun Kushwaha, Venky Shankar

Chair: Alina Sorescu

SC12
Diffusion III; Adoption
Room 304

Modeling the Effects of Marketing on the Components of a Diffusion Model for New Prescription Drugs
Jaap Wieringa, Peter Leeflang, Enar Ruiz Conde, Dick Wittink

Firm Level Adoption of a New Industrial Product: The Case of Checkout Scanners
Sanjib Mohanty, Dan Horsky

Forecasting Sales and Advertising Responsiveness for DVD Movies
K. Sudhir, Jackie Luan

Written In The Stars: Does Star Power Drive The Success of Entertainment Products?
Anita Elberse

Chair: Anita Elberse

SC13
Product Assortments
Room 421

A Multi-category Approach to Modeling Consumer Preference Evolution
Nara Youn, Douglas MacLachlan, Inseong Song

The Impact of Context Effects on Optimal Assortments
Robert Rooderkerk, Tammo Bijmolt, Harald van Heerde

Profiling the Health-Conscious Segment of Grocery Shoppers Using a Multi-Category Brand Choice Model
Qin Zhang, Ashutosh Prasad

Utilizing Consumer Typologies Based on Shopping Basket Histories in Target Mktg
Thomas Reutterer, Andreas Mild, Martin Natter, Alfred Taudes

Chair: Thomer Reutterer

Saturday, June 18, 2005 – 3:00-4:30pm (Session SD)

SD01
Special Session: Obtaining Insights From and About Consumers
Room 130 (Auditorium)

Inferring Competitive Measures on the Web from Aggregate Data
Pete Fader, Zhiqiang Zheng, Balaji Padmanabhan

Automatic Induction of Conjoint Features Using Customer Reviews
Thomas Lee, Eric Bradlow

Optimal Sequence of Questions for Recommendation Agents
John Liechty, Arvind Rangaswamy, Arnaud DeBruyn

Involving Consumers in the Screening Stage of the Idea Generation Process
Laurent Flores, Olivier Toubia

Chairs: T. Evgeniou, J. Hauser, O. Toubia

SD03
Branding; Brand Extensions
Room 234

Antecedents of Brand Globalization and Hierarchical Structure
Janell Townsend, Ravi Parameswaran, Sengun Yeniyurt

Influence of Income, Motivation to Conform, and Brand Differential on Store Brand Product Purchase I
Ellie Tran, Chris Shao

Using the Assimilation and Contrast Framework to Explain the Brand Extension at Attribute Level
Xin Liu

Customer Evaluation of Brand Counter-Extensions
Piyush Kumar

Chair: Chris Shao

SD04
Pricing IV
Room 231

Dynamics of Pricing with Network Effects: An Empirical Study of the Video Game Consoles
Hongju Liu

Second-degree Price Discrimination: A Case Study of Opera Ticket Pricing
Qiaowei Shen

Preseason Promotions and Postseason Markdowns
Yan Dong, Jing Wang

The Golden Rule in Transfer Pricing
Marcel Weverbergh, Wilfried Pauwels

Chair: Marcel Weverbergh

SD05
Multiple Channels of Distribution IV
Room 201

A Model of Multichannel Retailing
Xubing Zhang

Stock Market Reaction to Bricks-and-Mortar Retailers? Internet Channel Additions
Jin Li, Paul Messinger

An Examination of Brand Sales Volume Variation Across Retail Chains
Ryan Luchs, Jeff Inman, Vanitha Swaminathan

Governance in Hybrid Marketing Channels
Stephen Kim

Chair: Stephen Kim

SD06
Customer Relationship Marketing IV; Impact on Performance
Room 204

The Strategic Role of Marketing in Managing Firm Risk
Kapil Tuli, Sundar Bharadwaj, Raj Srivastava

Customer Relationship Management and its Impact on Innovation Performance
Manfred Krafft, Holger Ernst, Wayne Hoyer, Katrin Krieger

Impact of CRM Systems: The Perspective of the User and of the Organization
Berend Wierenga, Gerrit Van Bruggen

Sustained Competitive Advantage Through Customer Retention
Shantanu Dutta, Ramkumar Janakiraman, Kyle Mayer

Chair: Shantanu Dutta

SD07
Brand Equity
Room 207/208

A Critical Analysis of Methods of Valuing Brands and Brand Equity
Rajesh Srivastava

The Role of Mass Media in Determining Corporate Reputation
Seema Pai, Craig Carroll, Siddarth Sivaramakrishnan

Issues Pertaining to Brand Equity—An Attempted Synthesis
Dierk Luetje, Oliver Heil

Chair: Dierk Luetje

Saturday, June 18, 2005 – 3:00-4:30pm (Session SD))

SD09
Marketing Research; Multiple Responses
Room 334

Is Silence Golden? An Inquiry into the Meaning of Silence in Prof'l Product Eval's
Wagner Kamakura, Suman Basuroy, Peter Boatright

Pseudo-Experimental Control Groups to Control for the Selection Bias
Michel Clement, Sonke Albers, Björn Christensen

Harvesting the Value of Election Results for Political Marketing Analysis
Arnaud De Bruyn

The Relative Accuracy of Managerial Forecasting Integration Approaches
Gerrit Van Bruggen, Gary Lilien, Bernd Skiera, Martin Spann

Chair: Gerrit Van Bruggen

SD10
Choice Models; Heterogeneity
Room 331

Measuring Customer Heterogeneity with Loyalty Variables: Theory and Evidence
Gary Russell, Fred Feinberg, Kyuseop Kwak

Latent Segments or Scale Variations: A Simple Choice Model to Incorporate Heterogeneity
Vinay Kanetkar, Towhidul Islam

Observed and Unobserved Preference Heterogeneity
Paul Nelson, Dan Horsky, Sanjog Misra

Heterogeneity in Multi-Stage Models of Purchase Behavior
Rick Andrews, Imran Currim, Haren Ghosh

Chair: Rick Andrews

SD11
Integrated Marketing Communications
Room 301

Confirmatory Bias Induced Pattern of Advertising: A Strategic Analysis with Experimental Support
Rajesh Bagchi, Chuan He

Internet Media Planning: An Optimization Model
Janghyuk Lee, Lacouine Kerbache

Dynamic Effectiveness Control and Optimization of Integrated Comm'n Budgets
Kay Peters, Manfred Krafft, Prasad Naik, Kalyan Raman

A Three-stage Response Model of Integrated Marketing Communications
Tim Smith, Rabi Chatterjee, Srinath Gopalakrishna

Chair: Tim Smith

SD12
Innovations IV; International
Room 304

The Innovation of Nations
Rajesh Chandy, Jaideep Prabhu, Gerry Tellis

Global Takeoff of New Products: Role of Country, Product Type, and Time
Deepa Chandrasekaran, Gerry Tellis

A Spatio-Temporal Analysis of the Global Diffusion of ISO 9000 and ISO 14000 Certification
Paulo Albuquerque, Bart Bronnenberg, Charles Corbett

Diffusion of Art: An Investigation of the Evolution of Modern Indian Art
Srini Reddy, Mayukh Dass, Umesh Gaur

Chair: Srini Reddy

How to Navigate the Contributed Sessions

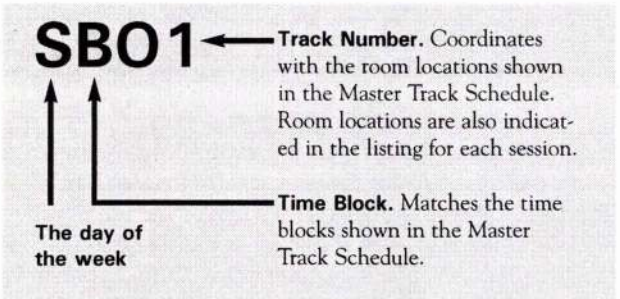
There are four primary resources to help you understand and navigate the Contributed Sessions:

- This contributed session listing, which provides the most detailed information. The listing is presented chronologically by day/time, showing each session and the papers/abstracts/authors with each session.
- The Author, Session Chair and Session indices provide cross-reference assistance.
- The map and floor plans included in the Front Matter show you where contributed session tracks are located.
- The "Master Track Schedule" is on the back cover. This is an overview of the tracks (general topic areas) and when/where they are scheduled.

Quickest Way to Find Your Own Session

Use the Author Index. — the session code for your presentation(s) will be shown. Then refer to the full session listing for the room location of your session(s).

The Session Codes



Time Blocks

Thursday
3:30 - 5:00pm Session D

Friday
8:30 - 10:00am Session A
10:30 - noon Session B
1:30 - 3:00pm Session C
3:30 - 5:00 pm Session D

Saturday
8:30 - 10:00am Session A
10:30 - noon Session B
1:15 - 2:45pm Session C
3:00 - 4:30pm Session D

Room Locations
These are shown with the name of the building.

CONTRIBUTED SESSIONS

Thursday, 3:30 - 5:00pm (Session D)

TD02
Room 238
Advertising; Word-of-Mouth
Chair: Dina Mayzlin
Yale School of Management, 135 Prospect St, New Haven, CT, 06520, United States, dina.mayzlin@yale.edu

1 - The Added-Value of Online Word-of-Mouth to Advertising in New-Product Adoption
Fiona Sussan, Doctoral Student, Baruch College, Box 12-240, Vertical Campus, One Bernard Baruch Way, New York, 10010, United States, fiona_sussan@baruch.cuny.edu
Hirokazu Takada

This paper uses the Endogenous Growth Theory to describe the value consumers' proactive participation in online evaluations adds to the new-product adoption process. Such value generated by consumers' participation in online word-of-mouth is measured in relation to the advertising efforts in movie box offices ales and DVD rentals. An econometric modeling approach is used to measure the ascending and descending effects of advertising and online word-of-mouth with respect to weekly box-office sales and DVD weekly rentals. Control variables of production costs, screens, MPAA ratings, critics reviews, and sequel effect were included.

2 - Prerelease Online Word of Mouth: Does It Influence Movie Evaluation and Viewing Intention?
Anindita Chakravarty, PhD Student,Marketing, Syracuse University, SOM, Syracuse, NY, 13210, United States, anichakravarty@yahoo.com
Yong Liu, Tridib Mazumdar

Internet sources such as online forums and discussion boards provide large quantities of information about a to-be-released movie. Past research has demonstrated that the sheer volume of message postings (i.e., 'the buzz') positively affect the weekly box office returns for the movie. However, because of the aggregate nature of gross return measure, the individual-level effects of online word-of-mouth (WOM) remain unexplored. To better understand the effects of online prerelease WOM, we conducted a laboratory experiment, in which we manipulated messages for the movie National Treasure by mimicking the structure of Yahoo! Movies website. The experiment was conducted online in the same week when the movie was released. We manipulated the volume and valence (i.e., positive, negative, neutral) of the messages, and assessed the effects on the evaluation for the to-be-released movie, after controlling for subject's prior attitude and susceptibility to online information. We further examined whether the volume and valence effects are moderated by whether the comments are based on experience or are simply speculative. We also examined whether avid movie goers evaluate messages differently from less frequent movie goers. Finally, we employ a Tobit model to examine whether there is a threshold effect of volume, valence, and experience-based comments on evaluation that determines subjects viewing intentions.

3 - The Informational and Signaling Roles of Movie Advertising
Yong Liu, Assistant Professor, Marketing, Syracuse University, School of Management, Syracuse, NY, 13244, United States, yoliu@syr.edu

Despite the growing interests in movies and other entertainment/media products from marketing researchers, there have been few empirical studies focusing on the roles of movie advertising, especially when other informational factors such as word-of-mouth (WOM) and critical reviews are also considered. In this study, we utilize a unique data set to examine this issue of the movie industry. The data contains, for 80 movies released in 2002, overall promotional budgets in print and television, and the weekly spending on New York Times, along with critical reviews, weekly WOM measures, and box office information of these movies. We follow the advertis-

ing literature to distinguish the informational versus signaling roles of movie advertising. While both can be linked to box office revenue, especially during the early weeks in a movie's run, the informational role is more closely related to the volume of WOM, and the signaling role (if exists) tends to influence the valence of WOM. Among other things, our empirical analysis finds stronger support for the informational role of movie advertising in comparison with the signaling role. While the effects of both advertising and WOM diminish over the weeks that the movie has been in theatres, that of advertising diminishes more quickly. Besides influencing WOM and box office revenue, movie advertising also appears to exert direct impact on critical reviews. Managerial implications for movie promotional strategies (both before and after release) are discussed.

4 - Do We Listen to Experts or Amateurs: The Case of Movie Attendance

Dina Mayzlin, Yale School of Management, 135 Prospect St, New Haven, CT, 06520, United States, dina.mayzlin@yale.edu
S. Abraham Ravid

In this paper, we compare the relative influence of professional versus amateur recommendations. Our data consists of professional movie reviews as well as online word of mouth for movies. We also collect information on budgets and other financial data, including weekly box office receipts, as well as DVD sales. This allows us to compare the relative effects of WOM versus critical acclaim on consumer choices of movies as well as the interaction effects between professional and amateur recommendations.

TD03
Room 234
Game Theory I

Chair: Siddharth Singh
Assistant Professor, Jones School of Management, Rice University, 6100, Main Street, Houston, TX, 77001, United States, sssingh@rice.edu

1 - Optimal Product Returns Policies and Product Variety with Consumer Education

Jeffrey Shulman, Doctoral Candidate, Kellogg School of Management, 2001 Sheridan Road, Marketing Department, Evanston, IL, 60208, United States, j-shulman@kellogg.northwestern.edu
Anne T. Coughlan, Canan Savaskan

Product returns create enormous costs for sellers of both consumer and industrial goods. Many apparel sellers report product returns of up to 30 percent of units sold. W.W. Grainger, one of the world's biggest industrial distributors, estimates that five to seven percent of its units sold come back to it as returns. In consumer electronics, product returns cost more than $15 billion annually. Controlling returns is clearly an important managerial objective for a multitude of product types and industries. It remains unresolved how the product variety the seller offers relates to the intensity of merchandise returns and what this implies for optimal seller policy. To address this problem, we develop a location model of a seller serving a heterogeneous buyer population. Unlike a standard location model with fed consumer locations, in our situation, a consumer is uncertain of the match between her ideal product and the actual products offered in the market. If the consumer chooses to return an item, she incurs a cost of returns and may also be charged a "restocking fee" chosen by the seller. Unlike other returns models, we allow the seller's product variety to influence consumer returns behavior, as well as the cost of returns. Moreover, the seller may also invest in reducing consumer uncertainty pre-purchase, which, though costly, reduces post-purchase returns. Our model allows us to make statements about optimal returns policy in light of investments in consumer uncertainty reduction and product-line variety.

2 - On Supermarket Positioning and Value of Analyzing Basket Composition Data

Seungwon Jeon, University of Texas at Dallas, SM 32, School of Management, University of Texas at Dallas, Richardson, TX, 75083-0688, United States, sjeon@student.utdallas.edu
Ram Rao, Nanda Kumar

In a recent study, Kumar and Rao (2004) analyze a model in which symmetric stores compete to serve a market of consumers who are heterogeneous in their shopping basket. They show that by analyzing data on the composition of the baskets stores can price intelligently leading to higher profits. In this study, we examine whether the benefits from analyzing basket data depend upon store positioning. To facilitate this, we consider a model in which stores are asymmetrically positioned on the level of service offered to their consumers. Consumers in our model differ not only in the size and composition of their shopping baskets but also differ in their sensitivity to price and service. If the cost is not too high, implementing a data analytics program is the equilibrium strategy for both stores. We find that when the cost of such programs is moderately high, the low end store adopts these programs purely as a defensive strategy. We also identify conditions under which the high (low) end store benefits more than the low (high) end store from such programs. We find that when the premium that consumers place on service is not too high the value of analyzing basket data is greater for the high end store relative to the low end store. We also offer numerous predictions on how the value of analyzing shopping basket-data specifically, prices of the large and small basket items vary with the asymmetry in store positioning.

3 - How Free Riding on Customer Service Affects Competition

Jiwoong Shin, Yale University, 135 Prospect Street, Yale School of Management, New Haven, CT, 06520, United States, jiwoong.shin@yale.edu

The free riding problem is ubiquitous if the presales activities needed to sell a product can be conducted separately from the actual sale of the product. Intuitively, free riding should hurt the retailer that provides that service, but analytically, free riding benefits not only the free-riding retailer but also the retailer that provides the service. By allowing free riding, the service provider may induce a softer reaction from its competitor because it has benefited from its free riding. The free rider has less incentive to compete with the service provider on price to attract more consumers because many consumers will switch to it because of free riding. This induced soft strategic response enables the service provider to charge a higher price than its cost and enjoy the strictly positive profit that otherwise would have been wiped away by the head-to-head price competition. Therefore, allowing free riding may be regarded as a strategic investment that prevents an aggressive response from another retailer.

4 - Customer Loyalty Programs: Are They Really Profitable?

Siddharth Singh, Assistant Professor, Jones School of Management, Rice University, 6100, Main Street, Houston, TX, 77001, United States, sssingh@rice.edu
Trichy Krishnan, Dipak Jain

This paper explores the impact of loyalty programs such as frequent flier miles programs, loyalty programs offered by hotels, and so on, on the profitability of firms and market competition. We consider two competitive firms and investigate if one or both of the firms would offer a loyalty program in equilibrium, and the conditions under which a specific equilibrium might happen. Through our analysis, we investigate the reasons why firms implement loyalty programs, the impact of loyalty programs on the profitability of firms, the way firms finance loyalty programs, and how the differences between firms spare-capacities relate to their loyalty programs strategy. We use a game theoretic framework and build our model from analyzing customer choice process on two dimensions: choice of which firm to buy product from, and choice to make use of the loyalty program. The results show that there are three possible Nash equilibria. Two are symmetric while the third is asymmetric. In the symmetric equilibrium, either both firms offer a loyalty program or none of them offers a program. In the asymmetric equilibrium, only one firm implements a loyalty program. The existence of any specific equilibrium depends upon the spare-capacities of the firms and the fed cost of implementing a loyalty program. In addition, we find that a firm offering a loyalty program can seek to partly finance the running costs of the program through making the loyal consumers pay more in advance during their regular purchase occasions and making the infrequent buyers subsidize the program costs.

TD04
Room 231
Product Line Management

Chair: J. Miguel Villas-Boas
Haas School of Business, UC-Berkeley, University of California, Berkeley, Berkeley, CA, 94720-1900, United States, villas@haas.berkeley.edu

1 - Revenue Consequences of Component Sharing Across Brands in the Vertical Product Line

Koen Pauwels, Assistant Professor, Tuck School of Business, Dartmouth College, Hanover, NH, United States, koen.h.pauwels@dartmouth.edu
Peter C. Verhoef

Component sharing may look great in the boardroom, but not in the showroom. Indeed, savings on R&D and production costs could be offset by a plunge in customer brand attractiveness and willingness to pay. This paper investigates the impact of component sharing on customer evaluation of luxury, volume and economy brands offered in a car manufacturer's vertical product line and its subsequent revenue consequences. The authors consider both the harm to the higher-end brand and the benefits for the lower-end brand, and analyze with a random effects model how the size of these effects depends on the brand combination, the type of component, the source of the components sharing, and customer characteristics, such customer brand ownership. An experimental study shows that the harm for the higher-end brand is largest, when (1) a luxury brand shares components with a volume brand, (2) the source of the components is the higher-end brand, and when (3) the customer has a high initial evaluation of the higher-end brand. For the lower-end brand, the positive effect is largest, when the (1) volume brand shares with an economy brand, (2) the lower-end brand is the source of the components, and (3) customers have a high initial evaluation of the higher-end brand. Components that have a strong impact on evaluation are interior, wheels, chassis and the engine. Simulations show that sharing components typically translates in negative revenue consequences for both analyzed manufacturers. An interesting exception emerges for the Japanese manufacturer, which obtains a boost in total revenue when its small luxury brand shares components with its large volume brand.

2 - To Add or Not to Add: Inferences about Base Products in the Presence of Add-Ons

Marco Bertini, Harvard Business School, Soldiers Field, 179A Morgan Hall, Boston, MA, 02163, United States, mbertini@hbs.edu
Elie Ofek, Dan Ariely

In recent years add-ons have become an increasingly common feature of many industries. Consider, for example, the extras offered at food establishments (pizza toppings, coffee spices, salad condiments, etc.), the options car manufacturers produce for their base models, or the many accessories for gadgets such as cell phones and digital cameras. In each case the intention of firms is to augment a base product by offering upgrades on key existing attributes or introducing new features that enhance overall functionality. Given the widespread use of add-ons, an important question that arises is whether their presence can affect how consumers perceive the base product itself. Although standard utility theory would predict that assessment of the core offering should be independent of any add-on enhancement, the evidence presented in this research supports the contrary view that consumers draw inferences based on the type of add-on available, and that these inferences affect both evaluative judgments and behavioral intentions alike. Using both online and field experiments we investigate the role of consumer expectations and signaling in shaping how consumers perceive a base product flanked by add-ons. We show that a consumer with reference-dependent preferences that anticipates (does not anticipate) a given attribute or attribute level to be included in the original product will generate negative (positive) inferences when this expectation is confirmed (disconfirmed). Importantly, expectations are revealed to be context-dependent and influenced by the presence of add-ons. Perceived fit and add-on quality moderate this effect. Moreover, results are conditional on whether base-product quality is observable.

3 - Optimal Product Variety Over Time

Yogesh Joshi, The Wharton School, University of Pennsylvania, 3730 Walnut St. #726.6, Philadelphia, PA, 19104, United States, yogesh@wharton.upenn.edu
David Reibstein

The central question addressed in this paper is the determination of the optimal variety that a firm should be offering within a product category, and how this optimal variety evolves over time under changing market conditions and changing decision timeframes. Two decision timeframes are considered for a firm—a myopic or short term focus, and a strategic or long term focus. Optimal variety primarily depends on three major factors—overall demand, willingness of consumers to sacrifice from their ideal but still buy, and costs of introducing a new variant-all of which can vary over time. In terms of temporal effects of demand, an interesting asymmetry is found in a firm's optimal product line strategy. With growing demand, repositioning existing variants and extending the product line is a viable strategy when costs of repositioning are low compared to fed costs of adding another variant, unless the growth in demand is substantial. Interestingly, with declining demand, it is always optimal to not reposition or delete any products. For a strategic firm, if the relative growth in demand is smaller compared to the relative proportion of fed costs (f) and repositioning costs, then introducing a product line of constant length during the entire time period is the optimal strategy. When the demand growth is high compared to f/r, introducing a shorter product line during the initial period and a longer product line during the later period is the optimal strategy. Finally, the product line developed by a strategic firm is generally as long as or longer than that developed by a myopic firm.

4 - When More Alternatives Lead to Less Choice

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Dmitri Kuksov

One crucial decision of firms (or government agencies) is to select the alternatives (characteristics and number) to offer to consumers (or citizens). The selection of the set of alternatives to offer should not only take into account the potential preferences of the consumers and firms, but also the evaluation costs of the economic agents. This may lead to offering more alternatives not always being better for the firms than offering less alternatives. This paper shows that search/evaluation costs may lead decision-makers not to search or choose if too many alternatives are offered. If too many alternatives are offered the decision-maker may have to engage in many searches/evaluations to find a relatively good fit which may be too costly, and lead a decision-maker not to choose. If too few alternatives are offered, a decision-maker may believe that it will not find an alternative that is a relatively good fit, and therefore decide also not to choose. These two forces may then work for an optimal and interior number of alternatives to be offered in order to minimize the probability that choice actually occurs. The number of alternatives being offered may also signal the importance of fit in the market if there is asymmetric information, but still lead to consumers with high search costs, or low general valuation for the product, not to search or enter the market.

TD05
Room 201
Channel Pricing and Coordination

Chair: Preyas Desai
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1 - All-Units Quantity Discounts in B2B Markets: An Experimental Analysis

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Teck H. Ho

Theoretical research in marketing has shown that quantity discounts can be used to coordinate the channel. We investigate the empirical efficacy of a commonly-used type of quantity discount - the All-Units Discount

(AUD), in a B2B setting using experimental economics methodology. We initially tested 2 types of AUD contracts: (1) 2-Block AUD and (2) 3-Block AUD. The results indicate that contrary to theoretical predictions, channel efficiency in both contracts is about 80%. We extend the analysis by studying a special class of AUDs called the Quantity-Forcing (QF) contract. The QF contract yields higher efficiency; however, it is rejected more often by the downstream firm. Interestingly, the upstream firm's share of channel profits is similar across all 3 contracts. We propose an explanation for these regularities using methods from behavioral economics.

2 - Estimating Bargaining Games in Distribution Channels

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Sanjib Mohanty

The issue of power in distribution channels remains a topic of interest among both practitioners and researchers of marketing. Power, in a distribution channels context, is often defined as the ability to appropriate a larger share of the total channel surplus. In a simple manufacturer-retailer setting wholesale prices determine the profit share a given channel member appropriates and consequently, power is directly related to the process of wholesale price setting. Recent research (Villas Boas and Iyer 2002; Shaffer and O'Brien 2004) examine channel relations and price setting in a formal bilateral bargaining framework. This paper extends this theory and attempts to empirically test it in a structural manner. In a supermarket/retail store setting, we assume that the wholesale prices are negotiated between competing manufacturers and a common retailer. We model the negotiation process using a modified Nash bargaining framework with asymmetric bargaining powers. The theoretical solution suggests that gains from trade be split in proportion to the bargaining powers of the trading parties. We contrast our proposed model with some of the standard models used in the Empirical Industrial Organization literature by calibrating each model to data from two different product categories. We find that in terms of fit, our proposed model performs better than extant models of channel interactions and provides empirical evidence to support bargaining as the more plausible pricing mechanism in distribution channels. While our results continue to support notions of power obtained in previous studies (e.g. a manufacturer with a high market share has relatively more power) they also shed light on nuances that were hitherto unexplored.

3 - Pricing Policies in Distribution Channels: Product-Line Breadth & Product Differentiation

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Anne T. Coughlan

The analytical literature on distribution channels has largely focused on wholesale-price policies for a single product. In this paper we model a bilateral-monopoly channel in which manufacturer and retailer can select from product-line pricing (PLP) or non-product-line pricing (NPLP) policies; the former entails simultaneous minimization of profit from all products, the latter involves minimizing profit from each product individually. We prove that it is optimal for a vertically-integrated channel to use PLP, and that the equilibrium solution for an independent channel is also PLP. Hidden beneath these results are several extraordinary deductions. In a vertically-integrated channel: (1) use of NPLP implies a narrow product line unless the products are substantially differentiated and (2) use of PLP implies a broad product line that has minimal product differentiation. In an independent channel, (3) PLP is a channel optimum if and only if the products are minimally differentiated, (4) PLP generates lower consumers surplus than does NPLP (thereby putting a PLP channel at risk due to dissatisfied customers), and (5) no feasible, two-part tariff is compatible with attaining channel coordination. In sum, PLP encourages broader product lines and more "me-too" products in a manufacturer's product line; this results in lower consumers' surplus.

4 - Forward Buying, Inventory, and Channel Coordination

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Oded Koenigsberg, Devavrat Purohit

Traditionally researchers in economics, operations and marketing have offered several explanations for inventory, ranging from demand and supply uncertainties to lead times to high production setup costs. With many of these explanations, minimization of inventory is often considered a desirable way to deal with operational inefficiencies. We identify a new role for finished goods inventory that is unrelated any of the existing factors and that surprisingly shows a positive aspect of inventories. We develop a dynamic model of a manufacturer selling its products through an independent retailer. In order to rule out existing explanations for inventory, we assume deterministic demand and supply conditions and no lead times. We find that in equilibrium, the retailer orders more than its optimal selling quantity, and thus carries finished goods inventory from one period to another. The inventory, however, does not create more inefficiency in the system but allows the channel to partially mitigate the double marginalization problem and thus move the manufacturer and the retailer closer to the goal of channel coordination. We also study the effect of product obsolescence/deterioration on the wholesale prices, retail prices and the manufacturers and the retailers' profits. Our results also have interesting implications for forward buying by retailers when the manufacturers offer trade promotions.

TD06
Room 204
Consumer Learning

Chair: Wilfred Amaldoss
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1 - The Impact of Consumers' Experimentation Behaviors on the Firm's Optimal Mailing Policy

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Andrew Ching, Mengze Shi

In previous research, models of consumers' learning behaviors mainly focus on learning the quality of one and the same product. However, in this paper, we develop a model where consumers learn the product family's quality by way of experimenting with some individual products in the family. Unlike prior dynamic structural learning models which treat the firm's decisions exogenously, we endogenize the firm's decisions to capture the impact of consumers' experimentation behaviors on the firm's decisions. In the model, we specify that the quality of each individual product in the family comes from the same distribution. A consumer's belief about the family's quality is updated in the Bayesian way when s/he receives some signal from consumption experience of some individual product. A consumer's purchase decision is to minimize his/her expected future value under his/her current belief. Our model is based on catalog data about a series of non-seasonal durable products. The firm's decision is its mailing policy, such as who the firm mails the catalog to and when the firm does the mailing. We find out that consumers are willing to experiment with one or two books to learn the family's quality of this product series. Meanwhile, it is more profitable for the firm to mail catalogs more frequently to those consumers who have already purchased some books in this series.

2 - What Have You Done For Me Lately?

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Norris Bruce, Abhijit Guha, William Boulding, Richard Staelin

Consumer beliefs about product and service quality shape brand perceptions and influence purchase decisions (e.g., Rust, et al. 1999; Erdem and

Keane 1996). Researchers have long used a standard Bayesian updating model to study how consumers form quality perceptions over time and how this influences consumer choice (e.g. Boulding, et al. 1993; Rust, et al. 1999). This model implicitly assumes that the firm's quality delivery process is static (i.e., mean of quality process stays the same across periods). Following from this, researchers have suggested that quality uncertainty decreases with each service encounter. For risk-adverse consumers, this implies that the more a consumer experiences the brand, the more likely the consumer will be to choose the brand (Rust, et al. 1999). We augment this Bayesian learning model by allowing the mean of the quality process to change across periods. Our analytical model incorporates two key variances: dynamic and static variance. The dynamic variance represents the extent to which the quality process changes over time. The static variance represents the reliability of the process at any given time. When we incorporate dynamic effects, we find that consumers are more uncertain and tend to rely more on recent experiences. We investigate the model empirically with a set of controlled laboratory experiments that allow us to capture whether consumers identify dynamic contexts and how they update their quality perceptions under dynamic conditions. This research is broadly applicable to products and services that are changing. In such cases, rather than brands gaining significantly from past successes, consumers are more likely to ask, "What have you done for me lately?"

3 - The Impact of Prior Thinking on the Preference for Experiences

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Joel Huber

Many consumption experiences take place after one has both planned for and then thought about the event. The purpose of our research is to determine contexts in which thinking in advance about an event increases its value and to develop theories for why this increase in preference occurs. To document and understand these phenomena we report laboratory experiments on enjoyment of films of both short and feature length. In all cases respondents were provided an abstract of the film before viewing it. Those in experimental groups were encouraged to write about what that abstract meant for them, while those in control groups were not given time to think about the abstract before viewing the films. In all cases we find an increase in preferences for films when people are encouraged to think about its abstract. There are several mechanisms through which such prior thinking increases the pleasure attached to a film. We investigate these mechanisms by exploring three theoretical frameworks. First, mental simulation (Taylor, et al., 1998) shows how thinking in advance increases the effectiveness of goal setting. Second, processing fluency (Reber, Schwarz & Winkielman, 2004), or "the ease of relating stimuli to existing knowledge structures," might suggest thinking in advance increases preference via increasing fluency for an event. Finally, flow (Csikszentmihalyi, 1991), sometimes defined as a "feeling of being caught up in the moment," might suggest an increase in preferences via preparation arises from a sense of faster passing of time. All of these mechanisms share the property that advance thinking limits the cognitive interruptions that can interfere with acceptance and enjoyment of the narrative process.

4 - An Experimental Investigation of the Rational Expectations Hypothesis

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Sanjay Jain

At the heart of several models in economics and marketing is the concept of rational expectations (e.g., Becker 1991, Katz and Shapiro 1985, Rajiv, Dutta and Dhar 2002). Rational expectations assume players instantaneously arrive at the equilibrium solution. The empirical evidence in support of rational expectations is med. Individual-level studies comparing forecasts made by subjects of stochastic variables against the actual outcomes suggest that people might not be good at forming rational expectations (Schmalansee 1976, Garner 1982, Williams 1987, Smith et al. 1988). On the other hand, experimental asset markets seem to converge toward the predictions of rational expectations equilibria (Sunder 1995). We develop a model in which subjects form rational expectations in order to arrive at the equilibrium. We theoretically show that adaptive learning mechanisms can also lead to the rational expectations equilibrium derived in our model. Thus, agents could converge to the equilibrium because of sophisticated thinking, adaptive learning mechanisms or a combination of both. In a laboratory setting we track both the actions and beliefs of subjects. Further, using the Sophisticated EWA model proposed by Camerer, Ho and Chong (2002) we attempt to unravel the learning mechanism that can account for the behavior of our subjects.

TD07
Room 207/208
Price Promotions

Chair: Neeraj Arora
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1 - Who's got the Coupon? Estimating Consumer Preferences and Coupon Usage from Aggregate Information

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Eric Bradlow, Jagmohan S. Raju

Most researchers in the Marketing literature have typically relied on disaggregate data (e.g., consumer panel) to estimate the behavioral and managerial implications of coupon promotions. In this article, we propose the use of Bayesian methods for the study of this problem when only aggregate data on consumer choices (market share) and coupon usage (number of distributed coupons and/or number of redeemed coupons) are available. The methodology is based on augmenting the aggregate data with unobserved (simulated) sequences of choices and coupon usage. Different scenarios, which differ in terms of their assumptions about consumer behavior and information availability, are analyzed. In the simplest case, we consider a situation where the researcher observes the market share, marketing activity, number of coupons distributed and number of coupons redeemed for each brand in each period. In addition, each consumer may have a coupon for at most one brand in each period and coupons are only valid for one period. Then, we generalize the estimation procedure in order to handle more realistic situations. These generalizations include: i) each customer may simultaneously hold coupons for more than one brand, ii) the researcher observes the number of redeemed coupons in each period, but not the total number of consumers that received a coupon, iii) a coupon that is not redeemed in one period can be potentially redeemed in the next period. For each of these scenarios we describe the corresponding methodology and we present results based on both simulated data and a real data set.

2 - Tracing the Impact of Price Promotions across Categories

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There has been a recent increase in academic research related to the impact of price changes and price promotions on category (or primary) demand (see for example Bell et al. 1999; Nijs et al. 2001; Nair et al. 2003). While these papers provide valuable insights into a hitherto underresearched area, we as yet know relatively little about how price promotions in one category affect demand for other categories. Demand interdependencies between products occur when a consumer's purchase probability in one category is affected by her purchase of a product in another category (Dhar and Raju 1998). At the aggregate level, these correlations in purchase probabilities result in either negative (i.e., substitutes) or positive (i.e., complements) category-demand dependencies. We argue that the observed cross-category effects of price promotions are formed through two main routes: a consumer-demand and a competitive route. We provide conceptual and empirical support for the existence of these routes, and discuss their importance for managerial practice. Applying Structural VAR models on a large database covering over 200 product categories our study provides

generalizable insights. In addition, we formulate a series of hypotheses concerning factors that are likely to be important determinants of inter-category price-promotional effectiveness (e.g.., branding, multi-market competition, etc.).

3 - Competitive Multi Category Promotions: An Analytic Framework
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This paper analyzes the role played by the relative differences in cross-brand and cross-store promotional elasticities in determining equilibrium outcomes for competing multi-brand, multi-category retailers. We present a game theoretic model that allows retailers to consider tradeoffs between brand cannibalization and induced store switching effects of promotions as well as includes cross-category effects of promotions in the context of cherry pickers and basket shoppers. We show that equilibrium levels of retail promotion in a duopolistic setting are higher (lower) if stores are less (more) differentiated vis-a-vis brands in the promoted category. The analysis shows that from the manufacturers' perspective trade deals will generate higher pass-thru levels when aimed at weaker brands and weaker stores.

4 - Embedded Premiums and Sales Promotion: The Impact of Linking a Brand with a Cause
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Ty Henderson

We frame cause related marketing as a sales promotion strategy and contrast it to traditional price promotions. These socially-oriented and transaction-linked promotions (e.g. Cheerios and Box Tops for Education), referred to as embedded premium, offer the brand manager the potential for a win-win opportunity to both "do good" and "do well". The similarities and differences between price promotions and embedded premium (EP) promotions are described, and we argue that EP promotion outcomes may stand in stark contrast to traditional normative expectations of price promotions. The results of three experiments, including a national study using a MarketTools web panel, provide evidence for a strong impact on consumer choice when an external social connection is invoked. Brands associated with an EP are found to benefit from enhanced quality perceptions. We also find that the EP promotion effect is strongest for unknown brands. Interestingly, such an effect is in the opposite direction of the asymmetric price promotion effect (Blattberg and Wisniewski 1989), well documented in the sales promotion literature. We consider implications of EP promotion activity on market share, customer loyalty, price sensitivity, and competitive promotion response to demonstrate that an embedded premium is a powerful promotional lever. Both at the tactical and strategic level, an embedded premium based promotion may offer unique benefits over traditional price promotions.

TD08
Room 338
Innovations I; Multi-channel

Chair: Pilsik Choi
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1 - Modeling Spillover Effects in Vertically Differentiated Product Lines
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Pradeep Bhardwaj, Yuxin Chen

Firms often market vertically differentiated products in the same category. Previous analyses of demand for goods in such markets have not explicitly considered how the sales of a particular product offered by the firm affect other products in the line. In particular, we hypothesize that consumer utility for downstream products may be enhanced for products with upstream siblings that share the same parent brand name. Conversely, the utility of upstream consumers may be diminished for products with downstream siblings. Using a data set on choices of consumers in the luxury sedan category, we estimate a model that accounts for these spillover effects. The luxury sedan category is particularly well suited for such an analysis. Luxury automakers often offer upstream products (sometimes called flagship products) whose purpose is to define the parent brand name and enhance the value of downstream siblings carrying the same parent name. More recently, luxury manufacturers have attempted to expand sales by extending their product lines downward and competing at lower price points. However, low quality/price entries may dilute the appeal of the firm's upstream siblings. We investigate these effects with metrics that capture the price distance between siblings, adjusted for sales volume. Preliminary analysis suggests an asymmetry in the spillover effect. Upstream siblings have no effect on downstream products, while downstream siblings appear to adversely affect the utility of upstream products.

2 - Intertemporal Quality Allocation and Upgrade Options
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Yanbin Tu

Durable Information products such as software are upgraded for various reasons. "Planned obsolescence", where the current product is made deliberately out-of-date due to the release of new version, can help the vendor to extract more surplus from the existing consumers. However, as the intervals of the launches become shorter, consumers can feel that such technological improvements sometimes are artificial, as they find that the existing products can still satisfy most of their needs, and the durability makes the extended usage possible. Therefore, some consumers choose to leapfrog the new version or seek to other alternatives. Consequently, the "disappearance market" (i.e., some people choose to withdraw from the market) comes out. In order to overcome the "disappearance market" and achieve the minimum profits, the vendor needs to understand the disappearance market. Accordingly, she needs to make the right decision on the following issues involving upgrade: Given the existing quality available, how to optimally allocate the quality in different periods? Can the upgrading option be used to overcome the "disappearance market"? The purpose of this paper is to investigate how the disappearance market comes out and whether the vendor can recover the associated lost profits. Our analysis shows that by properly allocating quality in different periods and using upgrade option during the product launching period, the vendor can earn more profits than by launching a new product without upgrade option. Some managerial implications of our findings are also discussed in this study.

3 - Secondary Markets and the R&D Decision
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A Durable goods monopolist typically offers successive generations of the same product simultaneously, with each generation incorporating an improvement in technological performance and/or quality over its predecessor. The monopolist improves product quality by investing in R&D, and chooses the level of R&D investment by determining the optimal level of product improvement from one generation to the next. This paper investigates the effect of the presence of a secondhand market on the optimal level of product improvement and hence on the level of R&D investment. The presence of a secondhand market, on the one hand, provides an incentive to high valuation consumers who own a previous generation to upgrade to a new generation. On the other hand, however, it reduces the monopolists profits from selling older generations to low valuation consumers. In a market where consumers are heterogeneous in their quality valuation, using a two-period framework, we compare the optimal levels of product improvement with and without a secondhand market. Consumers drive demand by selecting their consumption strategies based on their expectations about future product improvement and prices. One of the interesting findings of the paper is that the presence of a secondhand mar-

ket can cause the monopolist to increase its R&D investment if the optimal level of product improvement is neither too high nor too low.

4 - Winners and Losers Due to Used Goods: The Case of DVDs
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With the popularity of the DVD format, the DVD market has become a major revenue source for movie studios. One interesting phenomenon in the DVD market is that video rental stores have expanded their offers of previously-viewed DVDs and promoted them aggressively. How does this push by rental stores affect DVD retailers and movie studios' businesses and profits? Who benefits the most and who suffers the most from this push? Using Stackelberg-Bertrand models, this paper analyzes two cases: one with DVD rentals and new DVDs and the other with DVD rentals, new DVDs, and previously-viewed DVDs. Equilibrium prices and profits were derived from the models, then numerical analysis was conducted. The findings are that profits for the rental store and the retailer increase and profits for the movie studio fall with availability of previously-viewed DVDs. Between the rental store and the retailer, the former's profit gain is much larger than the latter's. These findings are explained by price changes, i.e., a market for previously-viewed DVDs forces prices for new DVDs and wholesale DVDs to decrease substantially so that they can compete with previously-viewed DVDs. In this process, the market share for the retailer increases substantially. One of the contributions of this paper is that it is one of the few studies that investigate the DVD market, which is critical for the movie industry. Another contribution is that this paper provides strategic guidance to each player regarding how to deal with the issue of previously-viewed DVDs.

TD09
Room 334
Auctions I

Chair: Eric Greenleaf
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1 - The Effect of Consumer Learning and Experience on Bidding Behavior in Online Auctions
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Peter Popkowski Leszczyc

This paper is a first attempt at studying the extent of learning by bidders in auctions, using longitudinal data from real-world auctions. A novel data set including data on individual bidding behavior for inexperienced and experienced bidders over time has been collected from eBay.com. These data are used to investigate the learning of bidders' strategic behavior and to identify the convergence of this in online auctions, as well as, the behavioral difference between inexperienced and experienced bidders. The results of our analyses indicate that learning effects do exist in bidding behavior. We find support for our hypotheses, that as bidders gain experience, they tend to reveal less private information and are less likely to be influenced by other bidders' behavior. These results are consistent with predictions produced by economic theory that strategic bidders try to reduce competition and avoid potential bidding wars. Furthermore, findings are consistent with positive affiliation of bidders' valuation; however, different from normative economic theory, the impact of affiliation tends to reduce with bidders' experience.

2 - Pricing in a Dual Channel of Posted Price and Online Auctions
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Young-Hoon Park, Xin Wang

As online auctions are gaining popularity as exchange mechanisms, firms have incorporated auctions as an additional distribution channel to their existing operations. Online auctions could help firms reach broader customer pools and minimize cannibalization of sales in existing channels. Operating brick-and-mortar stores and auctions simultaneously is a challenging problem. With the widely adopted buy-it-now feature, managing dual channel pricing is even more complicated. In this paper, we analyze a pricing problem a firm may face in utilizing various pricing formats. In particular, we examine the impact of selling products by a single posted-price format, online auctions, or both (dual channel) on the firm's profitability and the optimal posted price if being used. We find that under a set of conditions the dual channel strategy can generate higher expected profit for the seller. Moreover, the optimal posted price under the dual channel is higher than that of the single posted-price format. We find that dual channel not only reaches more customers, but more importantly, auctions provide a price discriminating mechanism that attracts low valuation customers. As a result of this self-selection process, the seller can optimally charge a higher retail price for the higher valuation customers.

3 - Rationale and Impact of Buy-it-Now Pricing in Auctions: An Empirical Analysis
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Vrinda Kadiyali, Tat Y. Chan

A ubiquitous and important feature of Internet auctions is buy-it-now (BIN) price. With a BIN price, a seller imposes an upper bound for the minimum that bidders will pay for his product, and bidders can avoid the bidding process and simply buy the product at the BIN price. While most items have BIN prices, these posted prices are often not exercised. In this paper, we examine the determinants of whether BIN price gets exercised, e.g., for what types of products, sellers, bidders, market competition conditions, etc. It helps us understand the motivation of sellers to offer a BIN price or of a buyer to exercise it. We use data from a Korean auction site on notebook computers to first estimate a model of willingness to pay for auction items. We account for the impact of buyer and seller characteristics, competition among items, and product characteristics on willingness to pay, and estimate the model on items where BIN was available but not exercised. Using these parameters, we calculate what the expected revenue should have been for items where BIN was available and exercised. We classify items where the exercise of BIN leads to higher or lower revenues relative to items where BIN was not exercised. We then examine whether these items had systematically different buyer and seller characteristics to see what theories of buyers and seller behavior, and level of competition can explain the exercise and impact of BIN price on final price.

4 - The Impact of Anticipated Regret on Optimal Seller Strategies in Auctions
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Yuxin Chen

Auction sellers often must set a reserve, which is the lowest price at which they will sell the auctioned property. We examine how the disutility of anticipated regret affects optimal reserves for sellers in open English auctions. This regret is caused by possibility that the highest bid will exceed the seller's own valuation for the property but will be less than the reserve. The optimal reserve depends on which of three functions a seller uses to assess the perceived magnitude of regret - (i) constant regret; (ii) comparing actual revenue with revenue from the best foregone reserve; and (iii) regret which is a function of both (ii) and the reserve, such as regret that increases in "close misses" where the highest bid was just below the reserve. Under all three functions, regret sometimes drives the optimal reserve down to the seller's own valuation, causes multiple local and global optimal reserves, makes the seller's payoff less sensitive to the reserve, and causes the optimal reserve to vary with the number of bidders. None of these results occur when regret is absent. We also examine anticipated rejoicing's impact on optimal reserves, and find that it often differs from regret's. Finally, we find that Vickrey auctions can create new opportunities for regret when property sells, which open English auctions do not. The regret-

ful seller's expected Vickrey revenue is less than its open English counterpart. The optimal Vickrey reserve is also usually higher, which makes Vickrey auctions a less efficient allocation mechanism.

TD10
Room 331
Spatial Models

Chair: Sachin Gupta
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1 - Modeling Spatial Correlation in Consideration Set Membership

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Marketing scholars have addressed the influence of spatial correlation on consumers' preferences and companies' market shares, but no study has yet looked at the influence of spatial dependencies on consideration set membership. We investigate the planatory power of spatial correlation (i.e., spatial proximity across buyers) for consideration probabilities. Our modeling approach builds upon the spatial probit model developed by Smith and LeSage (2004). We parsimoniously account for the impact of observable and unobservable heterogeneity as well as unobservable spatial dependencies on consideration set membership probabilities. We apply our model to stated consideration set data for new car buyers. We investigate the impact of the spatial interaction on the consideration probability for vehicle types (e.g., pickup trucks) and makes (e.g., Chevrolet). We find a significant spatial interaction in consideration set probabilities for type but not for makes. The magnitude of this correlation coefficient varies by the scale of geographical aggregation. Furthermore, we find that the impact of spatial correlation changes depending on the amount of heterogeneity explained by other model variables. Our findings allow managers to better understand multi-market competition and to customize the product and promotional offers based on geographical area.

2 - Spatial Multiple-Product Recommendation Models

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Gary Russell

A product recommendation model offering high-valued products to regular customers is a key tool for customer expansion and customer retention in customer relationship management (CRM). Existing models typically make recommendations one product at a time. This research develops a generalized recommendation methodology which predicts the likely purchase of a portfolio of products. The proposed methodology is based on the autologistic (AL) model, a type of spatial statistical model. Customers are assumed to be located on a joint-space map in which nearby individuals share similar product preferences. By merging the AL model with the map, a statistical model is constructed which predicts product choices for customers in a firm's database. Our multiple-product recommendation model demonstrates that customer similarity (CS), product similarity (PS), and interaction similarity (IS) (between CS and PS) all play important roles in forecasting future choice probability. The new approach promises to be very effective in capturing the effects of variables that drive choice behavior, but that are not explicitly included in the customer database. That is, the proposed methodology is expected to be effective in partially accounting for missing information that can contribute to predicting the purchase probabilities of target products. In an application to ownership data on consumer electronics, we demonstrate that the multiple-product AL model forecasts well relative to a number of reasonable benchmark models. Empirically, a variant of the multiple-product AL model is superior in most product categories. tensions of the AL model to analyze more complex datasets are also discussed.

3 - Modeling Household Response Heterogeneity

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Gary Russell, Thomas Gruca, Kyuseop Kwak

Consumer response heterogeneity is accommodated by a random-coefficient specification of response coefficients in choice models. Latent class analysis or Bayesian inference have typically been used to estimate these models. This research proposes a new approach to modeling consumer heterogeneity in choice models. Drawing upon the geographically weighted regression approach proposed by Fotheringham et. al.(2002), we develop a spatially-weighted logit (SWL) model which allows for an arbitrary heterogeneity distribution. The model's developed in two stages. In the first stage, we use information on consumer consideration sets to construct a map of consumer ideal points. The inter-consumer distances on this map are then used to compute measures of consumer similarity. In the second stage, these similarity measures are used in a weighted likelihood function to compute a vector of response coefficients for each consumer. The benefits from using the proposed methodology are two-fold. First, the approach does not require specifying a parametric distribution for the response coefficients. Second, the approach allows computation of response coefficients for consumers with a limited amount of purchase data. As long as a consumer can be located on the ideal point map, response coefficients can be inferred by amining the purchase behavior of similar consumers. For these reasons, the approach has substantial potential for work in database marketing. The approach is compared to existing heterogeneity correction techniques using both simulated and real data. We argue that the proposed approach will be useful in product categories where consideration set composition is a strong predictor of choice model response coefficients.

4 - Spatial Differences in Consumer Segmentation Structure

Sachin Gupta, Associate Professor of Marketing, Johnson Graduate School of Management, Cornell University, Sage Hall, Ithaca, NY, 14853, United States, sg248@cornell.edu
Anand Bodapati

The choice modeling literature in marketing has provided ample evidence that within most markets there is considerable across-household heterogeneity in marketing m response. For ample, in Chicago there are some households with low absolute price elasticity of brand choice and some households with high elasticity. We use the term ``segmentation structure'' to refer to the relative sizes of various segments pre-defined according to certain response characteristics (like price response in our example). Based on what the segmentation structure is, the manager may construct a certain promotions strategy. Different segmentation structures will potentially induce different promotions strategies. In this paper we propose models to understand similarities and differences in consumer segmentation structure across multiple markets. This issue is of great interest to manufacturers who operate in multiple territories: If the segmentation structure in Chicago is similar to the segmentation structure in New York then the manufacturer can combine the resources and decision processes for those markets. Territories can be grouped by segmentation structure and promotions management grouped accordingly for organizational efficiency. The models we propose are two-level hierarchical Bayes models, one level for within-market gaussian heterogeneity and a second level for across-market heterogeneity in the parameters of the market-level gaussians. The models are estimated by Markov Chain Monte Carlo. Our striking finding based on purchasing data for two product categories from households in 72 U.S. markets is that segmentation structures across the country are remarkably similar to each other and there is not as much spatial heterogeneity in the U.S. as one might initially think.

TD11
Room 301
New Product Development; Market Research

Chair: Ely Dahan
Market at the Anderson School, University of California at Los Angeles, 110 Westwood Plaza, B-514, Los Angeles, CA, 90095, United States, edahan@ucla.edu

1 - Capturing Spurious Awareness in the Tracking of New Products' Performance

Albert Bemmaor, Professor, ESSEC, BP 50105, Cergy-Pontoise Ced, 95021, France, bemmaor@essec.fr

Despite the repeated call by practitioners to take account of spurious (aided) awareness in the assessment of new products' performance, academ-

ic research has still largely ignored the issue. This spurious awareness, at times called "ghost" awareness or "false" awareness, seems mainly due to consumers' confusion between products, especially in the case of line tensions. It has been largely documented when one assesses the level of awareness of non-existing products, in particular when these products carry well-known brand names. The proposed model is based upon the following set of assumptions

(1) The individual-level response (yes/no) can either be generated by a true state of knowledge (or lack thereof) or by mere confusion;
(2) The individual-level propensity to confound is constant across the set of existing products under study;
(3) At the individual level, the response process is a nonstationary zero-order process;
(4) The individual-level probability to know the product varies across respondents;
(5) The individual-level propensity to confound varies across respondents;
(6) The polarization index of the individual-level probability to know the product and that of the individual-level propensity to confound are the same within products and across products;
(7) The individual-level probability to know the product and the individual level propensity to confound are negatively correlated across respondents; this correlation varies across products.

When there are K products in a list, the model includes a total of K + 2 independent parameters. The study reports several applications of the model in two countries.

2 - New Solutions to the Measurement Issues in Concept Testing

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Adam Finn

Concept testing plays a pivotal role in the new product development process. But little academic research has addressed the effectiveness of concept testing or attempted to improve the accuracy of new product decision-making. Furthermore, measurement issues have been neglected in this literature. Traditional measurement methods and criteria, such as the "percent top-box score" on a rating scale, are still employed in product concept testing despite the lack of evidence for their reliability and construct validity. Our research reconsiders several managerial/decision issues in concept testing (optimal testing design, respondent selection, scale/test development, and the appropriate use of the testing results). We take a Generalizability theory perspective to assess the psychometric quality of concept testing data. First, we develop a conceptual framework for assessing what exactly consumers respond to in a concept test. Four types of factors contributing to consumers' response in a concept test are identified and their importance discussed. Second, we evaluate the psychometric performance of two sets of secondary concept testing data and use the framework to draw conclusions about concept evaluation items and the appropriate use of the concept test results.

3 - The Effects of the Intensity of Terminal Subsidy on Consumer's Buying Behavior: PIS case in Korea

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Sung Soo Han, Hyun Chung

Faster diffusion is a key success trigger of a new service at its introduction stage, and which is true especially in the telecommunication service market where new services emerge so frequently. It is also critical for the service providers to develop a marketing strategy for the preemption over the market along with a rapid diffusion of the service. There are various types of alternatives for enacting the preemption and diffusion strategy in a newly introduced service market, and one of the most effective options is allegedly to be the terminal subsidy. This paper is so aimed at analyzing the effects of terminal subsidy on a consumer's buying behavior that it has reviewed the relationships between the level of terminal subsidy and a consumer's buying attitude or buying intention toward PIS (Portable Internet Service), a new service ready to be introduced in Korea in the upcoming future. The optimal combination has been recognized while relating the various terminal subsidy plans to a consumer's buying behavior, which makes some meaningful implications for the service providers to set the optimal level of terminal subsidy in attracting the fast diffusion of PIS.

4 - Too Many Attributes, Not Enough Resources? Scalable Preference Markets to the Rescue

Ely Dahan, Market at the Anderson School, University of California at Los Angeles, 110 Westwood Plaza, B-514, Los Angeles, CA, 90095, United States, edahan@ucla.edu
Arina Soukhoroukova, Martin Spann

A new type of simulated stock market, trading preferences for new product concepts, attributes, and attribute levels (rather than one trading securities based on predictions of actual outcomes) is examined. For new product research, such a preference market holds two primary advantages: scalability and cost. Scalability follows from the fact that even though individual participants in a market may be constrained by bounded rationality, the market as a whole can aggregate opinions for a virtually limitless number of stocks (i.e., products, attributes, and attribute levels), subject only to a sufficient number of traders to achieve liquidity for each security. We construct and test a market in which each participant trades a subset of the universe of product-related securities, and we conduct controlled experiments to validate the preference market's accuracy as compared with conventional market research. Lower cost derives from the relative ease of recruiting respondents to play simulated stock market games, maintaining their interest and generating satisfaction as compared with traditional market research methods. We validate this advantage through the same controlled experiments. While preference markets exhibit scalability and cost advantages in the context of new product market research, they also face limitations such as their need for simultaneous participation and their inability to measure preferences at the individual level. These advantages and disadvantages suggest that preference markets complement, rather than substitute for NPD market research such as user observation and conjoint analysis.

TD12
Room 304
Retailing I; Price Competition

Chair: Sridhar Moorthy
University of Toronto, 105 St. George St., Toronto, ON, m5s3e6, Canada, moorthy@rotman.utoronto.ca

1 - Price Rigidity and Store Positioning in Grocery Supermarkets

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Huang Xiaogong

We explore how price rigidity varies across three store types - Hi-Lo, EDLP and Discount. The data is collected manually across three grocery supermarket stores in a Montreal area, across eleven categories spanning more than one hundred SKUs, and during a period of intensified price competition over one year. In general, flexibility in transaction prices is seen as a key to being competitive in sectors like supermarket stores. This need for flexibility may be even higher in times of intensified price competition. Yet, the degree of price rigidity is determined as much by a need to respond to competition as by the inherent costs of changing prices. In addition to the burden of physical and managerial costs of changing prices, frequent changes distort the price expectations, specifically, the reference price points of consumers and may negatively affect the retailer's ability to support profit making margins later. Retailers therefore attempt to support higher reference prices by differentiating between regular (permanent) price and transaction (temporary sales) price. However, to the tent price perceptions are an important part of a retailer's positioning, and are derived from regular prices, retail incentives to sustain their regular prices will vary. Rigidities in both transaction and regular prices should therefore be a function of store positioning. In exploring this, we also attempt to go beyond the traditional measure of rigidity that uses frequency of price changes, and consider additional dimensions like magnitude and direction. We find surprisingly high levels of rigidity and significant variation across store types.

2 - Offering Low Price Guarantees To Improve Customer Retention

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Eitan Gerstner

Major retailers in the USA offer Money Back Guarantees (MBGs) under which they return money to dissatisfied customers. Some of these retailers also offer Low-price Guarantees (LPGs) under which they promise to refund price differences if buyers find a lower price after purchase. Past research has addressed these two marketing tools separately. In this paper we address the use of MBGs and LPGs together as tools that reduce customers dissatisfaction. While MBGs have traditionally been considered as a tool to reduce consumer dissatisfaction with the product, we take into account the possibility that the consumer may also return a product with an MBG due to dissatisfaction with price when a lower price is found elsewhere after purchase, with the customer getting a reimbursement through the MBG and then repurchasing at the low-priced store. When this type of post-purchase price dissatisfaction occurs, an LPG can offer an alternative way for the consumer to receive the lower price and at the same time reduce hassle costs, improve customer satisfaction, and allow the retailer to retain its customer. Some researchers have argued that LPGs should be legally challenged because they limit price competition and contribute to higher prices. This paper shows that adding an LPG to an MBG can help improve economic efficiency as both retailer loss and customer hassle costs from excessive returns are reduced. This reduction serves as a counter argument against those who believe that LPGs should be prohibited.

3 - Price War: What is it Good for?

Harald van Heerde, Professor of Marketing, Tilburg University, P.O. Box 90153, Tilburg, 5000 LE, Netherlands, heerde@uvt.nl
Els Gijsbrechts, Koen Pauwels

Retail price competition has become increasingly intense in recent years. Hard discounters such as Walmart, Aldi and Lidl are challenging traditional retail formats at both sides of the Atlantic. In the Netherlands, over 52% of households frequently shopped at hard discounters Aldi or Lidl in Fall 2003, up from 30% in 2001. If traditional retailers engage the hard discounters by lowering prices, a price war may unfold rapidly. Despite much business press and some academic research attention, it is unclear how a price war affects the major components of retailer performance: store choice and basket size. The unprecedented supermarket price war that has started in the Netherlands in Fall 2003 represents an ideal opportunity to analyze these issues. Based on detailed consumer panel data, we analyze the impact of this price war on 6 major Dutch retailers over the period 2002-mid 2004. Preliminary results indicate that the price war pioneer succeeded in its objective of re-attracting customers who had switched to discounters. However, this success comes at the cost of decreased basket sizes and increased price sensitivity. Because of fast competitive reactions, the price war pioneer remains relatively pensive, and thus suffers from the increased price sensitivity. In the end, the price war appears a med blessing for the pioneer: while the growth of hard discounters is halted, the price war-induced increase in price sensitivity has unexpected adverse effects.

4 - Price Matching by Vertically Differentiated Retailers: Theory and Evidence

Sridhar Moorthy, University of Toronto, 105 St. George St., Toronto, ON, m5s3e6, Canada, moorthy@rotman.utoronto.ca
Xubing Zhang

This research amines vertically-differentiated retailers' incentives to offer price-matching guarantees. It shows that when retailers are sufficiently differentiated on a vertical dimension such as service, lower-service retailers have a greater incentive to offer price-matching guarantees than higher-service retailers. In our theory, offering a price-matching guarantee and not offering a price-matching guarantee are both signals of a retailer's service-price profile, a way of branding the retailer. The signals are credible because, whereas the low-service retailer has an incentive to use such a guarantee to reach uninformed consumers who are price-sensitive, the high-service retailer has a dis-incentive to use one given that it doesn't want to delegate its pricing decision to a lower-service, lower-price retailer (and sacrifice margins on service-sensitive informed consumers in the process). In an empirical part of the paper we use data from a sample of Canadian retail chains and verify this prediction, even after accounting for size differences among the chains. In addition, as the intensity of competition a chain faces increases, this disparity in incentives becomes even more pro-nounced, suggesting that price-matching guarantees are used as competitive tools, and not as collusive tools as the literature has often implied.

TD13
Room 421
Response Functions

Chair: Sonke Albers
Professor of Innovation and Marketing,
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1 - Optimal Integrated Marketing Communications in a Stochastic Monopoly Market

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Suresh Sethi

Firm frequently utilize multiple communications instruments, for ample, advertising through multiple media, to reach their target audience. Interaction between these instruments suggests that firms should use Integrated Marketing Communications (IMC) to take advantage of the synergy between them. We present an IMC model of advertising spending decisions in two different media. We account for stochastic disturbances in the relationship between advertising and sales. Explicit closed-loop solutions of the optimal advertising and market share are obtained, and comparative statics are presented. We discuss the impact of synergy on advertising budgeting and allocation.

2 - Consumer Dynamics and Optimal Price-Quality Trajectories for Durable Goods

Guilherme Liberali, Visiting Scholar, UFRGS/UNISINOS and University of Iowa, 326 Finkbine Lane apartment 9, Iowa City, IA, 52246-1710, United States, liberali@atas.unisinos.br
Thomas Gruca

The prices of durables often go down over time (Bayus, 1992; Kalish, 1988; Besanko and Winston, 1990). However, as consumers use a product, their willingness to pay for its replacement may change, as a result of sensitization and habituation (Wathieu, 2004), feature fatigue (Thompson, Hamilton and Rust, 2005) or sensitivity to product improvements (Nowlis and Simonson, 1996). When consumers' preferences (such as willingness to pay) change based on their experience with a good, so may the optimal marketing mix. We develop a model to examine how the dynamics of consumer preferences, resulting from past purchases, impact the profit minimizing price and product performance level for a monopolist. We use a dynamic logit demand model with quadratic variable product costs. We find that, in markets where consumers have sensitization-habituation preferences and replacement is based on performance, the optimal strategy is to slowly increase quality, while substantially increasing price. However, eventually the profits collapse drastically, when consumers' sensitivity to price stop falling (habituation phase). This may indicate the emergence of the conditions necessary for a disruptive innovation to take-off. When consumers have sensitization-habituation preferences and replacements are basedon lower prices, the optimal strategy is to keep prices steady, while minimizing profits by a cost reduction strategy. This model is applicable to industries characterized by fast-changing preferences, such as high-tech consumer products (e.g. DVRs, PDAs, notebooks and stereos). It help us to understand how major changes, such as market disruption (Christensen, 1997), result from the dynamics of consumer preferences.

3 - Investigating Market Dynamics by Dynamic Impulse Response Functions

Shijin Yoo, Assistant Professor, Singapore Management University, 489 Bukit Timah Road, Singapore, 259756, Singapore, sjyoo@smu.edu.sg

Markets evolve. New competitors enter the market; the consumer's preferences change over time; and the firm's marketing policy also differ depending on market conditions. Persistence modeling based on the vector autoregression (VAR) has been successfully applied to plain the market dynamics. Impulse response functions (IRF) are derived to investigate how one variable (e.g., sales) responds over time to changes of another variable (e.g., advertising). However, conventional IRF analysis may not fully represent the dynamic nature of the market, since it is based on fed VAR model parameters. For ample, if the market condition during the observation period changes over time (e.g., due to a new product introduction or marketing policy shifts), IRFs in the beginning of the observation period may be different from those in the end. This paper introduces dynamic impulse response functions (DIRF) derived from the varying parameter vector autoregression (VPVAR) model as a tool to investigate such market dynamics. In an empirical illustration in the yogurt category, the proposed model is applied to amine the dynamic relationship between sales and price promotion after a new brand (Nordica) introduction. The DIRF analysis reveals that the long-term sales impact of price promotion of an incumbent brand (Yoplait) is affected by the Nordica entry, and that the impact of the new brand's price promotion on trial purchases is significant but gradually decreases over time, while the impact on repeat purchases is not significant throughout the observation period.

4 - Near-Optimal Rules for Allocation of a Marketing Budget with Stochastic Response Functions

Sonke Albers, Professor of Innovation and Marketing, Christian-Albrechts-University at Kiel, Westring 425, Kiel, GE, 24098, Germany, albers@bwl.uni-kiel.de

In a previous presentation I have shown that for deterministic response functions an allocation across segments proportional to past profit contribution multiplied by the budget elasticity will converge to the optimum if applied consecutively over periods. The elasticity can be inferred from the difference in sales and budget over two periods. Unfortunately, the resulting values for the elasticity are stochastic if the response is stochastic and, therefore, cannot be used for cross-sectional allocation rules. Thus, more stable formulas for determining the true elasticity are investigated in order to be able to apply the allocation rule above. It will be shown with the help of a detailed computer simulation experiment that formulas based on minimum and minimum values can be used effectively together with the allocation rule. If the elasticity changes systematically over time the formula should be based only on the last n periods. Such a rule is easy to apply and will achieve better profits than an allocation proportional to past sales volume or sales relative to budget.

TD14
Room 453
Sales Force Management I

Chair: Franklin Carter
Assistant Professor, Lehigh University, College of Business & Economics, 621 Taylor St, Bethlehem, PA, 18015-3117, United States, fcarter@lehigh.edu

1 - To Motivate or Not To Motivate Your Sales Force In A New Product Launch

Frank Q. Fu, University of Houston, 375L Melcher Hall, 4800 Calhoun Road, Houston, TX, 77204, United States, qfu@uh.edu
James Hess

This analytical paper investigates the optimal sales force compensation plan in a new product launch context. Departing from extant agency theoretic framework, we examine how market conditions influence firms' decisions when customers are innovators and imitators, as suggested by the Bass Model. A myopic firm ignores the word-of-mouth effect and suffers suboptimal outcome consequently. A foresighted firm sets first period sales commissions to exploit word-of-mouth in the next period. Intuitively, one may expect that the foresighted firm should set higher commission rate than the myopic firm. However, we show that this intuition is incorrect. There exists a Demotivating Zone of coefficients of imitation in which firm is better off to set lower commission rate in period 1. In addition, when the magnitude of word-of-mouth is sufficiently large, firm should extra motivate its sales force even if this means negative profits in period 1. The expected net profit grows dramatically in period 2, more than compensating for the loss in period 1.

2 - When Control Systems Collide In Sales Teams: A Contingency Perspective

Brian Murtha, Georgia Institute of Technology, 800 West Peachtree St., Atlanta, GA, 30332, United States, brian.murtha@mgt.gatech.edu
Goutam Challagalla

It is fairly common to have different individuals on a sales team governed by different controls systems. For instance, some members of a sales team may be primarily on output controls while others may be primarily on behavior controls. Surprisingly, the consequences of having different individuals on a sales team on different controls are yet to be examined. Moreover, it is not clear whether sales teams will perform better if members are on similar or on different control systems. The present study bridges this important gap in the literature by suggesting that heterogeneity of controls in a sales team may enhance performance more than homogeneity of controls, but at an affective cost to team members. If control systems among team members are homogeneous, teams similar in behavioral controls may outperform teams similar in outcome controls. Furthermore, studies on teams generally consider either team mean scores or team variance scores, but not both. What happens when a sales team is high/low on behavior controls, but also has a high/low variance in control systems among its members? When taking into consideration these interacting effects, new light is shed on how the control system characteristics of a team can affect various processes within the team. Finally, we amine the temporal link (past interactions and potential future interactions) and the superordinate identity among members and how they moderate the relationship between control systems heterogeneity and team processes. Implications for team satisfaction and performance are addressed and the potential implications for managers are highlighted.

3 - Incorporating Quality of Sales Calls in Response Modeling: the Role of Mirroring and Positioning

Ying Xie, Rutgers University, 180 University Ave, Newark, NJ, 07102, United States, xie@andromeda.rutgers.edu

Companies that have multiple product categories use different salespeople to promote to the same client. The purpose is twofold. First, sales efficiency may be improved by developing a more specialized sales force for each product category. Second, use of several salespeople may capture more of the client's attention and avoid a possible "wearout" effect resulting from the client seeing the same sales rep over and over again. In the industry practices, using multiple sales reps for the same product is called "mirroring". At the same time, a sales rep often promotes more than one product during a sales visit, and the sales effort and time is differentially allocated across these products. The first product promoted is usually promoted the most and is called "primary", the next product promoted is "secondary", and the last and least promoted product is called a "reminder". Practitioners call this differential allocation of sales effort across multiple products "positioning". While the empirical promotion response literature documented the effect of sales calls on a client's purchase decision, most o the studies focused on the quantitative aspect of sales calls, i.e., the number of sales calls in a given time period. In this paper, we explicitly incorporate the qualitative features of sales calls, i.e., "mirroring" and "positioning", into the sales response model and estimate the model using data provided by a major pharmaceutical company.

4 - The Use of Information Collected by Sales Representatives to Develop a Call Attractiveness Model

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Ravi Chitturi

To a large tent, sales representative's effectiveness depends on the amount and quality of the market information available to them. This is especially critical when introducing a new product where the salesperson uses this

information to rank order accounts based on potential of purchasing the new product. In the pharmaceutical industry for ample this ranking is accomplished by using contacting the highest volume offices based on patient activity or prescription volume in the product category. Although they are not always easy to disentangle, these information gathering and processing activities on one hand, and the effective contact time devoted to selling to clients and prospects on the other, vie for the limited time resources available to a salesperson. To that end, this study investigates the feasibility of developing a Call Attractiveness Model (CAM), that quantifies the impact of the information gathered by sales representatives. Utilizing a negative binomial model (NBD) two models are estimated. The first model includes only the time invariant covariates only (CAM-IC), such as individual characteristics reported by representative are used as regressors. The second model (CAM-VC) with both time invariant and time variant covariates, such as advertising, promotional activities, and pricing as regressors. The models are calibrated using a data set from a physician panel of 150 Physicians prescribing 8 drugs products in the ace inhibitor category. To test the predictive validity of the models a holdout sample of a product introduced into the same category. The results of the two models are compared to the two current methods ranking physicians. Our results indicate increased revenues when using the CAM model over the current methods.

Friday, 8:30 - 10:00am (Session A)

FA01
Room 130- Auditorium
Practice Prize I

Chair: Gary Lilien
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1 - Quantifying and Improving Promotion Profitability at CVS (8:30am)
Kusum Ailawadi, Associate Professor, Tuck School at Dartmouth, 100 Tuck Hall, Hanover, NH, 03755, United States, kusum.ailawadi@dartmouth.edu
David Trounce, Jacques Cesar, Bari Harlam

Like many high-low retailers, CVS, a leading U.S. drug retail chain, makes approximately 30% of its sales on some kind of consumer promotion. But, a large proportion of these promotions are not profitable. In this large-scale study of promotion effectiveness we (1) decomposed the immediate sales bump of each promotion offered by CVS during the year 2003 in any of its 4,400 stores into switching, stockpiling and primary demand components and estimated its net sales and margin impact, and (2) related this impact to a wide range of promotion, brand, category, and market characteristics to understand how promotion effectiveness varies with these characteristics, so that this analysis could be used as an input to decisions about which brands and categories to promote, how much, and in which markets. To validate our work, we designed and implemented a controlled field test to assess the sales and margin impact of discontinuing promotions in 15 product categories where our analysis showed that promotions consistently had negative margin impact and only a small positive net sales impact. A projection of the results from the 13-week test in 350 stores to a 52-week period chain wide showed a net sales loss of $7.8 million, which is less than 0.1% of total revenue but a net margin gain of $52.6 million, which is highly significant for the company. CVS is now implementing these changes chain-wide and investing the margin savings in re-setting its everyday prices.

2 - An Assortment-Wide Decision-Support System for Dynamic Pricing and Promotion Planning (9:15am)
Martin Natter, Professor, WU-Wien, Nordbergstrasse 15, Vienna, A, 1090, Austria, martin.natter@wu-wien.ac.at
Alfred Taudes, Andreas Mild, Thomas Reutterer

This paper reports from a large-scale practical implementation of marketing science models to solve problems in the field of revenue management. The prices of a large subset of articles from a do-it-yourself retailer were automatically optimized by the application of reference price models. A large positive impact on profits was achieved. The models used at a more advanced stage of implementation also lead to a considerable increase in sales. Currently, thousands of separate models for different countries are estimated at the article level every month and are provided to the store managers using a fully automated workflow.

FA02
Room 238
Advertising Effectiveness

Chair: Norris Bruce
Assistant Professor, Marketing, University of Texas at Dallas, P.O. Box 830688, SM32, Richardson, TX, 75083, United States, Norris.bruce@utdallas.edu

1 - On The Use of Expectations Data to Estimate the Effects of Advertising
Tat Chan, Assistant Professor in Marketing, Washington University in St. Louis, Campus Box 1133, One Brookings Drive, St. Louis, MO, 63130, United States, chan@olin.wustl.edu
Barton Hamilton, Christopher Makler

In product categories with short product life-cycles, such as theatrical presentations with only one or two performances, estimating the effect of advertising on sales is difficult. Large quality variations may exist among products that generate big differences in market demand. Before a product is introduced into the market, managers may have some prior belief of market demand and use this information in choosing a marketing strategy. This introduces a classic endogeneity problem to empirical researchers when studying the effectiveness of marketing variables. The typical solutions to this endogeneity problem rely on the IV method or on estimating product specific fed effects. However, for products with short product life cycles it is often difficult to find good instruments for the IV method, or the long time-series or large cross-sectional data necessary for finding fed effects. We propose a solution to this problem for cases in which data on managers expectations (e.g., sales projections) is available. In such cases, this data can be used to provide information to control for the unobserved parts of the demand system that cause the endogeneity issue. We apply this method to a novel dataset on ticket sales and advertising expenditures for a large performing arts presenter, and find estimates of the effectiveness of advertising spending on ticket sales which differ significantly from those found with the IV method. A Monte Carlo simulation shows that our method dominates the IV method, even when good instruments are available, if the sample size of the data is relatively small.

2 - Advertising Strategies for New Product Diffusion in Regulated Markets: Propositions and Analysis
Sanjeev Swami, Assistant Professor, Indian Institute of Technology Kanpur, Faculty Bldg. 3rd Floor, Dept. of Industrial and Management Engg., Kanpur, UP, 208016, India, sswami@iitk.ac.in
Arindam Dutta

We develop advertising strategies for a monopolist decision maker under the following situation. The decision maker has a new product for which demand exists in a regulated market. However, since the market has not been opened up, the primary channels for distribution do not exist for consumers in the market. Therefore, the consumers are compelled to rely on secondary channels such as acquaintances residing in open markets abroad. The current research seeks to answer the following questions:

- Does it pay to advertise for the product before the market opens?
- If yes, then how long before should advertising begin?
- Should there be any difference in advertising levels before and after the market opens?
- What is the effect of various parameters (such as the likelihood of product adoption for the primary and secondary channels, market potential, coefficient of innovation and imitation etc.) on the optimal advertising policies?

The above problem has practical relevance for the kind of situations faced by Japanese electronics goods manufacturers advertising in Indian market

before deregulation (1991). The model can also be applied to a situation faced by a company which has regional presence in one part of a country, and can obtain access to another part only after some time (e.g., telecommunication companies). The problem is modeled as an optimal control problem and relevant propositions are developed. Following the optimal control methodology, we develop analytical derivations to propose normative advertising policy recommendation. Numerical examples are provided to illustrate the results.

3 - Assessing Short-term Effectiveness of TV Advertising via the Propensity Score

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Shigeyoshi Takemura

Effectiveness of TV advertising on sales or consumer purchase behavior is one of the intensively debated issues in marketing science. Particularly, its short-term effects have been recognized to be very difficult to prove at least before Jones (1995) proposed a very simple approach named Short-Term Advertising Strength or STAS that just compares market shares between ad-exposed and not-ad-exposed households. Although this approach is not necessarily supported by marketing scientists since it does not account for other critical factors (e.g. price or sales promotion) affecting consumer purchase, it is appealing to practitioners due to its intuitively understandable way. So, keeping this beauty, we attempted to sophisticate its testing procedure so as to take into the account influences of factors other than advertising exposures. For this, we adopted the Propensity Score approach that has been used in medical science or economics to infer causality between treatments and effects (Rosenbaum and Rubin 1983, etc.) We applied this method to a relationship between TV ad exposure and purchase of instant coffee within a week, recorded in a single-source data as well as other marketing activities (price, sales promotion, etc.). The comparison to the results from conventional STAS or logistic regression shows that the Propensity Score can detect TV advertising effectiveness more sensitively than those approaches do; in other words, the conventional approaches may underestimate the effectiveness of TV advertising.

4 - A Dynamic Bayesian Model of Advertising Copy Effectiveness in a Telecom Industry

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B.P.S. Murthi, Frank M. Bass, Sumit K. Majumdar

Models of advertising effectiveness have studied the effect of advertising expenditure or advertising exposures on sales and on other consumer attributes, such as, awareness and attitudes. These models generally treat advertising as one entity and implicitly assume that the entire advertising budget is spent on disseminating one message. In practice, managers use different themes of advertising (e.g., price ads versus product ads) and within each theme they employ different versions of an ad. An important issue that has not been investigated is the effect of different thematic ads on demand. In this study, we extend prior advertising models to study the dynamic effects of different themes that have been employed in a campaign. We develop a model that considers five advertising themes and estimate the interaction effects between the different themes. We estimate the parameters of the model using Bayesian dynamic linear models (West and Harrison, 1998) and show the differences in wearout and goodwill across different thematic executions of ads. The model can help managers decide on the optimal allocation of resources across the portfolio of ads as well as better manage the scheduling of these ads.

FA03
Room 234
Analyzing Clickstream Data

Chair: Wendy Moe
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1 - Clickstream Analysis of Web-Based Adaptive Experimentation with Dynamic Heterogeneous Markov Models

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One key function of websites is to reduce the costs of customer service. For example, many of Intel's products require software drivers. Intel would like to provide better customer service less expensively by making it easy for customers to find and download the correct driver without contacting customer support. If Intel were successful for all such requests, the savings would total millions of dollars. We designed, implemented, and analyzed experiments on Intel's website to enhance the success of driver downloads. The strategy was to develop trust with the customer through pictures, audio, and wizards and, with that trust, to help the customer find and download the proper drivers. In each experiment a trust-enhancing feature was added to a test website, but not to a control website. Respondents requesting drivers were directed randomly to either the test or control website and their clickstream history was recorded. The specific experiments were: trust seals, navigation tips, a wizard, a persona, a talking persona. Because each additional trust cue could enhance downloads, Intel chose to implement the experiments sequentially. Thus, each experiment could be analyzed cleanly as a stand alone experiment. However, we gain more power by recognizing the sequential nature of the experiments. In our analysis we build on Montgomery et al (2004) for the analysis of clickstream data. That is, we develop a dynamic hierarchical Bayes model that takes memory into account. Memory is important in our context because the early pages in a customer's website visit, should have carry-over impacts on subsequent page transitions. We compare our dynamic analysis (incorporating heterogeneity) to more-traditional logit analysis that measure the aggregate impact of the experiments.

2 - Online Behavioral Loyalty: Modeling from the Macro Perspective

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In the area of behavioral loyalty study, the distinction between "monogamous" and "polygamous" loyalty has been discussed (e.g., Dowling and Uncles 1997, Ehrenberg and Scriven 1999). Given these concepts, however, there is no established model that simultaneously analyzes these two concepts of behavioral loyalty. In the mean time, as Internet users' online behaviors have seen modeling efforts in recent years (e.g., Bucklin and Sismeiro 2003, Johnson et al. 2003, Park and Fader 2004), most of the related works focus on the site-centric "micro" level, few if any look at the "macro", market level. To fill these two gaps, this research proposes a model for the analysis of behavioral determinants of both monogamous and polygamous loyalty in web site visiting. Heckman's (1979) two-stage sample selection model is applied. At the first level, variables that explain for monogamous loyalty in web site visiting are analyzed by a Probit model. For those who are "polygamous" in web site visiting, the second level regression analyzes the degree of page view concentration across sites within a category. Gini coefficient is adopted as the measure of behavioral concentration. We use clickstream data from an online panel for the empirical study. The analytical framework is applied to 68 web site categories. Some results are counter-intuitive and indicate several interesting directions for future investigations.

3 - Should we Hope you Shopped Around? Effects of Prior Internet Search on E-Commerce Site Activity

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Randolph Bucklin

Using customer-centric Internet clickstream data, we study the effects of prior visitation to different web sites on customer behavior at a particular e-commerce site. Our goal is to assess the potential relationship between search activity at other - possibly competing - websites on the likelihood of progressing to purchase at a focal e-commerce web site. Using clickstream data for the automotive category, we classify web sites into three groups: third-party informational, transactional (e-commerce), and factory (OEM).

For the focal site, we examine the relationship between prior visitation to other sites on the likelihood of completing the vehicle configuration (analogous to shopping cart completion) that is required before submitting a purchase request. We estimate a binary choice model on the probability that visitors complete the configuration task in their first session.

We find that prior Internet search on other automotive sites is predictive of visitors' actions at the focal site. Customers who previously visited other e-commerce sites have higher probabilities of task completion. In addition, prior time spent on OEM and e-commerce sites helps to explain visitors reactions to elements of the focal site. For example, visitors who browsed certain pages were found to be more or less likely to complete the configuration task depending upon prior experience with OEM and competing e-commerce sites.

Our approach should help managers identify "friends" and "foes" among potentially competing web sites. Results also have implications for on-line retailers in site design, advertisement placement, and link exchange affiliation.

4 - An Empirical Two-Stage Choice Model with Decision Rules Applied to Internet Clickstream Data

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Researchers have long hypothesized a two-stage choice process where the consumer first selects a subset of available products to form a consideration or choice set and then, from that reduced set of products, chooses a single product to purchase. In this paper, we apply an empirical two-stage choice model to internet clickstream data which captures observed choices for two choice stages: products viewed and products purchased. The model allows for interdependences between choices within a stage as well as the use of decision rules in each stages. We accommodate heterogeneity in preferences and in decision rules. Our results provide evidence that simplified decision rules tend to be used in early stages of the decision process. Our findings also show that stage one choices are not independent of previous choices made in that stage, an assumption commonly held by other two-stage choice models as well as the consideration set and search literature. Additionally, the model provides managerially actionable results that can be utilized in the promotion of products and the design of assortment displays.

FA04
Room 231
Game Theory II; Pricing

Chair: Cenk Kocas
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1 - A Price Discrimination Theory of Rebates

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We investigate the factors contributing to the effectiveness of rebate promotions by analyzing the competition between asymmetric firms through a game theoretic analysis of a market consisting of both patient and impatient consumers. In our framework, asymmetric firms optimize their price and rebate amounts and consumers choose the products that maximize their expected utilities. We find that the equilibrium characterization of this game critically depends on the asymmetries in the competitive position of the firms. When the firms are highly asymmetric in cost or quality, only the disadvantaged firms will rebate. When the asymmetries are small, pooled equilibria will result. We support this finding with s-month daily price and rebate data on printers, fax machines, digital cameras and phones. Consistent with the theory, our empirical results show that higher brand equity firms are less likely to offer rebates and products that are technologically superior are less likely to be rebated. Furthermore, the decision to offer a rebate appears to depend on whether competing firms offer rebates at the same time.

2 - Another Look at Price Promotion

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Weekly sales at retail stores exhibit the following patterns: competing brands of the same product are featured alternatively at similar prices in different promotional periods, and the promotional prices are typically much lower than the regular ones. The existing game-theoretical literature on price promotion predicts price randomization of all brands on a continuous price support and thus fails to capture the above patterns. In this paper we resolve this incompatibility by allowing differences in reservation prices across different consumer segments. In equilibrium, the manufacturers either randomize among sufficiently low wholesale prices or charge the regular price, while the monopolistic retailer only offers price promotion on the brand with the lower wholesale price. It is also shown that, when the retailer has more power than the manufacturers, there will be less price promotions and average prices are higher, as compared to the resale price maintenance case. We also examine the different welfare effects under resale price maintenance and under the case of a powerful retailer.

3 - Edgeworth Cycles in Competitive Promotional Strategies: An Experimental Study

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Paul R. Messinger

We examine the applicability of Narasimhan's (1988) med-strategy equilibrium to business situations involving repeated interactions. In such repeated contexts, it is natural to consider whether dynamics come into play-particularly since the actions taken in the last period provide a natural focal or reference point, which might anchor and influence subsequent play. An important economic theory of dynamics consists of Edgeworth cycles wherein prices descend over time, followed by a jump back to the top of the range. By contrast, an important behavioral theory with dynamic (as well as static) implications derives from considerations of perceptions of fairness in previous periods. We accordingly test whether humans use med strategies, as predicted by theory, and the extent to which the predictions of economic and behavioral theories of dynamics are descriptive of outcomes of more realistic repeated game interactions in a laboratory setting. Under a symmetric treatment condition, our results are consistent with theoretical static predictions on the basis of mean price data (although the variance tends to be larger than predicted). For two asymmetric treatment conditions, mean observed prices are lower than predicted, which suggests that asymmetric conditions may lead to more destructive competition than symmetric conditions. We also find serial correlation in the majority of cases for all treatment conditions, which is not predicted by the med-strategy equilibrium. In particular, subjects often vary their prices over time in cyclical "sawtooth" patterns consistent with Edgeworth cycles. When direct communication is allowed, as expected, we observe this cyclical pattern to a lesser extent with prices generally higher.

4 - Price Promotional Strategies For Traffic Generation and Cross Selling

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In this study we analyze the pricing strategies of competing retailers that generate traffic through price promotions and profit from cross selling of items in a general shopping basket. The general case under investigation is similar to the case of loss leaders. However, rather than considering loss leaders that generate traffic for all other products for which no price comparison is made, we focus on a set of products all of which can generate traffic. Hence, the general assumption that the retailer sets a low price for the loss-leader item and prices the other items at the consumer's reservation price (Hess and Gerstner (1988) and Lal and Matutes (1994)) is no longer valid because it does not constitute an equilibrium. The case in point is bookselling; bestseller books are frequently priced much lower than regular books, yet they are not the only traffic generators to booksellers. We work with a stylized duopolistic model of retailers each of which sells two identical homogenous products. For various cross selling profiles, we analyze the pricing problem and analyze the equilibrium solution. The resulting pricing strategies as they are portrayed by the equilibrium solutions are the main contributions of this work. Consecutively, we also provide a traffic generation explanation to the retailing strategy of offering price promotions.

FA05
Room 201
Topics in Pharmaceutical Marketing

Chair: Murali Mantrala
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1 - When and how to Introduce a New Product? The Case of Pharmaceutical Drugs

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Marketing a new drug is a big challenge for any pharmaceutical firm. Typically, pharmaceutical firms adopt a roll-out strategy, wherein the firms target leading doctors or hospitals and convince them to adopt the product. After they adopted it, the firm would use those adoptions to gradually influence the other doctors. In this strategy, the market adoption of the new drug takes place over time, but the firm learn from initial doctors' responses and accordingly modify their brochures and sales rep approaches. Of late, however, due to impending and quicker competitive entry, the firms have started targeting a larger number of doctors right from the introduction time, hoping to make a wide majority of the doctors adopt the drug before a competing drug comes in. This strategy however necessitates the firms to be extra careful in ensuring the efficacy of the drug (i.e. carry out more trials, for example) and spend more time and dollars in planning their selling efforts. In other words, the time of launching gets delayed and more dollars are spent in approaching a larger number of doctors. Sales reps do learn from some initial adopters and use the info. but the extent of that usage is reduced because each doctor would have been learning from his/her own experience also. Thus the impact of the change in introduction strategy is not obvious. In this research, we study the impact and come up with recommendations for the pharmaceutical firms.

2 - Measuring the Effects of Peer Influences on the Prescription Behavior of Physicians

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Manohar Kalwani, Tolga Akcura

Pharmaceutical firms spend quite heavily on sampling and detailing. Recently, they have also begun to realize the importance of social factors in the prescription behavior of physicians. Specifically, a physician's choice of a particular drug may be influenced by social interactions such as peer networks apart from marketing m variables (e.g., sampling and detailing). For example, a physician may rely on the judgment of other physicians belonging to her peer group to gather additional information regarding the efficacy of a certain drug. In this paper, we develop an individual level dynamic spatially autoregressive (SAR) model to investigate how physician prescription behavior is affected by peer influences. This individual level analysis enables us to identify the physicians with different responses to peer influences which are estimated through a Hierarchical Bayes method. We find that the relative magnitudes of peer influences are greater compared to other elements of the marketing m such as detailing and sampling. Moreover, the effects of the peer influences vary with the nature of the drug and the geographic region. This research can aid managers in developing appropriate tools for use in "peer influence" programs, thereby enabling them to allocate their promotion budget efficiently.

3 - Effects of Generic Drug Launching on the Competitors of the Same Category: The Case of Prozac

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Shantanu Dutta, Catarina Sismeiro

Competition from generic drugs is an increasingly important phenomenon in pharmaceutical markets and affects directly and indirectly a growing number of drugs. Though previous studies have analyzed the impact of generic entry on the drug losing patent protection, it is not clearly understood how generic entry affects all the competing molecules in the category. In the present study, we analyze how patent expiration for Prozac (Fluoxetine hydrochloride) affected the generation of new prescriptions for all the drugs in the Selective Serotonin Reuptake Inhibitors (SSRI's) subcategory in the UK. As predicted by economic theory, after generic entry the price of Fluoxetine is drastically reduced (about 40%). In addition, Eli-Lilly, the manufacturer of Prozac, quickly reduced detailing efforts on Prozac. We analyze the behavior of a panel of 170 physicians tracked over three years. The data collected include, for each physician, the drug prescribed for each new patient and detailing visits by all competing firms, before and after patent expiration. Our modeling results indicate the importance of introducing consideration of drugs into models of physician drug choice. We also find two segments of physicians that react differently to the introduction of the generic Fluoxetine. Physicians who were previously "heavy-users" of Prozac reduce the use of Fluoxetine (Prozac and its generic versions) and increase the usage of competing molecules. The "light-users" of Prozac increase Fluoxetine prescriptions while decreasing the prescription of competing molecules. These results suggest that detailing might be especially effective in maintaining the relationship with "loyal" physicians while the effect of the price cut would dominate in the segment of "light-users".

4 - Optimal Launch-Timing of Over-the-Counter Versions of Prescription Drugs

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Gila Fruchter

Prescription (Rx) drug to Over-the-Counter (OTC) drug switching is an important product lifecycle management option for an Rx drug reaching the end of its patent life. The significance of this option has been enhanced with the U.S. Food and Drug Administration's recently announced intention to expedite and increase Rx-to-OTC switches by 50 percent. A key strategic decision for the pharmaceutical company is whether to introduce the OTC version before or only after Rx patent expiry. This decision must weigh the Rx drug brands positive spillover effects on the growth of the OTC version against the cannibalization of the Rx drug sales by the OTC drug. Conventional wisdom suggests that the OTC version of the Rx brand must be launched close to the patent expiry date. However, to date, there is no normative analysis to guide this decision. This research develops models of the evolution of Rx and OTC drug demands and investigates optimal Rx-to-OTC switch timing utilizing optimal control theory. The analysis derive the necessary and sufficient conditions under which it is optimal for a monopoly firm to launch the OTC drug before the Rx patent expires. Our results are expected to be of significant value to pharmaceutical executives, insurers, and regulators.

5 - Firms' Strategic Innovation Decision and Consumer Behavior in Pharmaceutical Industry

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Paris Cleanthous, Dick Wittink

This paper measures the effect of firms' strategic decision to innovate on consumer welfare and the expected rate of return from innovation. The considerable difference between innovation and imitation activities in inducing consumer welfare and expected rate of returns on innovation proves that pharmaceutical firms' strategic innovation decision has more extensive impact than imitation, such as generics and me-too drugs. Such recognition provides new perspective on optimal strategic decision of firms as well as public policy and broadens their scope of implementation. Although, social welfare and firms' strategic innovation decisions are closely related through firms' innovation activities, their relationship is still left unexplored surprisingly. In this paper, by measuring their relationship, we reveal how firms' strategic decision shapes the overall demand structure and the consumer benefit.

FA06
Room 204
Learning and Uncertainty

Chair: Eric Eisenstein
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1 - Task Specific Thinking Style: Measure Development, Validation and Application

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Tom Novak

Two distinct categories of consumption behaviors and activities, goal directed and experiential, have been studied extensively in marketing, both in traditional physical environments and online. Hoffman and Novak (1996) argue that the distinction between goal-directed and experiential behavior is particularly important online, where consumers may alternate between experiential and goal-directed activities during a single Web navigation session. Past research views thinking style from a "trait" perspective with scales measuring thinking style as a general characteristic of an individual. Yet despite the fact that research suggests that task and priming manipulations can influence the degree to which a rational or experiential thinking style is adopted for a particular task, no scales exist to measure thinking style in the context of specific tasks, rather than as a general characteristic of an individual. Without such scales, researchers have had difficulty exploring the consequences of a "state" versus "trait" approach to the study of thinking style and its consumer behavior implications. This research addresses this deficit by developing and cross validating new scales measuring experiential and rational task-specific thinking style (TSTS) in the context of a series of eleven experimental tasks designed to induce primarily rational or experiential thinking. A congruity-based theoretical framework supports hypotheses of when individuals will use a particular TSTS in approaching a given task. Our calibration and validation results provide good evidence of reliability and validity of the TSTS scales and the support of our hypotheses. We discuss the implications of our results for dual processing theory and the influence of thinking style on task performance.

2 - Models of Miswanting and Regret of Customized Products

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Partha Krishnamurthy
James Hess

Successful customization requires consumers to accurately know what they want. Psychologists have recently demonstrated that consumers' have problems with forecasting their own hedonic reactions to product choices- they can miswant. Since consumers could have easily purchased a standard product, they may regret the customization decision not because the product has a flaw, but because they have changed their mind about what they want. We analytically model the choice between customized and standard products if consumers have uncertain preferences and may therefore anticipate self-generated regret. We ask:

1. How do regret and miswanting affect the way consumers design their optimal customized products?
2. What is the effect of anticipated regret on consumers' choice between a standard and a customized product?
3. How is the effect of regret on the choice between standard and customized products affected by the number of available standard products?

Our analytical model predicts that as regret aversion intensifies more consumers prefer the standard product, and so a standard product facing competition from a customized product can retain some market share even though it offers no price advantage. This result holds even with symmetric regrets for both the standard and customized products. Surprisingly, this tendency is mitigated when there are more standard products to choose from. Also, consumers with higher aversion to regret will design their optimal customized products to look more similar to the standard product. These findings are empirically validated in experimental tests.

3 - Purchase Decision Uncertainty: Dimensions and Implications

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Ajay Kohli

There is a long tradition of research on the uncertainty faced by buyers when making a purchase decision. The authors extend this research by arguing that buyers face many different types of uncertainty, some of which have not been investigated in the literature to date. They develop a taxonomy of purchase decision uncertainty based on two key dimensions: (i) the temporality of the uncertainty, and (ii) the issue about which buyers are uncertain. In addition, they identify buyer characteristics that predict the extent to which a buyer is more likely to accept each of the different types of uncertainties incorporated in the taxonomy. Recognizing the different types of uncertainties and their differential acceptability to different buyers is useful for firms in targeting and promoting their products and services effectively.

4 - Action-Based Learning: Goals and Attention in the Acquisition of Market Knowledge

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Three experiments are used to investigate the transfer of learning across two broad classes of decision tasks that arise when managers or consumers learn environmental relationships between multi-attribute stimuli and a continuous criterion. Prediction tasks require the decision-maker to use observed attributes to predict the exact value of a continuous criterion. Action-based tasks require a decision-maker to decide whether the observed attributes indicate that the continuous criterion is above or below a given cutoff. Learning and transfer across related tasks is likely to play a role when consumers construct consideration sets and later evaluate the considered options, or when consumers engage in price search at one price level, but are then "upsold" by a salesperson to a higher price level. This type of transfer is also common in managerial decision-making, where managers are frequently called upon to take actions and make predictions within a given environment (e.g., the low end of the product line) and then months or years later must shift to a different environment (e.g., the high end of the product line). Results reveal that neither form of learning dominates the other ñ both can be accurate and efficient or errorful and biased. However, relying on experiential learning represents a risky proposition for both managers and consumers, because in so doing, managers and consumers risk missing significant environmental relationships, overgeneralizing knowledge, and exhibiting poor transfer of learning even when task differences are small. A new attention-band model is proposed as an explanation these effects, and the model helps to delineate the circumstances under which decision-makers will be most at risk.

FA07
Room 207/208
Sales Force Management II

Chair: Vincent Onyemah
Assistant Professor, Boston University, 595 Commonwealth Avenue, Boston, MA, 02215, United States, vonyemah@bu.edu

1 - Team Selling and the Nature of Selling Tasks

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Ganesh Iyer, David Soberman

The existing literature has analyzed teams where the productive tasks of the team members are substitutable. With the effort of individual team members being not observable, there is free-rider problem. The standard insight then is that the firm, with linear sharing rule that divides the pie between the agents, can not achieve the first best output. Here, we show that if the efforts are strict complements the firm can with a linear sharing rule achieve the first best outcome. The sharing rule requires giving a larger

incentive to the agent who is the bottleneck. We also show that, with risk aversion and uncertainty in one task (bottleneck task), the firm can do better with team as compared to no team. When the tasks are multidimensional the firm can motivate the non bottleneck agent to put a higher effort that in turn increases the profit to the firm.

2 - How Control Systems Influence the Salesperson's Objective Performance: An Empirical Investigation

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Vincent Onyemah

B2B field sales forces are managed by control systems that reflect markedly different management philosophies. The Outcome Control system (OC) expresses a market-like philosophy, encouraging the salesperson to act like an entrepreneur. The opposite philosophy, the Behavior Control system (BC) is hierarchical, encouraging the salespeople to be attentive to management directives. Intermediate control systems strike a compromise. Theory offers conflicting predictions upon how these control systems influence the salesperson's performance. We match archival performance data with perceptual data from survey of 1,290 salespeople working in Africa, Europe, and North America and find a curvilinear relationship between objective indicators of salesperson performance and the control system in place. Contrary to expectations informed by extant literature, there is evidence of situations where behavior-based control systems yield better sales performance than outcome-based control systems. Further, med control systems are shown have both strengths and weaknesses which directly reflect on salesperson performance. Analysis using a varying parameter model shows that these relationships remain after controlling for the moderating influence of sales manager's personal and professional investment orientation toward the salesperson. The consequences of steering a middle ground with the aid of med control systems are investigated and discussed.

3 - A Dynamic Model for Assessing Sales Contest Effectiveness

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David Moore, Jason Garrett, Murali Mantrala

Sales contests are an important tool to motivate salespeople to achieve goals beyond those associated with regular compensation, and enhance job satisfaction. In 2000, The Incentive Federation estimated that nearly $9 billion were expended annually for travel and merchandise awards in sales contests in the US. Despite the widespread use of sales contests, uncertainty remains about their impact on sales and profits. Some critics suggest that contests lead employees to ignore other important tasks within the organization (Hampton 1970). Others say that properly designed incentive systems can be successful (Eisenberger, Rhoades and Cameron 1999). Determining the ROI of such programs is an important subject for the academic and practitioner communities. We assess the ROI of sales contests of a regional financial services company. These contests vary in design every year. Our analysis considers a multi-product sales situation and reveals an interesting pattern of aggregate sales dynamics of the focal product that involves four phases around the contest. We document and provide a model to explain the observed regularities in sales dynamics across multiple contests. Next, we model sales response for the focal product as a function of agent and market characteristics. We observe that, in general, the contests generate positive economic returns and did not adversely affect the sales of other products. We also examine the long-term impact of sales contests on baseline sales with particular attention to hysteresis. We conclude with some suggestions about how to manage this important promotion medium in a more effective manner.

4 - Salesperson Performance and Role Stress-Empirical Evidence of an Inverted-U Relationship

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Against the conventional wisdom that boundary spanning roles ideally must be devoid of role stress in order to achieve optimal performance and psychological well-being, this paper shows the contrary. This paper empirically demonstrates the existence of an inverted-U relationship between role stress and performance. This finding is contrary to what is hitherto sustained in extant literature where performance is modeled to inversely vary linearly with role stress. This paper reconciles almost four-decade old series of disparate findings. Consistent with Yerkes-Dodson law (1908) law and recent findings in the medical literature (Sapolsky et al 2000), this paper shows the existence of both functional (Eustress) and dysfunctional (Distress). Thus stress is not necessarily bad. It can engender the eleventh hour creativity which revitalizes a failing company or settles a tense dispute. Managed properly, stress can be zestful, stimulating, and growth inducing. The findings in this paper is based on the analysis of both secondary (performance) and primary data-a global survey covering salespeople working in North America, Africa, and Europe. The sampled salespeople work in different cultures, companies, sectors, and industries. This multi industry and multinational surveys is appealing because it strengthens the external validity of the model and findings reported. Initially, a comprehensive state-of-the-art review of the role stress-performance literature was carried out and summarized. The paper closes with a discussion of its findings, its implications for research and management practice, and a sketch for future research.

FA08
Room 338
Innovations II; Adoption

Chair: Elisa Montaguti
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1 - A Base Line Model for Identifying Adopter's Category (Adoption Time) with Social Character Score

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Xiaoying Zhu

With regard to adopter categorization for innovation diffusion theory, there are two schools: (1) Rogers scheme where adopters are classified by adoption time, along with diffusion time axis, into a number of categories, say five categories (Rogers 1962; Peterson 1973) and (2) Bass model and its extensions where adopters are categorized by their characteristics such as innovators/independents and imitators (Bass 1969; Van den Bulte and Joshi 2004). One of the problems that have not been solved in both approaches is that there is no practical way to identify the category that an adopter belongs before the actual diffusion process takes place. This study is basically in Rogers scheme and try to find a way to estimate an adopters adoption time that can lead to identify adopters that fall in a certain time period. First, we look at construal of self and adopted a socially independent personality-socially interdependent personality test as a personality measure (=social character score) for this study. Then, we hypothesized that the higher social interdependence (higher the score) is, the slower the adoption time is. Finally, we estimate the adopters adoption time using a regression model with a set of variables including the social character score. This method can be applied to either Rogers like normal distribution of adoption times or nonnormal distribution. Although we consider this as a preliminary base line model, we believe that this opens up the way to develop a practical model with some additional product specific variables.

2 - Consumer's Willingness to Embrace Mobile Commerce: Technology Adoption Perspective

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Dena Hale

Wireless technology has been proclaimed as one of the gifted innovations of the last decade. This emergence of wireless technology, such as mobile-commerce (m-commerce), has generated extensive eagerness among both practitioners and academics. However, what appears to be deficient in the marketing literature is a clear understanding of the motivation surrounding

the mobile device's use and adoption from consumer's perception. Drawing on insight from the extant literature and extensive qualitative research on consumer's reactions to technology adoption, this article examines the factors that enhance consumers' willingness for embracement of m-commerce devices. An exploratory research was carried out to unearth the key factors affecting the use and adoption of m-commerce devices, thereby extending theory in the area of the technology acceptance model (TAM). This study provides a deeper insight into what is needed for consumers to accept the newly emerging m-commerce technology. TAM and Diffusion of Innovation theory have identified some of the important factors, such as ease of use, compatibility, relative advantage, and complexity (Kleijnen, de Ruyter, and Wetzels 2003) that help explain the adoption of m-commerce. This study has identified other factors in additional to those explained by TAM and diffusion theory. This research was conducted by means of a questionnaire. Multi-item scales were employed based on previously published scales. A final sample of 215 respondents was screened for actual analysis. The results indicate that technology self-efficacy, functionality, and knowledgeability were some of the important predictors of adoption of m-commerce in addition to those presented by TAM and diffusion theory.

3 - Grasping Innovation Adoption by Understanding its Process; Modeling the Drivers of Adoption Stages

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Ruud Frambach

Most consumers pass through several stages before deciding upon adoption or rejection of an innovation. In studying the drivers of innovation adoption, the literature has predominantly focused on the adoption decision rather than on the process underlying it. This severely limits our understanding of the factors that either stimulate or inhibit consumers to pass through to the final (i.e. adoption) stage. The objective of this study is to gain insight into the factors that affect the different stages of the adoption process rather than those affecting the adoption decision alone. We investigate potential drivers of the adoption process beyond the innovation characteristics and adopter demographics that traditionally have been studied. Based upon insights developed in the consumer behavior literature, we model how perceived financial, functional and psychosocial consequences of the potential adoption of an innovation affect consumer decision making in each separate stage of the process. In doing so, we apply the multilevel thresholds of change model (MTCM), a statistical model new to marketing that allows for different effects at different levels of an ordinal outcome. The model is tested empirically among a sample of 1200 consumers on the adoption of four innovations. We find that adoption drivers affect decision making within subsequent stages of the adoption process in an importantly different way. Theoretically, this study points at the importance of considering adoption as a process. Managerially, the implications of this study help design more effective marketing strategies for innovations and as such contribute to improved predictions of innovation adoption.

4 - Adoption of Ethical Drugs: The Role of User-Agent Interaction

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Phil Stern

This paper aims to investigate the role of dyadic behavior in the context of adoption of ethical drugs. Several models for forecasting sales of ethical drugs are available (Rao, Yamada 1988; Lilien, Rao and Kalish 1981), but these models fail to recognize the need for accounting for the role of the interaction between doctors and patients in new drug adoption. In recent years, the increasing availability of information has reduced information asymmetries between patients and doctors, as a result the decision to try and repurchase a drug is often the outcome of a negotiation between patient and doctor. To account for this effect, Ding and Eliashberg (2002) have developed a model that incorporates the effect of the doctor-patient joint decision process in the context of the adoption of new drugs. To do so, the authors used aggregate data on four different drug classes. Our study aims to extent this model by using individual level data on new drug prescriptions. A panel of Family/General Practitioners prescriptions of five sequentially launched brands from a single drug class (i.e. corticosteroid) is used for the empirical analysis. The data refer to the UK market for a period of twenty two months. Data on doctors' and patients' individual characteristics are available. Finally data on detailing activity are recorded. Our results indicate that the role of doctors in the joint decision process changes over time and, in particular, before and after the patients' new drug trials.

FA09
Room 334
Auctions II

Chair: R Venkatesh
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1 - Autonomous Agents for Search Engine Marketing

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Parameshvyas Laxminarayan, Benjamin LeBlanc

Search Engine Marketing is an innovative, new and effective form of marketing. From nothing in 2000, in just four years, IAB estimates that search engines now account for 40% of online advertising. The reason for this growth is that Search Engine Marketing works - a confluence of factors have combined to make Cost Per Acquisition in search very low compared to other mediums (PiperJaffray). Despite its success, Search Engine Marketing (SEM) has been approached as more of an art than a science. In this article we provide an overview of our attempts to develop mathematically sound, autonomous systems for SEM. As one example, we describe a system that buys paid advertising on search engine auctions. This problem is a little like traditional T.V. advertising in which time slots need to be purchased in order to maximize some objective. However, in search engines the system bids on thousands of advertisements, predicts consumer behavior in hundreds of positions and solves a large constrained optimization problem in order to identify what positions to capture each hour up to 1 week in the future. We have many customers who have achieved excellent results with our system. In one case, a major US insurance company increased policy applications from 51 per week to 187 per week, whilst dropping Cost Per Application from $432 to $127. Our discussion is peppered with amusing insights and case studies showing our experiences in this interesting medium.

2 - The Buyer-Determined Multi-Attribute Auction- An Experimental Investigation

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Price-based reverse auctions are auctions in which the lowest price bidder wins. Multi-attribute reverse auctions are auctions in which non-price attributes affect the determination of the winner. The literature on multi-attribute auctions is sparse and typically assumes that non-price attributes are costly and endogenous to the firms. In the class of auctions we study, which we call "buyer determined auctions", we allow for bidders with exogenous qualities to compete on price. Though bidders know their own qualities, they do not observe other bidders' qualities. In the dynamic version of this auction, the winner is only declared at the very end of the auction. We investigate the impact of increasing the number of bidders on buyer surplus and on the relative ranking of buyer-determined vis-á-vis price-based auctions in sealed bid settings. We then extend our investigation to dynamic settings and study a buyer-determined reverse English auction as well as a form of a reverse auction with a transformation of the bids to the bidder score space.

3 - Seller Strategies for Auctioning Multiple Products

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Peter Popkowski Leszczyc, Paul Messinger, Gerald Haubl

Sellers intending to put multiple products up for auction are interested in

choosing the optimal (i.e., profit-maximizing) format for auctioning that set of items. An important aspect of this decision is whether to sell a set of products via separate auctions (one for each item) or as a bundle in a single auction. The focus of this paper is on comparing the profitability and efficiency of separate auctions of two products to that of a single auction of a bundle consisting of these two items. To that end, we identify conditions under which a single auction of the bundle dominates separate auctions of the component products. We add to previous research by systematically examining the impact of (1) the degree of complementarity between the component products, (2) the extent of heterogeneity in bidders' product valuations, (3) the amount of correlation of bidders' valuations among the component products, and (4) the number of bidders both on optimal bidding strategies and on the relative profitability of a single auction of the bundle versus separate auctions of the components.

4 - Multi-Object Auctions of Complements or Substitutes: The Optimality of Bundling vs. Sequencing

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Ramanathan Subramaniam

Although many auctions such as of celebrity memorabilia and telecast rights for the summer and winter Olympics involve complements or substitutes, the overwhelming focus of the literature has been on auctions of individual objects. We develop a normative model to examine optimal auctioning and bidding strategies for such interrelated objects. Our seller seeks to maximize revenues from offering one unit each of two objects to a pool of strategic bidders in a second price sealed bid auction format. Our study addresses the following questions: (i) Is the seller better off auctioning the objects as a bundle or sequentially, as individual objects? How are the decisions affected by the degree of interrelatedness between the objects, the size of the pool of strategic bidders and their propensity toward risk? (ii) What are the optimal bidding patterns for either object? (iii) If the market views the objects as asymmetric in value (e.g., Super Bowl ticket vs. souvenir), should the higher value object be auctioned first or second in a sequential auction? Our results suggest that sequential auctions are optimal even for moderate complements so long as there are at least a few bidders (four or more). The appeal of sequential auctions increases with the size of the bidder pool and decreases when the bidders are risk averse. On the other hand, for substitutes, it is optimal to auction the objects as a bundle when there are only a few bidders (three or fewer). When the objects are asymmetric in value, it is optimal to auction the higher valued object first.

FA10
Room 331
Market Research Methods

Chair: Hubert Gatignon
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1 - Performing Hypothesis Tests on the Shape of Functional Data

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Gareth James

We explore different approaches for performing hypothesis tests on the shape of a mean function by developing general methodologies both for the, often assumed, iid error structure case as well as for the more general case where the error terms have an arbitrary covariance structure. The procedures work by testing for patterns in the residuals after estimating the mean function and are extremely computationally fast. In the iid case we fit a smooth function to the observed residuals and then fit similar functions to the permuted residuals. Under the null hypothesis that the curve comes from a particular functional shape, the permuted residuals should have a similar distribution to the unpermuted ones. So the fitted curves will have the same distribution thus allowing significance levels to be computed very efficiently. In the more general case when several curves are observed one can directly estimate the covariance structure and incorporate this into the analysis. However, when only one curve is observed we adopt a graphical approach where one plots the p-value for differing levels of potential complexity in the covariance structure. This allows one to judge the degree of deviation from the assumed null distribution. We demonstrate the power of these methods on an extensive set of simulations. We illustrate the approach on a data set of technology evolution curves which current theory suggests should have an underlying S shape. The developed techniques have wide potential applications in empirical testing of the shape of functional data.

2 - A Randomized Panel Design for Customer Monitoring

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Philip Hans Franses

Panel surveys conducted for customer monitoring on a frequent basis often suffer from nonresponse. Moreover, responses given in one wave tend to get affected by responses given in previous waves, a problem usually labeled as panel conditioning. Although nonresponse can be handled effectively using model-based procedures, most scholars agree that panel conditioning can never be fully remedied. For this reason, data-collection agencies usually resort to repeated cross-sectional surveys or rotating panel surveys. A drawback of these surveys is that they cannot be used to study period-to-period micro-dynamic behaviour. In marketing practice, however, such behaviour is often of particular interest. Consider, for example, a financial service provider who wishes to monitor its customer satisfaction while correcting for customers' financial distress. To alleviate the above problems while preserving the possibility to study micro-dynamics, we propose to employ a randomized panel design, where at each wave only a random subsample of the panel members is surveyed. As a result, they are surveyed infrequently and irregularly. Note that the latter implies that members cannot develop expectations as to when they will be surveyed again, which is crucial. Using imputation techniques and panel time series models, we discuss how individual dynamics can be estimated from the incomplete panel obtained. A key issue in the design of a randomized panel survey is to determine the overall size of the panel and the size of the subsamples needed in order to strike a balance between monitoring costs, efficiency and measurement error reduction. We discuss how this issue can be assessed by optimal experimentation. The merits of the design are illustrated for synthetic as well as real-life data.

3 - A Global Investigation into the Individual and Cultural Drivers of Socially Desirable Responding

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Martijn de Jong, Hans Baumgartner

Socially desirable responding (SDR) has been recognized as an important source of method error in survey research (Johnson and Van de Vijver 2002). Mick (1996, p. 106) called it "one of the most pervasive response biases", while Lalwani et al. (2004, p. 16) noted that "Desirable responding is one of the major causes of response bias and is a serious threat to the validity of research findings." Consequently, SDR has attracted much attention in the social sciences. However, most of this important research has been conducted with students, in a single country only (i.e., the U.S.; Smith 2004), and many studies have had a relatively narrow focus, studying a limited set of drivers of SDR. Consequently, the contribution of this study is threefold. First, we develop a conceptual model and set of hypotheses incorporating a systematic set of drivers of SDR, at both the individual and national-cultural levels. Our individual level variables consist of the Big-Five personality dimensions and sociodemographic variables. For the national-cultural dimensions, we draw on Hofstede's (2001) framework. Second, the hypotheses are tested in a cross-national context, using over 20 countries located in four different continents (Asia, Europe, North America, South America). Third, our data set, encompassing more than 10,000 respondents, provides a basis for deriving empirical generalizations concerning the drivers of SDR.

4 - Moderating Effects: The Myth of Mean Centering
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Joachim Vosgerau

Empirical tests of contingency theories (where x2 moderates the relationship of x1 on y) are typically performed by introducing the product term of the two variables (x1x2) as an independent variable in a regression equation. The literature has pointed out the problems of multicollinearity that plague such regression. Indeed, previous research has focused on multicollinearity as an explanation for the difficulty of finding significant interaction or moderating effects. Multicollinearity translates into large standard errors of regression parameters, and makes it less likely to find significant effects. We analyze with Monte Carlo simulations the consequences of several practices that pervade the empirical analysis of moderating effects in the social sciences. We especially investigate the method of mean centering, an oft-advocated method to overcome multicollinearity to test the significance of the interaction term. We show that, contrary to conventional wisdom, mean centering not only confuses the interpretation of the other parameters, but does not reduce multicollinearity at all, even if the bivariate correlation between x1 and x1x2 is decreased. We also address the question of the inclusion of all the product- term components in the regression model and conclude that such an automatic model specification is ill advised. Finally, we propose that a varying parameter model (VPM) is a better overall solution to the problems posed when testing moderating effects. We show under what conditions VPM outperforms OLS estimations in providing more efficient estimators.

FA11
Room 301
Evolution of Technology

Chair: Leonard Parsons
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1 - Competition and Diffusion of Technology Standards: A Two-sided Market Framework
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Mingchun Sun

Though widely studied by economists since 1980s, the competition and selection of technology standards have largely been ignored by marketing scientists. This is possibly due to economists' findings that network externalities among the adopters play a critical role in the selection process: an industry could be "trapped" into an obsolete and inferior standard even when a better alternative is available because of strong network externalities. Such "lock-in" phenomena indicate there is not much that marketing strategies can do to "unlock" the existing choices of standards. However, we argue that, though network externalities create significant first-mover advantage for the existing standard, sponsors of the new standard still have opportunities to replace the old one by setting appropriate product and pricing strategies. Viewing consumer adopters and industrial adopters as the two sides of the market for standards, we develop a dynamic system model to study the competition and selection of technology standards under the theoretical framework of "two-sided market". Under such a framework, the two sides of the market interact with each other through the standards and the benefit of adopting a particular standard for agents on one side depends on the number of agents on the other side who adopt the same standard. We find that when individual agents adopt only one standard, though possibly different for different agents, it is mostly likely that only one standard will survive in the long-run. Although the installed adopter base helps the old standard in dominating the market, it could be superseded by the new one if the latter is substantially better than the former and/or if the appropriate pricing strategy for the latter is in place.

2 - When Should a Firm Go Radical? Signaling Market Potential Trough Innovation Strategy
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Unlike the market potential for incremental innovations, the market potential for radical innovations is typically highly uncertain. A firm's decision whether to pursue radical innovation depends on its belief that the market potential for such innovation is high and its perception of whether it will have to share this market (if it materializes) with rivals. We model an incumbent firm's decision between radical and incremental innovation when facing rival entry. Each firm receives a private signal regarding the market potential for radical innovation (high or low), and the accuracy of these signals can differ across firms. Our analysis shows that when the accuracy of the incumbent's signal is low relative to the entrant's, the incumbent firm will pursue radical innovation even when its private signal is low; this reduces the incentives of the entrant to invest in radical innovation because of the fear of having to share the market. However, when the accuracy of the entrant's signal is relatively low, the incumbent may pursue incremental innovation even though its private signal is high; it does so to avoid validating the high market potential for radical innovation to the entrant, which in turn reduces the entrant's incentives to invest.
We extend our framework to incorporate the possibility that firms' actions are not observed but they can pre-announce their innovation strategies. We find that a firm will pre-announce that it is pursuing radical innovation only if the quality of its signal is lower than its rival's, i.e., when the firm has a disadvantage in assessing the returns to radical innovation.

3 - The Continuity of Seemingly Discontinuous or Radical Innovations
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Rachel Shacham, Debanjan Mitra

Innovation is vital to company success, and radical innovations often transform companies and create entire new industries. Yet, research in marketing tends to examine only the market response to radical innovations or the types of companies developing such innovations. Outside of marketing, researchers also tend to focus on the post-commercialization phase and examine very small samples of radical innovations. In this study, we examine 30 innovations, widely regarded as the most radical innovations, from initial concept to mass-market commercialization. Because current terminology is insufficient for describing this period, we propose a new conceptualization for the key stages and milestones in the development of these new products. Then, we present results about these stages and events. Overall, we find strong evidence for continuity in product development and believe that the innovations in our study only appear to be discontinuous or radical when viewed retrospectively. However, over time, these innovations have a transformational impact on companies, industries, and consumer benefits.

4 - How Should Strategic Technology Choices Be Assessed?
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Koert Van Ittersum

Consider the following real situation in which the technology development process takes 7 to 10 years, and the product development process takes 2 to 3 years if the needed technology is in place. Failure to have the technology in house may give a competitor a 5-year lead. A technology, moreover, may be embedded in more than one product. Consequently, to be competitive, the firm must continually invest in technology development projects. Resource limitations mean that the firm must make strategic decisions to allocate money to only some of the possible technology development projects (Dickinson, Thorton, and Graves 2001). Furthermore, the technology development process is fundamentally different from the new product development process (Sheasley 1999). Real option logic has been proposed to evaluate technology positioning investments (McGrath 1997; Hamilton 2000; McGrath, Ferrier, and Mendelow 2004). Others believe that a path-dependent investment approach would be better in many situations (Adner

and Levinthal 2004a,b). Other approaches exist. There is a real need to model the "fuzzy front end" of innovation that comes before the more structured formal NPD process (Koen et al. 2001). As a first step, we review the state of the art of technology portfolio management.

FA12
Room 304
Retail II; Pricing

Chair: Kissan Joseph
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1 - Dynamic Drivers of Retail Prices and their Consequences

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Vincent Nijs, Koen Pauwels

In today's competitive environment, retailers face the complicated task of setting prices for multiple brands in diverse categories and in multiple stores. However, there has been little research that provides empirical generalizations on the dynamic drivers of retail pricing and their consequences across multiple brands, categories, and stores. In this large-scale empirical study of over 13000 brand-store combinations, we address important questions on this topic. What are the dynamic drivers of retailer prices? To what extent do competitive retailer prices, past pricing history, demand, costs, category management and store traffic considerations account for the variance in dynamic retail prices? Finally, what are the sales and profitability consequences of using these different price drivers? We proceed in three steps. First, we estimate flexible models of the dynamic interactions among retail prices and their drivers such as competitive retailer prices, past pricing history, brand demand response, and retailer category management considerations. Second, generalized forecast error variance decomposition (GFEVD) provides an order-invariant methodology to determine the extent to which these phenomena drive retail prices. Finally, we analyze how the main price drivers affect retailer and manufacturer performance. Our findings suggest that competitive retailer prices account for less than 10% of the over-time variation in retail prices, while pricing history, costs and demand response are the main dynamic drivers of retail price variation. A key take-away is that the different price drivers are associated with different performance consequences.

2 - How Optimal Pricing and Merchandising Decisions Influence Retail Profit

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Subir Bandyopadhyay

Retail marketing currently involves large retail chains selling both brand name products as well as the more generic brands side by side. Such marketing must involve a careful analysis of pricing and merchandising strategies both by the producers of the brand name products as well as the retailers. In observing prices and merchandising activities in such markets one often finds a fair amount of price and merchandising dispersions among the different brands as well as the generic or the store brands. It is recognized that the retailers play a significant role in setting these prices and merchandising strategies. The profit of the retailers is the margin between what they pay the manufacturers and spend on merchandising, and the price paid by the consumers. This implies that the retailers set retail prices and merchandising strategies so as to derive as much profit as possible. Using weekly market data on sales, price and merchandising for all major brands in a food category, we estimate the price and merchandising elasticities, and compute the optimal profits for each brand. We empirically demonstrate that the overall profit of the retailer is more when price and merchandising levels are simultaneously optimized than when only price level is optimized.

3 - The Impact of Manufacturers' Wholesale Prices on Retailer's Shelf-Space and Pricing Strategies

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Guiomar Martín-Herrán, Georges Zaccour

The paper examines shelf-space allocation and pricing decisions in the marketing channel as the results of a static game played á la Stackelberg between two manufacturers of competing brands and one retailer. The competing manufacturers act as leaders that play a simultaneous and non-cooperative game. They fix their transfer prices by taking into account the shelf-space allocation and price mark-up decisions of their common exclusive dealer. The results indicate that the wholesale prices of brands are strongly linked to their share of the shelf. The main results of our numerical simulations may be summarized as follows: firstly, the lower the unit cost and/or the greater the price elasticity, the greater the shelf-space allocated to that brand. Secondly, the higher the shelf space elasticity, the lower are the wholesale prices and the profits of all channel members.

4 - Quantity Surcharges in Tuna: An Explanation Based on Hassle Costs

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Vivek Patil

A curious phenomenon in the retail pricing of tuna is the existence of quantity surcharges (comparing cost per oz, the 12 oz can costs, on average, 1.41 as much as the 6 oz can). Indeed, quantity surcharges in tuna are significant in economic terms, persistent over time, and pervasive across distribution outlets. Extant explanations invoke departures from: (i) full information about prices, or (ii) consumer rationality. In contrast, we offer an alternative, but not necessarily competing, explanation based on hassle costs. We find that surcharging is a form of segmented pricing that arises even under full information about prices and consumer rationality. Specifically, hassle costs allow the marketer to charge high-valuation customers a surcharged price for the 12 oz without worrying about them "leaking" into the purchase of two 6 oz cans. However, this incremental gain has to be weighed against the exit of some consumers who now buy neither size. We demonstrate the optimality of surcharging under these opposing considerations and also find that profits degrade with decreases in hassle costs. We conclude with implications for tuna marketers and policy-makers.

FA13
Room 421
Response Models

Chair: Anocha Aribarg
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1 - A Model of Household Purchase Timing Accounting for Random Purchasing Behavior

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Empirical research suggested that although purchase timing behavior is largely regular, households may occasionally deviate from their regular purchasing pattern and exhibit random purchasing behavior. In this paper we develop a model that explicitly accounts for the random purchasing phenomenon. Our model has several appealing features: a) it combines two purchase timing models deeply rooted in marketing tradition, Erlang-2 to model regular purchasing behavior and exponential to model random purchasing behavior, b) it is capable of producing many different shapes of hazard rates, including non-monotonic, that have been frequently estimated in the marketing literature, c) it is behaviorally motivated since it is based on the idea of households deviating from their regular purchasing pattern by exhibiting random purchasing behavior. An empirical application to sugar and margarine data suggested that households indeed exhibit random purchasing behavior, more so in the less frequently purchased cate-

gory of sugar as predicted by our theoretical model. A comparison with an expo-power model that does not distinguish between regular and random purchases showed that our model provides a better fit and that the expo-power model tends to underestimate household marketing m sensitivities at least for segments with high random purchasing incidence. We suggest that the proposed model be considered as an alternative to models currently employed in the marketing literature.

2 - A Brand Choice Model for the Analysis of New Product Positioning

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Gary Russell, Thomas Gruca

Although new product forecasting is a well-researched method in marketing science, most existing approaches for nondurable products make use of experimental or survey data to calibrate the model. The logic underlying these approaches is that the interplay among product positioning, consumer preference segmentation and consideration set composition determines new product success. We build upon this literature by developing a new product forecasting system which can be calibrated entirely with purchase histories from consumer scanner panel data. The model is constructed in two steps. First, we use household purchase summaries to calibrate a joint-space (pick-any) map. This map has the property that proximity of consumer ideal points and brand positions increases the likelihood that the product will be considered by the consumer. Second, using this joint-space map and household purchase histories, we calibrate a mixture logit choice model in which distances between consumers and products determine the value of brand intercepts. Accordingly, the observed choice share of a brand depends upon which consumers actively consider the brand and how these consumers respond to marketing activity. Our model provides the basis for a marketing decision support system that marketers can use to test the impact of various positioning strategies on market share in advance. This is due to the fact that changes in brand positions on the map necessarily imply changes in brand share. Empirical results from the coffee category show that the model generates accurate forecasts about new product share. Various scenarios based on different positioning strategies are tested and managerial implications of those strategies are investigated.

3 - A Structural Model of Temporal and Horizontal Variety Choice

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This study develops and empirically estimates a structural model to investigate dynamic consumer choice behavior of multiple-unit and/or multiple-variety products. The goal is to explain the temporal and horizontal pattern in variety selection in a basket of multiple products. This paper investigates two distinguished effects, namely state dependence and consumption flexibility, on the dynamics and selection of alternative multiple-unit baskets. The behavioral mechanisms underlying these two impacts, basket valuation and ultimate choice behavior are explicitly examined. The proposed approach permits a consumer's product preference to be dependent upon consumption history, thus allowing for state dependence both across purchase occasions and within a bundle of products. Moreover, consumer purchase and consumption decisions are distinctively modeled at two interrelated stages, which allows for incorporating the effect of consumption flexibility. Identification of these two behavioral processes could be accomplished since consumption flexibility influences horizontal basket choice only, whereas state dependence affects dynamic choice as well. A simulation technique is used to estimate the model on scanner panel data of yogurt purchases. It is found that the two behavioral processes generally provide substantial empirical support with strong face validity for the temporal and horizontal variety choice pattern observed in the data. Moreover, the importance of distinguishing and accounting for both impacts is also demonstrated.

4 - A Modeling Framework for Cross-Category Promotion Resource Allocation

Anocha Aribarg, Assistant Professor, University of Michigan, 701 Tappan St. D7210, Ann Arbor, MI, 48109-1234, United States, anocha@umich.edu
Neeraj Arora

Large companies such as P&G and Kraft offer brands in multiple product categories. A fundamental question confronting such companies is how to promote multiple brands across categories. For example, if advertising space in a given print medium is to be allocated across a finite number of brands, it is important to understand the most profitable way to utilize this space. In this research, we develop and test an empirical model that can be used to suggest efficient promotion allocation across product categories. Our research was made possible by collaboration from Kraft and ACNielsen. As a part of its CRM initiative, Kraft started to periodically distribute its Food and Family magazine to a large number of households in the US in year 2002. Each issue of this magazine contains articles about food and health, recipes, and print ads of different Kraft brands. We obtained weekly store-level data on brand sales, prices, in-store promotions, and food and family magazine coverage associated with each store. These data are for different product categories and a 138-week period in which the first 56 weeks is the period before the magazine launch. Seven issues of the magazine were distributed during the last 82 weeks. With this unique data set, we examine1) differences in the magnitude of sales lifts as a result of the magazine launch across product categories, 2) differences in the shape (rise and decay patterns) of sales responses to magazine promotion across categories, and 3) how covariates, such as the presence of coupon and number of times a product is featured in a magazine, affect its sales lift. The results base on this analysis shed light on how a manufacturer such as Kraft should allocate its promotion effort across brands in its portfolio.

FA14
Room 453
Topics in Channels and Distribution
Chair: Sharmila Chatterjee

Nagel T. Miner Professor of Business, Golden Gate University, 536 Mission Street, Ageno School of Business, San Francisco, CA, 94105, United States, schatterjee@ggu.edu

1 - Inter-Industry Variation in the Vertical Integration of Advertising Services

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Alvin Silk, Steven Michael

The majority of U.S. advertisers rely on independent agencies for advertising services. Advertisers' reliance on external rather than internal agencies emerged as the industry policy relatively early in the history of modern advertising. Nonetheless, some advertisers choose to internalize their advertising services by operating an in-house advertising agency. Whether the utilization of in-house agencies is more prevalent in certain sectors or industries than others remains an open empirical surrounding the advertising services business. This paper investigates inter-industry variation in the relative incidence of advertisers' utilization of in house rather than independent advertising agencies. We account for this variability by reference to two perspectives that figure prominently in the literature on vertical integration that suggests the scope of a firm is determined by both production and transaction costs. The first perspective emphasizes scale economies and double marginalization. On the one hand, internalization enables the advertiser to circumvent payment of the markup independent agencies charge clients on production and media purchases. On the other hand, an in-house agency may sacrifice size-related economies realized by an independent agency serving numerous clients but not available to a single advertiser, operating on a more limited scale. The second perspective considered is transaction cost analysis. Under certain circumstances, advertising services may entail investments in transaction-specific assets such that the cost of organizing them internally is less than that associated with utilizing an independent agency. A follow-up empirical analysis using two cross-sectional data bases, collected nearly a decade apart, bears on these differing views.

2 - Price and Advertising Competition in a Differential Game of a Dual Marketing Channel
Olivier Rubel, PhD Candidate, HEC Montréal-University of Montréal, 5480 Cartier, Montreal, H2H1X9, Canada, olivier.rubel@hec.ca

The Internet has opened to firms a new efficient way to sell their products directly to consumers, thus bypassing conventional retailers. A differential game-theoretic model is proposed to capture the situation where the manufacturer is able to sell her product through the conventional retailer but also through her online retailer. The game is played á la Nash. The retailer and the manufacturer compete in prices charged in each channel. In order to increase the goodwill of each channel, the manufacturer advertises for her online channel whereas the retailer provides advertising for the conventional channel. The demand at each channel is linearly dependent upon price and goodwill differences between each channel. The model contributes to the literature on the dynamics of marketing channels (Jorgensen and Zaccour, 2004), and more specifically to the analysis of dual channels (Chiang et al. 2003 ; Fruchter and Tapiero, 2004). Managerial conclusions are derived from the analysis of Open-Loop equilibrium strategies.

3 - Measuring Online Reputation Effects: An Online Experimental Study
Dubravko Radic, University of Leipzig, Marschnerstr. 31, Leipzig, Germany, radic@wifa.uni-leipzig.de
Thorsten Posselt

Online reputation mechanisms, such as eBay's feedback forum, are nowadays widely used as one way to induce honest behavior in online market transactions and to build up trust between anonymous market participants. This paper examines the relation between sellers reputation and the willingness to bid for certain items in online auctions. Existing empirical studies in this field vary remarkably in their conclusions, part of because most of them use observational data leaving important variables uncontrolled. In our online experiment we have build a web-application which simulates an eBay like platform and where participants interact with tool based actors who differ in their reputation profiles. We use panel econometric models to control for potential unobserved heterogeneity. Our results indicate that seller reputation matters for transaction probability and final prices. Thereby, the effects are stronger for high value products. Other important signals were escrow services and once-in-a-lifetime identifiers. We also found that the price impact of reputation decreases as the consumer surplus, measured by the difference between individual and average willingness to pay, increases.

4 - Exploratory Model of the Determinants of Disintermediation Given a Manufacturer's Virtual Presence
Sharmila Chatterjee, Nagel T. Miner Professor of Business, Golden Gate University, 536 Mission Street, Ageno School of Business, San Francisco, CA, 94105, United States, schatterjee@ggu.edu
Chiayin Chung

The establishment of the company Web site (manufacturer's virtual presence - MVP) opens a window of opportunity for a manufacturer to provide at least part of the functions that intermediaries traditionally offer in a distribution channel. It has been stated that this virtual presence can lead manufacturers to bypass intermediaries (disintermediate) and directly sell products to household and business customers (Benjamin & Wigand, 1995; Chircu & Kauffman, 2000; Hagel & Armstrong, 1997). Disintermediation has the potential to affect the business relationship between manufacturers and intermediaries and hence is an issue of great interest to both manufacturers and intermediaries. This study develops and empirically tests a conceptual model of the determinants of disintermediation on the part of manufacturers given their virtual presence. In particular, the study examines the factors that are hypothesized to relate to a manufacturer's extent of disintermediation. The Transaction Cost Analysis framework (Anderson, 1985; Heide & John, 1990, and Williamson 1975,1979,1985) is used in tandem with Transactional Value Analysis (Zajac & Olsen, 1993) to examine factors influencing a manufacturer's use of the direct channel vis-á-vis the indirect intermediary channel, given its virtual presence. The proposed conceptual model was tested empirically with manufacturers in the United States. Key informants were high-level executives responsible for making distribution channel decisions. The results support the transaction cost and value framework proposed in the conceptual model and lends important insights into the disintermediation decision.

Friday, 10:30am - noon (Session B)

FB01
Room 130- Auditorium
Practice Prize II
Chair: Gary Lilien
Pennsylvania State University, 402 BAB, University Park, PA, 16802, United States, g5l@psu.edu

1 - The Right Product for the Right Person: Product Recommendation from Infrequent Events (10:30am)
Marty Vrieze, Central Purchasing Inc, 3491 Mission Oaks Blvd, Camarillo, CA, .93011, mvrieze@harborfreight.com
Brendan Kitts, David Freed

We describe five years of work developing, analyzing and running one-to-one marketing systems in a successful cross-channel retailer. The problem we set out to solve was one of targeting the right customer with the right product. Previously our participating retail chain had sent emails to opt-in customers featuring products chosen by the marketing department. In 1999 we ran a pilot study in which we replaced the static products with product offers selected by a probabilistic one-to-one recommendation algorithm we later called "Cross-sell". The pilot test of one-to-one offers was very successful. Clickthrough increased by +40%, revenue by +38%, and units sold by +61%. The full system was deployed in October of 2000. At this time we also tested a family of additional recommendation strategies based around the hypergeometric distribution test. These tests generated a response rate of over 100%. From 2000-2005, the recommendation system has continued to be used each week, and the retailer continues to maintain control groups and report on performance. Incremental profit from the system has been substantial. The retailer has even displayed the recommendations on their monthly glossy catalogs using custom ink-jet printing technology. The hypergeometric recommendation method is noteworthy because it is a well-defined significance test (compared to almost all other recommendation strategies), and performs well on small numbers of events. Infrequent customer purchases are common in a great number of merchandising domains including books, music, electronics, home improvement and video games. A reliable solution to this problem is therefore of great interest to marketers.

2 - Customer Equity and Lifetime Management (CELM) (11:15am)
Abdel Labbi, Researcher, IBM Zurich Research Laboratory, Saumerstrasse 4, Rueschlikon, 8803, Switzerland, abl@zurich.ibm.com
Giuliano Tirenni, Cesar Berrospi, Andre Elisseeff

The Customer Equity & Lifetime Management (CELM) solution is a decision support system that offers marketing managers a scientific framework for optimal planning and budgeting of targeted marketing actions (e.g. campaigns) in order to maximize the return on marketing investments. The CELM technology uses Markov Decision Processes to model customer dynamics and to find the optimal marketing policy maximizing the value generated by a customer during a given time horizon. Markov Decision Processes are estimated using non-parametric estimation algorithms. Lifetime value optimization is achieved through dynamic programming algorithms which identify the marketing actions causing customers to transition to better value/loyalty states. These marketing actions can have the form of cross-selling, up-selling, and loyalty marketing campaigns. Modeling customer dynamics allows us to consider lifetime value as an endogenous variable which both depends from and influences the optimal marketing policy. Heterogeneity across customers and across marketing actions is addressed by the model by tailoring the marketing action to the individual customer. The CELM technology can be used as well to simulate the financial impact of a given marketing policy using Monte Carlo simulation, in this way marketing managers are able to simulate several scenarios and plan the monthly budget requirements to finance the chosen market-

ing policy. Monte Carlo simulation allows us to estimate the lifetime value distributions (i.e. the financial profile) of customers if a given marketing policy is applied. Thus, portfolio optimization techniques can be used in order to build a portfolio of customers optimizing the value/risk tradeoff of the return on customer equity.

FB02
Room 238
Social Welfare

Chair: Merel van Diepen
PhD Candidate, Erasmus University Rotterdam, P.O.Box 1738, Rotterdam, 3000 DR, Netherlands, mvandiepen@few.eur.nl

1 - Brand Building Towards Social Values: Associating to Public Goods

Francisco Guzman, Visiting Professor, ESADE, Av. Pedralbes 60-62, Marketing Department, Barcelona, 08034, Spain, francisco.guzman@esade.edu
Jordi Montana Vicenta Sierra

The search for new ways to build brands that achieve a differentiated status in the minds of customers has become increasingly important. The recognition that brands are one of its most important assets has made companies consider them an axial component of their strategy. A line of research that has been evolving in order to achieve this differentiation is brand building towards social values. Justified by the private sector's need for strong brands, and the crisis of the Welfare State, a reference group influence model is developed to support both the proposal of a new form of collaboration between State and market, which generates alternative sources of financing for implementing public policy, and an alternative for brand building towards social values by leveraging brand equity through the association with public goods. Data from Mexico City and Barcelona were analyzed using a med factorial MANOVA, and after testing the hypotheses the main conclusion was that it will make more sense for private companies to associate with public services that are both secondary (requiring an extra payment for their consumption) and publicly consumed (when others are aware of consumption).

2 - Study of Perception About Tsunami Disaster To Identify Ways For Quick Recovery Of Tourism Industry

Makarand Gulawani, Adjunct Professor, Audencia Nantes School of Management, 8 route de la Joneliere, BP 31222, Nantes, 44312, France, mgulawani@audencia.com
Jean-Louis Nicolas

The objective of this paper is to understand perception of people around the world about tsunami disaster, then compare perception of people about Tsunami tragedy with their perception about other human tragedies in world. In this research, we attempt to find an efficient marketing strategy to convince tourists to travel to Tsunami affected area for holidays in order to find concrete ways for recovery. Finally, we also attempt to relate perception of people and their suggestions in order to identify right marketing strategy for tourism industry and to understand if marketing strategy of tourism industry would drive market opinion or they would have to adapt their strategy to the opinions of market. This paper is based on survey of large sample of people around the world, via internet.

3 - Competitive Dynamics amongst Charities

Merel van Diepen, PhD Candidate, Erasmus University Rotterdam, P.O.Box 1738, Rotterdam, 3000 DR, Netherlands, mvandiepen@few.eur.nl
Philip Hans Franses, Bas Donkers

One way for charities to raise money is to send direct mailings to potential donators. Most charities store information on past donations in large databases, which are often used to rank potential donators for future mailings. Each charity has its own database, which is considered an important asset. As charities generally focus on a limited number of issues, they will compete with each other. Individuals receiving direct mailings have to decide on who to support, what amount to donate, and when. Thus, competition may be due to the type of charity sending the mailing, but also to the arrival process of the mailings. We have access to the databases of 12 of the largest charities in the Netherlands, concerning donating behavior in the past five years. The largest charity has 1.5 million regular donators, the smallest about 200000. We find that many individuals donate to multiple charities, so there is substantial overlap between the different databases. Hence, many people receive mailings from various charities, causing competitive interactions between the charities sending the mailings. The questions we answer concern the competitive structure across the 12 charities. To address these questions, we take into account that receiving a mailing is endogenous. That is, only individuals who are considered loyal or generous in the past receive future mailings. Also, the response to direct mailings can only be recorded when an individual actually receives a mailing. In our empirical analysis, we map the competitive interactions amongst charities by estimating the substitution patterns across different charities, while also incorporating the fact that mailings can be received at different moments in time. Hence, we estimate dynamic own and cross-mailing elasticities.

FB03
Room 234
Online / Offline

Chair: Monica Perry
University of Redlands, 1200 East Colton Ave, Redlands, ca, 92373, United States, monica_perry@redlands.edu

1 - On- and Off-line Music Contents Consumers Segmentation in Korea

So Young Kim, Professor, Sookmyung Women's University Division of Business Administration, 53-12 Chungpa-Dong 2-Ka Yongsan-Ku, Seoul, 140-742, South Korea, sykim@kctpi.re.kr
Byungsub Kim, Youngsik Kwak, Ho Jang

Korean cultural industry has become a "big" industry which takes about 7% of GDP in 2003. Music market, however, has been characterized with both a surprising decline of off-line market and increase of on-line market. To provide Korean music contents providers with marketing strategy implication, this study tries to make market segmentation analysis. Based on this study, Korean music contents providers could build their own strategy on the contents at on- and off-line music market. For this research, we use a national survey data which were made by Korea Culture and Tourism Policy Institute. The questionnaires include consumers' statistical characteristics and purchasing behavior with music as well as other cultural contents. To analyze market segmentation with variables, we use a mixture model. We identify four significant customer segments, such as light users, medium users, heavy users, and mania. Each segment show different contents choice criteria preferred cultural contents and genre, as well as demographical characteristics. Also we find that there is a significant consumption difference between on- and off-line music contents consumers. Korean government provides music contents providers with these results to stimulate their marketing strategy to satisfy Korean music market customers.

2 - The Effect of Online Non-transactional Activities on Offline Category Sales

Marije Teerling, Phd student, University of Groningen, P.O. Box 800, 9700 AV, Groningen, 9700AV, Netherlands, m.l.teerling@eco.rug.nl
Eelko Huizingh, Peter Leeflang, Erjen Nierop van

Only a minority of all web sites contains a transaction function, implying that most web sites have to provide the organization with indirect benefits, such as offline purchase facilitation, instead of direct benefits like online sales. We focus on the effects of a non-transaction web site on offline category sales of a large chain of department stores. We determine the effects through a quasi-experimental design. The pre and post introduction purchases for a group of site users as well as a control group of non-site users are included. In this paper we study relationships between online behavior and offline behavior at category sales levels. The overall model explains purchases in each category by an individual during a particular month through three sub models. For each of the three sub models we specify models such as a Tobit, Log Linear Poisson model etc. The first sub model relates online behavior to the average amount of money spent per shopping trip. The second sub model uses online behavior to explain the total number of shopping trips at the offline store. The third sub model explains the

total purchase share of each category through online behavior. Preliminary results indicate that the offline sales of the users improved significantly after introduction of the web site. In general, the sales of the non-users did not change. The frequency and depth of web visits had a significant positive relationship with offline sales.

3 - Evaluating Customer Channel Migration Activities: A Case of Banking Customers

Sonja Gensler, Post-Doc, University of Frankfurt, Mertonstrasse 17, Frankfurt, 60054, Germany, sgensler@wiwi.uni-frankfurt.de
Martin Boehm

Today multi-channel distribution is rather the rule than the exception and provides customers with an expanding menu of options to interact with a company. Due to this development companies are becoming aware that managing customers through multiple channels is essential and customer channel migration activities are gaining importance. Such activities aim to manage the customer channel choice behavior and enable a company to increase its profitability. However, only little is known about how to manage customer channel migration. For that reason, it is the aim of this presentation to develop a decision support tool that evaluates customer channel migration activities to increase a company's profitability. To achieve this aim we have conducted a survey. In the first instance, actively managing customer channel migration requires understanding customer's channel choice behavior. We assume that a customer's channel choice is influenced by several factors. Therefore, we identify those factors and we demonstrate that considering different stages of the customer buying process is crucial to adequately model the customer channel choice behavior. We identify segments that differ in their current channel usage behavior and their evaluation of the channel characteristics. In the next step we develop a decision support tool for evaluating customer channel migration activities. The tool is based on the elicited customer channel choice behavior and we contrast the costs of customer channel migration activities with the increase in customer profitability based on changed customer channel choice behavior.

4 - Online Customer Service - Differentiation or Homogeneity?

Monica Perry, University of Redlands, 1200 East Colton Ave, Redlands, ca, 92373, United States, monica_perry@redlands.edu
Catherine Atwong

As the number of consumers and businesses that purchase online increases, so does the need for delivering sophisticated customer service via web sites. Are innovative and real-time customer service functions being used? and can they be used to differentiate those that market online? Given the existing customer service infrastructure and tools common for direct marketers, we investigated the use of various online customer service elements for the top business to business and business to consumer catalog companies. We content analyzed the top hundred catalog companies (many of which were multi-channel firms). We expected to find significant variety in the use of customer service online, ranging from simple self-service FAQs to real time, interactive customer service functions, such as text chat. Our results suggest considerable homogeneity and very limited use of interactive customer service online. Implications for customer service and differentiation online are discussed.

FB04
Room 231
Pricing Dynamics

Chair: Andre Bonfrer
Singapore Management University, 469 Bukit Timah Road, Singapore, Singapore, andrebonfrer@smu.edu.sg

1 - Competitive Pricing Analysis in Mature & Evolving Markets: A Time Series Approach

Joy Joseph, Senior Project Director, Marketing Management Analytics, 15 River Rd., Suite # 250, Wilton, CT, 06897, United States, joy.joseph@mma.com

Competitive behavior between players in a mature market can have a different structure than those in growing markets. Pricing component of the marketing mix is less relied upon to expand market share in growing markets, while there is a greater reliance upon product differentiation and building stronger brand equity. On the other hand, in mature markets, there is usually very little scope for product differentiation, so there is a greater reliance on pricing for competitive gains. Since market share expansion inn a mature market comes directly from competitive sales declines, pricing strategy changes in one brand leads to a fairly instantaneous reaction from other brands in the category and retail prices in general reflect the equilibrium condition of consumption. This paper applies methods from Time Series Econometrics to identify nonstationary behavior and long-run equilibrium of retail prices of brands in mature and evolving markets. The results indicate that long-run equilibrium in prices are an outcome of the maturity of markets, as the persistence of the shocks in the prices do not result in the persistence in shocks to sales. The cointegrating condition created by the intense price competition imposes a stationarity restriction on sales, hence eliminating the possibility of any long term pricing strategy and pricing becomes tactical.

2 - Dynamic Equilibrium Pricing with Purchase Event Feedback and Reference Pricing Effects

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Naufel Vilcassim

The impact of purchase event feedback and reference price formation on consumer (household) choice has been analysed extensively in the extant research literature. However, with few exceptions, the implications of these effects on equilibrium seller prices have not been fully examined. As both factors induce dynamic effects on consumer choice, the pricing strategies of sellers must be examined in a dynamic context. Relative to static pricing, the presence of purchase event feedback is likely to result in higher dynamic prices because sellers may find it profit-maximizing to reduce prices now in order to induce greater likelihood of purchase in the future. However, reducing prices now can also reduce the consumer's reference price on future purchase occasions and thus higher prices in the future can lower the likelihood of purchase. Thus, it is not clear what would be the optimal pricing policy when both effects are present. In this study, we develop a model to analyse the dynamic equilibrium pricing policies of sellers in a competitive markets when both effects are present. We model consumer's preference evolution using state variables that are updated each period. This updating depends stochastically on firm behavior. Optimal dynamic behavior occurs in the form of pure strategies Markov perfect Nash equilibria. Characterization of equilibrium prices is provided both analytically and numerically. Interestingly, we found that if pricing behavior is restricted to a finite set of values, the resulting pricing pattern can be interpreted as temporary price cuts. Hence, we provide a pure strategies explanation for price promotions, without assuming price dispersion ex-ante. Moreover, we are able to relate industry structure to promotional behavior and draw implications.

3 - State Dependence in Demand and Long-Run Pricing

Maria Ana Vitorino, University of Chicago - GSB, 5020 S. Lake Shore Drive, Apt.2116N, Chicago, IL, 60615, United States, mvitorin@gsb.uchicago.edu
Guenter Hitsch, Jean-Pierre Dube

This paper re-examines the evidence for and consequences of state dependence in demand. State dependence, in the sense that past purchases of a product or brand change a consumer's current preferences for that product, has important implications for how firms should set prices, and the market equilibrium outcome. A main methodological issue concerns the separation of state dependence from preference heterogeneity. A long literature in marketing has found evidence for strong state dependence effects, even after controlling for preference heterogeneity. We re-examine this evidence, and first provide several essentially non-parametric tests for state dependence. We then estimate a discrete choice model, and provide post-estimation diagnostic checks to assess whether the model replicates the time series patterns of brand choices in the data. These diagnostic tests address the particular concern that misspecification of the population heterogeneity distribution of tastes will bias the state dependence estimates in

favor of finding evidence for such temporal dependence. We then use a simple simulation framework to calculate optimal prices and a price equilibrium if firms take the impact of their current pricing decisions on future demand into account. This framework solves for prices in steady state, and does not require simplifying assumptions on the state space, or the time horizon over which firms make their decisions.

4 - An Empirical Analysis of Events in the Facial Tissues Category

Andre Bonfrer, Singapore Management University, 469 Bukit Timah Road, Singapore, Singapore, andrebonfrer@smu.edu.sg
Jagmohan S. Raju

In this paper we study a number of events in the paper products industry that significantly affected market structure, and their respective impacts on demand behavior, competitive conduct and estimated profits. Our focus for analysis is the facial tissue category from 1992-1998. Of significant interest about this industry is the April 1994 hiring of Al Dunlap as CEO (aka "Chainsaw Al") of Scott Paper Products, the subsequent July 1995 merger (or acquisition) announcement of Kimberly Clark with Scott Paper Products, followed by a Department of Justice consent decree which required the Scott brand of facial tissues to be licensed out to a third party. We adopt a flexible demand modeling approach, adopting the Almost Ideal Demand System (AIDS, see Deaton and Muellbauer 1980b). We estimate Conjectural Variations (CV) parameters using a set of supply-side equations where demand parameters are based on the AIDS model. The results suggest that significant demand and supply side changes occur over our observation series. The Dunlap regime was accompanied by a severe repositioning of the Scott brand, but a strong and sustained increase in this brand's profitability. Our analysis of the merger event suggests that this event has strong and enduring effects on the behavior of participants in the market. Finally, we find that competitive behavior appears to only partially reflect demand-side changes in brands' positioning and customer demand.

FB05
Room 201
Information and Uncertainty in Distribution Channels

Chair: V Padmanabhan
INSEAD Chaired Professor, INSEAD, 1 Ayer Rajah Avenue, Singapore, Singapore, paddy.padmanabhan@insead.edu

1 - Opaque Products: How Much Information Should Be Hidden From Customers?

Scott Fay, Assistant Professor, University of Florida, 211 Bryan Hall, PO Box 117155, Gainesville, FL, 32611, United States, scott.fay@cba.ufl.edu

Recent attention (e.g. Fay 2005, Varian 2000) has been given to the business practice of selling an opaque product, with notable examples of Hotwire and Priceline offering travel services in which key characteristics of the product (e.g., for airline travel, the airline, flight departure times, and connection city) are hidden from consumers and only revealed once purchase has been completed. This paper builds upon this emerging literature by tackling an important, previously unaddressed, question: What is the optimal degree of opacity? For example, should one hide both the airline and the time of day or just one of the two? Should one reveal some of the amenities offered by the undisclosed hotel? Experimentation on such issues appears to be occurring in the industry. For instance, Hotwire recently introduced a more narrowly defined opaque product, "FlexSaver Fares," that reveals whether a flight will occur during the "morning", "afternoon", or "evening", whereas it previously only offered flights with itineraries occurring "Any time of day". The overarching theme behind this paper is that an opaque intermediary must appeal to both consumers and travel suppliers in order to be successful. For consumers, a narrowly defined product may have broad appeal due to a low level of uncertainty. However, it could be difficult to attain supplier contracts for such a product due to potential cannibalization of sales through traditional, non-opaque channels. This paper, via a mathematical model, attempts to gain a greater understanding of the tradeoffs involved in choosing the degree of opacity and thus also provides insight into how best to balance these (of other) countervailing forces.

2 - Information Sharing In a Strategic Distribution Channel

Chuan He, Assistant Professor, Leeds School of Business, 419 UCB, University of Colorado at Boulder, Boulder, CO, 80309-0419, United States, chuan.he@colorado.edu
Johan Marklund, Thomas Vossen

Demand uncertainty is a rule rather than exception. Specifically, demand may shift up and down due to stochastic disturbance; it may be more or less elastic due to variation in price sensitivity. Manufacturers and retailers often have private information on future demand, and such information asymmetry impacts strategic interaction in distribution channels. Extant channel literature generally assumes deterministic demand, and the limited literature that incorporates demand uncertainty usually assumes that firms maximize expected profits, ignoring the impact of volatility. The newsvendor approach offers an intuitive way to incorporate demand volatility. In a one period setting, the retailer (newsvendor) trades off the marginal cost of under stocking with that of over stocking when determining how much to order. In a classic paper, Pasternack (1985) analyzes return policies using the newsvendor approach, but he assumes symmetric information and that price is exogenous. In this paper, we investigate a distribution channel with one manufacturer and one retailer, each with private information on future demand. We adopt the newsvendor approach with endogenous pricing decision. We examine the benefits of sharing demand information and contracts that facilitate such cooperation.

3 - Communication and Information Sharing in a Vertical Channel

Dmitri Kuksov, Washington University in St. Louis, Campus Box 1133, One Brookings Drive, Saint Louis, MO, 63108, United States, kuksov@olin.wustl.edu
Amit Pazgal

We consider the optimal communication strategy by channel members who have private information about the market demand. We present conditions under which unverifiable and costless statements are informative and derive the added value of such communication. A key condition for the communication to have value and be informative is the existence of situations when each party has a negative signal about demand, but neither has enough private information to justify complete withdrawal from the market. We also consider firms' ability to make their statements verifiable. We show that in contrast to unverifiable communication, such ability may hurt a channel member, not only in a particular outcome, but in expectation, and even in each of the potential outcomes.

4 - Uncertainty Revelation in a Distribution Channel

V Padmanabhan, INSEAD Chaired Professor, INSEAD, 1 Ayer Rajah Avenue, Singapore, Singapore, paddy.padmanabhan@insead.edu
Ganesh Iyer, Amit Pazgal

In many markets the uncertainty of demand for a product progressively unfolds over selling horizon. This paper analyzes how manufacturers should structure the contractual relationships with their retailers in responding to the information revelation over time. In doing so, the paper presents a logic for tailoring the contract form to the demand revelation characteristics of different products sold through a given retail channel. In the above environments two distinct types of contracts are possible. In rigid contracts the terms of trade are set at the beginning for the sales horizon. In contrast, a manufacturer can also adopt a flexible contractual policy wherein the terms of the contract can change contingent on realization of uncertainty over time. Intuition would have it that flexible contracts that adjust optimally to new information about the market potential should always be beneficial. Although flexible contracts are better for the manufacturer, we show that due to strategic considerations in the distribution channel relationship, rigid contracts might be optimal for the channel. Rigidity might be desirable because it imposes a strategic change in retailer behavior during the period when demand potential is still uncertain. We investigate the impact of the timing and extent of uncertainty revelation on the optimal channel contracts and the market prices.

FB06
Room 204
Decision Research

Chair: Roland Rust
David Bruce Smith Chair, U. of Maryland, Robert H. Smith School of Business, College Park, MD, 20817, United States, rrust@rhsmith.umd.edu

1 - The Goal-Gradient Hypothesis: Purchase Acceleration, Illusionary Goal Progress & Customer Retention

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Yuhuang Zheng, Ran Kivetz

The goal-gradient hypothesis (Hull 1934) denotes the classic finding from behaviorism that animals expend more effort as they approach a reward (e.g. hungry rats run faster as they near cheese). Building on this hypothesis, we generate new propositions for the human psychology of rewards. We test these propositions using a variety of methods, data, and modeling approaches, including field experiments, paper-and-pencil problems, and secondary customer data as well as hazard rate, tobit, and logit models. The key findings indicate that: (a) participants in a real café reward program ("buy 10 coffees, get one free") purchase coffees more frequently the closer they are to earning a free coffee; (b) Internet users who rate songs in return for reward certificates visit the rating website more often, rate more songs per visit, and persist longer in the rating effort as they approach the reward goal; (c) the illusion of progress toward the goal likewise induces purchase acceleration; (customers who receive a "12-stamp" coffee card with two pre-existing "bonus" stamps complete the 10 required purchases significantly faster than customers who receive a "regular" 10-stamp card); and (d) a stronger tendency to accelerate toward the reward predicts greater customer retention and faster reengagement in the program. Our conceptualization and empirical findings are captured by a parsimonious goal-distance model, in which effort investment is a function of the proportion of original distance remaining to the goal (i.e., psychological distance). Using statistical and experimental controls, we show that the observed goal-gradients cannot be explained by habituation, expiration concerns, other time-trend effects or heterogeneity bias. Theoretical and managerial implications are discussed.

2 - Affective Underpinnings of Decision Heuristics

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This research investigated the role of affective- versus cognitive-priming upon the decision-maker's subsequent use of choice heuristics (Attraction Effect & Compromise Effect & Base-Rate neglect). The results show that when people are affectively primed, they are more likely to be fallible to the attraction and the compromise effect and base-rate neglect, versus when they are cognitively primed. These findings expand upon the "dual process theory" interpretation of the use of choice heuristics. Emotions seem to play a key mediating role in our use of heuristics in any decision making situation.

3 - Applying Experimental Economics to Model Equilibrium Behavior in Pricing Games

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Many empirical studies in industrial organization employ the standard equilibrium solution as the work-horse assumption. This assumption implies that firms form beliefs about what their competitors will do (strategic thinking), best respond given their beliefs (optimization), and their beliefs are consistent with what the competitors actually choose (mutual consistency). These equilibrium assumptions have been challenged recently by work in experimental and behavioral economics (McKelvey and Palfrey ((1995), (1998)), Camerer, Ho and Chong (2004)). The researchers develop precise alternative models to predict behavior in competitive games that relax the equilibrium assumptions of mutual consistency and optimization. Applying these alternative models to empirical studies in IO can yield two potential benefits. First, they allow us to test the robustness of the standard equilibrium approach. If these alternative models are as good as the standard equilibrium approach in predicting behavior, then we can continue to use the latter and have confidence in the derived price sensitivity and cost estimates. On other hand, if these alternative models outperform the standard equilibrium approach, it is useful to investigate how the cost and price sensitivity estimates might be different under the new approaches. Second, the alternative models allow us to quantify the degree of bounded rationality in competitive markets. The new approaches can help to explain why such behavior survives and persists in markets. We plan to apply these new approaches to the mostly commonly studied IO competitive games: pricing competition.

4 - An Evolutionary Basis for the Prospect Theory Value Function

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We show that the main behavioral predictions of the prospect theory value function may be derived from an evolutionary model. Rather than starting from behavioral axioms, we start from a very simple scenario in which decision outcomes affect survival. From this simple scenario, we explore the result of an evolutionary process in which behavioral tendencies naturally select, with survival according to a hazard model. We decompose the total hazard rate into an internal component and an environmental component, and consumer choices result in adjustments to the environmental hazard. Noting that the expected survival time is the inverse of the hazard rate, we define a "survival value function" that equals the expected survival time as a function of the decision outcome. This results in an S-shaped survival value function that is similar to the prospect theory value function—concave for positive decision outcomes and convex for sufficiently negative outcomes, and with the effects of losses greater than the effects of gains. Although the survival value function has finite limits, unlike the prospect theory value function, we show that the survival value function, resulting from an evolutionary process, can reproduce all of the central behavioral predictions that result from the prospect theory value function. Our model shows, therefore, that many of the behavioral "anomalies" from standard economic utility theory may have a deep evolutionary basis. This evolutionary approach provides a new method of investigation for consumer behavior research, using an evolutionary mechanism, rather than behavioral experiments or behavioral axioms, to derive behavioral regularities.

FB07
Room 207/208
Detailing; Physician Choice Behavior

Chair: Andrew Ching
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1 - Physicians' Persistence and its Implications for Marketing Communication

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There is a growing interest in modeling the demand for prescription drugs and understanding physicians' response to marketing communications (e.g., Gonul et al. 2001, Manchanda, and Chintagunta 2003, Mizik and Jacobson 2004). This study focuses on an important characteristic of physicians' prescription behavior, namely persistence (also called state dependence). Measuring the response to marketing communication without accounting for persistence can significantly bias the estimates of physician response. Capitalizing on a rich panel dataset of physician prescriptions and competitive marketing communication activity we jointly model for each new patient visit drug choice and the probability that a physician will exhibit

persistence. Unlike Bayesian learning models (e.g., Mukherji et al. 2004), the proposed individual-level and dynamic two-state model does not assume physicians are constantly engaged in costly information search and processing. We explore the role of marketing communication on persistence and drug choice, and we investigate whether physicians who exhibit persistence respond differentially to three forms of marketing communication: one-to-one meetings (detailing), outside-the-office meetings, and symposium meetings. Based on our results, we derive strategic implications as to how marketing managers can better manage their sales force efforts.

2 - A Demand and Supply Model of Pharmaceutical Detailing

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An important feature of the pharmaceutical industry is that firms treat each individual physician as a separate "market". This is especially true for the most important marketing instrument in this market - direct sales calls to physician (detailing). In this study, we investigate how a physician's prescription behavior responds to firm's detailing, while assuming that firms set the level of detailing strategically (for each individual physician). We do this by developing a structural model with both demand and supply models. Specifically, in the demand model, we estimate a heterogeneous Poisson model, that allows for diminishing returns to detailing and as well as response to competitive detailing on prescriptions. For the supply model, we assume that firms maximize their own profits while allowing for different marginal cost of detailing across firms (brands) and physicians. The model is estimated using a unique physician level data on detailing and prescriptions for each brand in the Proton Pump Inhibitor category. We use MCMC methods to obtain physician level estimates. We relax the full information assumptions employed in the structural model to estimate a series of partial information models. This allows us to conduct policy experiments on firms' willingness to pay for more information for a richer description of physician behavior as well as competitive marketing data.

3 - Modeling Key Drivers of Physician's Choice of Prescription Drugs

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Lakshman Krishnamurthi

The pharmaceutical marketplace represents an intensely competitive market wherein each firm seeks to achieve a fast product uptake by spending billions of dollars on marketing activities to maximize overall revenue during the product life cycle (the patent life of a molecule). We model the relative impact of various drivers such as marketing activities of pharmaceutical firms, patient characteristics and therapeutic history, physician contagion effects and managed care influence on the physician's choice of prescription drug in order to target the physicians more effectively. The difference in our approach over existing research is to take a more integrated view of the physician's choice process and to incorporate various key drivers in the analysis as opposed to just the marketing m variables. We incorporate observed and unobserved patient and physician heterogeneity while estimating the relative impact of these drivers. We use unique longitudinal patient history data linked with physician prescription data to obtain estimates at the individual physician level. We find high state dependence both in patient drug history and in physician prescription history. The detailing efforts by pharmaceutical firms affect the choices of drugs more for patients new to the drug class. Adjusting for patient heterogeneity in terms of drug history, characteristics, co-morbidity, and payer type (surrogate for ability to pay) would help predict the number of new prescriptions written. This would enable the pharmaceutical firm to allocate sales and marketing resources appropriately in order to maximize ROI and attain the overall sales and profitability objectives of the product.

4 - The Effects of Detailing on Prescribing Decision under Quality Uncertainty

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One of the major channels of pharmaceutical advertising is detailing. In detailing, pharmaceutical companies send sales representatives to educate physicians about the characteristics of their drugs. The goal of this paper is to model how detailing affect their prescribing decisions. In particular, I model physician learning, the informative role of detailing, and its long-lived effects via a stock of well-informed physicians. The stock of well-informed physicians, which could depreciate over time (capturing the notion of forgetting), allows the model to generate a flexible diffusion pattern for new drugs. The structural parameters of the model are estimated using data from a Canadian prescription drug market - ACE-inhibitor with diuretic. One advantage of implementing the model in Canada is that it has price regulations. The Patented Medicine Price Review Board restricts Canadian prices of patented drugs to be below the median prices of G7 countries. Evidence suggests that firms in Canada are facing a binding constraint in setting prices. Another advantage is that Canada does not allow Direct-to-Consumer advertising. These two facts allow me to focus on investigating the effect of detailing in this paper. My results suggest that the monthly depreciation rate for the stock of well-informed physicians is about 11.5%, and it takes roughly 7 years for the public to learn the true quality of the new drug in this market. I also find that the instantaneous effect of detailing on prescribing decision is minimal. The model, together with the estimates, also suggests a simple explanation for why a firm increases its advertising effort when the demand for its product increases.

FB08
Room 338
Innovations III; Partnering

Chair: Tansev Geylani
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1 - Product Innovation in New Product Alliances: When is the Impact of Alliance Composition Higher?

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The increased complexity and cost of developing innovative products have endorsed firms to engage in alliances to have access to additional expertise that they lack internally. The common goal of new product alliances (NPAs) is to mutually utilize know-how and synergistic combinations of complementary capabilities related to research and development of new product innovations to achieve competitiveness. Our main objective is to enhance the understanding of the information sharing aspects in these alliances within a synthesized perspective of resource-based and social network theory. The literature lacks studies on the impact of the collaborative approaches on the innovativeness or the success of new products in the NPA context. Using a cross-sectional data of 66 US NPAs, we investigated the impact of the alliance composition, namely, their relational competence and knowledge complementarity, on product innovativeness. With the inclusion of "strategic fit", which has not been studied before, the impacts of the moderating variables proposed in the extant literature are tested employing a multi-group path analysis. Our findings indicate that relational competence significantly increases product innovativeness, whereas knowledge complementarity does not have a significant effect. The links between alliance composition and product innovativeness were equal across types of partnership (horizontal versus vertical alliances). More interestingly, both strategic fit and environmental turbulence significantly moderated the effect of relational competence on product innovativeness: the strength of this path was found to be less when the levels of strategic fit and environmental turbulence were high.

2 - Buyer-supplier Marketing Learning in Joint New Product Development

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Benedict Dellaert, Kyriakos Kyriakopoulos, Pieter Pauwels

Academics and practitioners alike have begun to acknowledge joint new

product development (JNPD) between suppliers and buyers as a key to develop competitively superior products (Subroto et al. 2004). No wonder as for instance 34% of all Dutch innovations are developed jointly with a partner of which 55% together with suppliers and 51% together with buyers (European Community Innovation Survey, 2002). JNPD fosters marketing learning with customers (e.g., developing jointly knowledge about specific end-user needs) involving tacit knowledge (Von Hippel 1998) that is hard for competitors to copy in contrast to the traditional marketing learning from customers (e.g., market surveys, customer satisfaction surveys). Our study focuses on the antecedents and outcomes of marketing learning from JNPD as a response to its increasing importance and the limited empirical research in marketing on this critical issue (for exceptions see Kyriakopoulos and Moorman, 2004). Our contribution is twofold. First, we develop more robust scales of marketing learning in the context of JNPD extending prior scales. Second, we investigate the direct effect of the type of market orientation (proactive vs. reactive) of both parties as well as the moderating role of relational ties on marketing learning. We use survey data (N=157) collected from suppliers in JNPD projects to test these expected effects and to validate the proposed scales. Overall, our study contributes to literatures on capabilities, buyer-supplier relations, relational ties, and marketing learning and addresses key managerial priorities.

3 - Ingredient Co-branding: A Channel Coordinated Signaling Scheme

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Ingredient co-branding strategy has been increasingly adopted by suppliers of industrial products to establish their brands' reputation among the end customers. This paper investigates the mechanisms involved in the ingredient co-branding activities in a game theoretic model, in which the co-branding strategy is viewed as a signal of the ingredient quality sent in a coordinated manner by the upstream ingredient supplier and the downstream manufacturers. In Period 1 of our 2-period model, the supplier coordinates in both price and advertising signaling with the downstream manufacturers who choose to use its ingredient as production input. Manufacturers also decide whether to label the ingredient brand on the outside of the end-product and set retail prices of the end-products. In Period 2, manufacturers make these same decisions, taking into consideration whether the high-quality supplier has successfully signaled in Period 1. Labeling is essential to the effectiveness of co-branding. The supplier and the manufacturers bargain to decide on the split of their share of the resulting channel profits. We show that, in the separating equilibrium, the high-quality ingredient is able to signal its quality level through advertising and end-product price. If ingredient brand reputation is established in first period, no price distortion will be needed in second period and labeling will be sufficient. On the other hand, if ingredient brand reputation was not established in first period, more price distortion will be needed in the second period. The effects of such ingredient branding efforts on the high- and low-quality manufacturers are studied.

4 - Image Reinforcement or Impairment: The Effects of Co-Branding on Attribute Uncertainty

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Frenkel Ter Hofstede, Jeffrey Inman

In this study, we investigate when a brand's image is reinforced or impaired as a result of co-branding, and which partner is right for a firm that considers co-branding for image reinforcement. We address these issues by examining the effects of co-branding on attribute uncertainty of partner brands. We conceptualize attribute beliefs as two-dimensional constructs. The first dimension (i.e., location) reflects the expected value of the attribute. The second dimension (i.e., strength) reflects the degree of certainty about the attribute. We argue that these parameters are updated after consumers are exposed to a co-branding activity. Based on categorization theory, the model describes the updating mechanism of partner brand beliefs that occur as a result of co-branding. An analysis of the model leads to several propositions, which we test in an experiment. Our findings indicate that it is not necessarily in a brand's best interest to choose a partner that is of the highest performance possible. Rather, our results suggest that it is better to collaborate with a brand that is perceived to be of only moderately higher performance. Inconsistent images of the partner brands may result in confusion about the co-branded product, and thereby cause high uncertainty about the brand alliance attribute. Moreover, we find that on each attribute, locations of the partner brands may improve as a result of co-branding. However, our results also show that under certain conditions, brands become weaker (i.e., increased uncertainty) through the alliance, suggesting the risk of image impairment.

FB09
Room 334
Auctions III

Chair: Martin Bernhardt
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1 - Propose-Your-Price: Effects of Price-Elicitation Format on Bidding Behavior in Reverse Pricing

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Reverse pricing is a market mechanism under which a prospective buyer submits a bid for a specific product, and a sale occurs if this bid exceeds a threshold price that has been set in advance by the seller and is unknown to consumers. (Priceline.com is a real-world example of such a mechanism.) One important design variable in connection with reverse pricing is the format used to elicit consumers' proposed prices. In particular, prospective buyers can be given the opportunity to either (1) express the amount they wish to bid in an unconstrained format ("name-your-price") or (2) select one of a number of candidate bid amounts from a list that is provided by the seller ("select-your-price"). We argue that bidding behavior in reverse pricing markets is not invariant to the way in which bids are elicited. In particular, we propose that the format of price elicitation tends to influence the magnitude of consumers' bids in a systematic fashion. We predict that, compared to name-your-price, the presence of a list of candidate bid values under select-your-price reduces consumers' perceived uncertainty about the sellers' threshold price and that this, in turn, tends to result in higher bids. Moreover, for the select-your-price format, we hypothesize that the particular range of candidate bids included in the list has a positive influence on consumers' willingness to pay. We find strong support for these hypotheses in two studies - a laboratory experiment using induced product valuations and a field experiment involving actual purchases.

2 - Optimal Pricing by Service Providers Using a Name-Your-Own-Price Channel

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Esther Gal-Or, Rabikar Chatterjee

This paper examines the role of the Name-Your-Own-Price (NYOP) channel from the perspective of the service provider. We employ a stylized but realistic game-theoretic model, assuming rational consumers, to analyze the optimal pricing problem of the service provider, who first sets the posted price and then the minimum acceptable price in the NYOP channel (in Stage 2, after some of the initial demand uncertainty is resolved). The addition of an NYOP channel has two countervailing effects on the service provider's profit: a positive effect of increased flexibility in pricing and a negative effect of cannibalization. On the one hand, the NYOP channel allows the service provider to adjust the price so as to sell more "distressed" inventory. On the other, contracting with an NYOP retailer not only cannibalizes some of the high-valuation customers from the posted-price channel, but also allows an intermediary (the NYOP retailer) to share its profit. The presence of these two effects in a Bayesian Nash equilibrium provides a rationale for the "opaqueness" of products offered in the NYOP channel. The resulting optimal pricing strategy allows the service provider to learn about the state of demand based on posted-price sales in the first stage and then contract with the NYOP channel at an optimal threshold price in the second stage. By adding the NYOP retailer and using this pricing strategy with "opaque" products in the NYOP channel, the service provider makes higher profits than it could if it were to sell directly to consumers.

3 - The Influence of Reserve Price on Competition and Auction Outcome

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Peter Popkowski Leszczyc, Terry Elrod

The purpose of this paper is to empirically investigate how seller's experience and usage of reserve price in ascending auctions affect competition and auction outcome. We propose a hierarchical Bayesian model that measures the affect of competition, number of bidders, reserve prices on ending price of auctions. This model incorporates endogeneity in the number of bidders, censored data, and heterogeneity of seller's experience. A rich data base on identical products from multiple categories, including many auction characteristics, was collected from eBay. We measure the direct and indirect effect, through competition, of reserve price on auction outcome. Furthermore, we consider differences in seller's experience on the usage of reserve prices. Finally, we consider what auction characteristics induce more people to bid in auctions.

4 - Bidding Costs in Auctions - Profit Implications in a Reverse Pricing Scenario

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Martin Spann

The usage of bidding costs, i.e. charging a fee for each bid, has thus far been of little interest in the field of auction theory. This is largely due to the fact that even modest bidding costs may be a serious deterrent to potential bidders (Klemperer 2002) competing in an auction. In auctions, the price a seller will be able to achieve for the auctioned good typically is increasing with the number of bidders participating in the auction (i.e. the level of competition). Unlike in most auction formats, bidders in Reverse Pricing mechanisms such as "Name-Your-Own-Price" introduced by online retailer Priceline.com in 1998, do not directly compete for a product via the price of their bid. Provided there are multiple units of a product available, bidders only bid against the seller's threshold price, that is, however, unknown to them. If bidders are allowed to place multiple bids, an 'epsilon strategy' (Hann and Terwiesch 2003) which lets them increase their bids by minimal amounts in each round, might let them exactly meet a seller's threshold price. Imposing fees for a buyer's bids on a specific product can then alter bidding behavior and thus lead to fewer but higher bids, increasing seller profit. The aim of our paper is to investigate consumers' bidding behavior and sellers' profit implications of such bidding costs in a Reverse Pricing scenario with multiple bidding. Therefore, we analyze bidding behavior for different levels of bidding costs in a large experimental study.

FB10
Room 331
Survey Research Methodologies

Chair: Bas Donkers
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1 - Using Item Response Theory to Measure Extreme Response Style in Marketing: A Global Investigation

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Extreme Response Style (ERS) is an important threat to the validity of survey-based marketing research. We argue that ERS has not been measured accurately in many previous articles. In particular, the ubiquitous practice of simply counting the number of extreme responses in a heterogeneous set of items is sub-optimal. Using item response theory (IRT), we show that items are differentially related to ERS and that many previous ERS measures, supposedly measuring only response style, contain both content and style components. The IRT model is developed in a cross-national setting, and we allow for the fact that items can differ in their sensitivity to ERS across cultures. All model parameters are estimated simultaneously using MCMC techniques. The model is applied to a large sample of more than 12,500 respondents from 26 countries, and variation in ERS across respondents and countries is related to socio-demographic and national-cultural variables. Based on test assembly methods, we also develop 26 short, country-specific ERS scales, which can be used in domestic and international marketing surveys to measure and correct for ERS.

2 - Bests and Worsts in Best-Worst Scaling: Tests of Convergent, Discriminant and Predictive Validity

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Mohaiman Mohaimani

Best-worst scaling (Finn and Louviere 1992) is a clever attitude measurement technique with valuable benefits to applied researchers (Cohen 2003, Sa Lucas 2004, Chrzan and Griffiths 2005). In best-worst scaling, respondents choose the one attribute they most prefer and the one they least prefer from each of several experimentally designed sets of attributes. These most and least choices are combined into a single data set and analyzed via MNL to produce measures for each attribute. The combination of most and least choices into a single utility model is problematic, however. Plausibly, the utilities resulting from the most and least choices could be different; as well, the most and least choices could have different error variances.
We use best-worst measurement in two large-scale commercial studies to test the convergent, discriminant and predictive validity of models constructed from:
- Most and least choices together
- Most choices only
- Least choices only

3 - The Coefficient Alpha Index of Reliability: How Good is Good Enough?

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Coefficient alpha has long been used as a measure of reliability of a scale, with the standard minimum acceptable alpha value being 0.7. In this research, we develop a standard error for coefficient alpha, and examine the properties of both alpha and its standard error as functions of sample size, scale length, inter-item correlation, and scale dimensionality. This extension permits a more sophisticated assessment of the reliability of a scale than a simple point estimate could provide. Our analytic results show that sample size has no effect on alpha but decreases its standard error, while scale length and inter-item correlation both increase alpha and decrease its standard error. Further, scale length and inter-item correlation can influence alpha either complementarily or substitutably, depending on the baseline size of inter-item correlation. In addition, sample size, scale length, and inter-item correlation all influence alpha's standard error in a substitutable way. We also establish the effects on alpha and its standard error of various extensions to the baseline scenario, including situations where: • an investigator has a scale that is largely good, but that contains one bad item, i.e., one whose correlation is lower with the other items; • the researcher uses multi-faceted scales instead of a single underlying factor; • the researcher inadvertently adds a "bad" item to a scale with the intention of enhancing alpha, thus instead adversely affecting alpha and its standard error; • the researcher must decide how many items to include in a scale (the implied 'equilibrium' scale length).

4 - DEPFAC: Factor Analysis for Dependent Observations

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Factor analysis is an important tool in marketing research. It is used to study the positioning of brands, the determinants of add evaluations and many other issues. The data that is analyzed will sometimes consist of observations where each observational unit rates each item multiple times. For example, each respondent rates a number of brands or ads on a number of items. This results in a dependency among these observations.

This paper proposes an extended factor model - DEPFAC - that allows for the dependency among the ratings for each brand, ad, or other type of object. It also discusses the role that variation across individuals and across brands play in identifying and interpreting the factors. Estimating the extended factor models also results in a perceptual map showing the location of each of the brands on each of the factors. The proposed method is applied to perceptions of mobile telephone service providers. Keywords: Factor analysis, perceptual map, multiple measurements, dependent data, statistical testing.

FB11
Room 301
Foreign Market Entry & Exits
Chair: Joseph Johnson
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1 - Accounting for Persistence and Heterogeneity in Firms' Foreign Entry Mode Choice
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Kersi Antia, Aric Rindfleisch

As firms venture abroad, the decision to establish wholly owned subsidiaries (WOS) or joint ventures (JV) with other partners takes on critical importance. Prior work in marketing has selectively examined nation-, industry-, and parent firm-specific determinants of firms' likelihood of establishing WOS, although there has been no attempt to account for the inherent heterogeneity in this focal decision. Further, there is robust evidence of firms' propensity to persist with WOS, with the implicit assumption (based on fed effect regression models) that such persistence occurs equally across all firms. We question this assumption of "homogeneity in persistence" and propose experience with the host nation and industry as determinants of variation therein. Further, we consider the diversity of firms' experience with entry modes as a critical yet ignored determinant of their persistence with WOS. To test our hypotheses, we use a rich dataset comprising 4,459 subsidiaries established by 858 Japanese firms across 38 countries over a nine-year period. We specify a 3-way (parent x nation x industry) cross-classified random effects regression model, with a randomly varying coefficient of persistence with WOS, and employ a Hierarchical Bayes Markov Chain Monte Carlo (MCMC) technique to estimate our model parameters. We find evidence of significant heterogeneity on entry mode choice attributable to all three hypothesized sources of variation. We also find firms' propensity to persist with WOS being weakened with increases in host country experience of the parent firm, as well as exhibiting a curvilinear relationship with the diversity of firms' entry mode experience.

2 - Religion, Opportunism, and International Market Entry via Non-equity Alliances or Joint Ventures
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Culture and cultural distance between partner firms have been extensively studied in the strategic alliance and international market entry literature. Religion's influence on organizational behavior generally has not been examined in traditional approaches. Given that religion is the ultimate determinant of people's core values and countries' cultures, models of global market entry decision making that exclude religion are underspecified. This research aims to fill the gap by exploring religion's impact on managers tendency to engage in opportunistic behaviors, which in turn influences firms' choice of international market entry between two forms of cross-border strategic alliances, i.e., non-equity alliances or joint ventures. Based on research in sociology and business ethics and transaction cost economics, I focus on hypothesizing the impact of the Christian beliefs and the absence of any religious beliefs on managers propensity for opportunism, which directly affects firms' choice of international market entry mode. I also attempt to explore Buddhism and Islam's impact on firms' international market entry mode choice. Using comprehensive data on 22,156 alliances formed in 48 industries world-wide between 1992 and 2000, I find support for the hypotheses and obtain interesting results about how managers various religious backgrounds influence their international market entry mode choice.

3 - Foreign Direct Investment (FDI) Determinants in Sub-Saharan Africa (SSA)
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Foreign Direct Investment (FDI) plays an important role in the globalization of markets, and has played a pivotal role in the development of emerging economies. Developing countries seek to attract multinationals firms to build modern manufacturing industries and especially to get access to knowledge and technologies, management and marketing expertise. Even though, FDI is viewed as an engine and a powerful force for the integration of countries into the global economy, FDI flows into sub-Saharan Africa (SSA) has been smaller than FDI flows into the rest of the world (UNCTAD, 2003). This study sheds light on country risk factors that influence the flow of FDI in SSA countries and try to understand the relative importance of FDI as source of knowledge and technology spillovers. The study tests for the effects of economic, financial and political risks on FDI in a set of 47 sub-Saharan Africa countries between 1990 and 2002. We conducted the ordinary least square (OLS) regression analysis and empirical results indicate that low levels FDI inflows in SSA are the result of risky and inferior investment environment. We conclude that the capacity of SSA countries to attract FDI is postulated to be a function of economic, financial, and political factors, and those improving country risk factors and conditions that are conducive to FDI will attract more of multinational companies.

4 - Mode of Entry for Emerging Markets
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Gerard Tellis

As markets get increasingly global, entering foreign markets becomes crucial for the survival and success of many firms. The choice of entry mode into foreign markets is one of the most critical decisions a firm has to make (Vern Terpstra 1990). Few studies have addressed the success of foreign market entry as a function of the mode of entry. Indeed, the success or failure of entry strategies has been a neglected area of research. This study addresses this issue. We identify three broad modes of entry: exports, contracts and investments. Using the archival approach, we obtain data on how firms entered two major markets: India and China, in addition to their size, breadth of operation, country of origin, distance to target market, and other key variables. Using the dates of the firms' announcements of market entry we conduct an event study to see how the firms' financial value changes as they enter these markets. Preliminary results suggest that country difference does not impact the probability of success. What does affect success is the size of the firm with smaller firms having a greater probability of success.

FB12
Room 304
Retailing III; Store Performance
Chair: Minakshi Trivedi
Associate Professor, State University of NY at Buffalo, Jacobs Management Center, North Campus, Buffalo, NY, 14260, United States, mtrivedi@buffalo.edu

1 - Benchmarking Spatial Performance of a Retail Store: An Application in the Grocery Market
Debabrata Talukdar, Assistant Professor, SUNY at Buffalo, School of Management, Jacobs Mgmt Ctr, Buffalo, NY, 14260, United States, dtalukda@buffalo.edu
Andrei Strijnev, Minakshi Trivedi

Setting targets for marketing performances in terms of sales or market shares, and evaluating such performances are important elements of a firm's

strategic decision making process in any product market. In this research, we seek to address the issue of how a retail grocery store could decide on setting "efficient" targets to evaluate its spatial sales performance. The wide prevalence of "frequent shopper" loyalty card programs by grocery retail chains means that most grocery retail stores collect data that can be used to trace back the spatial distribution of its sales. While such data will thus allow a store to evaluate its spatial sales performance over time, it does not provide any insight into how the store's spatial sale performance compares to total sales potential in a given spatial unit. The motivation and contribution of this research is to develop a decision model that can provide such insight to store managers. Using "Census Block Group" (CBG) as the spatial unit of analysis, our model combines a store's internal data from loyalty card program with data on demographics and competition from syndicated, commercial as well US Government sources. The model allows a store to evaluate its spatial sales performance through estimation of an "efficient" sales performance target for each CBG, taking into account the population demographics and the nature of grocery market competition for the CBG. We present the findings of the application of our model, and discuss their implications for enhancing store performance through target marketing based on spatial segmentation strategy.

2 - Win-win Strategies at Discount Stores

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Jan-Benedict Steenkamp, Marnik G. Dekimpe, Oliver Koll

An important development that contributes to store brands' growing success in the grocery market is the dramatic growth in the number of discount stores that sell predominantly private labels while national (i.e. manufacturer) brands are mostly absent. Accordingly, to fight the private label, manufacturers feel increasingly compelled to sell their products at the discounter. Indeed, by selling their brands through discount stores, manufacturers can participate in discounters' growing market success, while, at the same time, they can prevent an increasing number of discounter shoppers from switching to the store brands offered there. Discounters, from their part, are looking for opportunities to differentiate themselves from one another, thereby moving beyond pure price-based competition. One important venue to build stronger store loyalty and to create a sustainable competitive advantage is by extending their assortment with attractive national brands. At present, little knowledge exist on how manufacturers can successfully operate with their branded goods through the discount channel. Yet, discounters' unique store format makes it is questionable whether the same strategies and marketing tactics currently used in the established channels, are equally effective at the discounter. In this study, we evaluate the success of over 400 national brands sold at 6 different grocery discount stores (i.c. Lidl, Penny, Mercadona, Dia, ASDA, & KwikSave) that are located in 3 countries. Specifically, we determine what factors drive national brand success at discounters, and lead to positive outcomes for both the manufacturer and the discounter.

3 - Market Structure and Store Performance in the Retail Discount Industry

Ting Zhu, Carnegie Mellon University, 5000 Forbes Ave., Pittsburgh, PA, 15213, United States, tzhu@andrew.cmu.edu
Vishal Singh

One of the most important decisions in retailing is store location. Unlike the other marketing m elements, location is not easily altered without incurring significant sunk costs. Furthermore, in making decisions on whether to enter a local market, firms make tradeoffs between favorable market conditions and potential competitive threats. In this study we investigate the factors governing firm's entry patterns and store performance in the retail discount store industry. In particular, we study the evolution patterns for three firms that dominate the US retail discount industry: Wal-Mart, K-Mart and Target. Firm's choices are formalized as the outcome of three-player game, where profits depend on the exogenous market characteristics, other firms' behavior, and market/firm-specific unobservable factors. Under certain model assumptions, we prove the existence of unique SPNE. The theoretical model translates into a discrete choice framework for empirical estimation. Model estimates provide insights into factors affecting firm's entry and store format choice in a market, and how these factors differ across the players. Several observed demographic and cost related factors are found to be important in entry decisions. We also find significant evidence of asymmetries across firms and formats in terms of the impact of competition on store locations and revenues.

4 - Assessing Store Performance Equitably

Minakshi Trivedi, Associate Professor, State University of NY at Buffalo, Jacobs Management Center, North Campus, Buffalo, NY, 14260, United States, mtrivedi@buffalo.edu
Pauler Gabor, Dinesh Gauri

Setting equitable performance expectations across stores within a chain, differing not only in physical traits, but also in the consumers it serves and the competition it faces, becomes a complex, albeit critical task. For example, how do we determine the area within which a given stores' shoppers come from? To what extent are purchases made from a single store? How do we determine the competitive threat faced by a given store? We address these issues by introducing the concept of Force of Local Competition (FLC) in the modeling, resulting in a 'quasi-infinite market force function', based on an extension of the Huff model (Huff 1965). The model is estimated using a non-linear (Newton-gradient) optimization method from which we can benchmark sales performance of chain stores, market share of stores in different regions, and the intensity of competition faced by each store. The model also allows us to estimate the attractiveness of different store features for customers, and determine their overall relative competitive force. This information should prove invaluable to retailers in determining among other things, equitable sales goals for individual stores, individual store reward systems, customer selection for promotional targeting, and selection of store specific attributes that add value for the consumer. The model is tested using data from a major retail chain consisting of over 150 stores, 3 M households, 200 M transactions and 2 B products. Results show a satisfactory fit to the data, with rich implications for setting performance standards and designing store features with maximum impact on consumer behavior. Partial implementation of strategies resulting in significant improvement in sales, further validates our results.

FB13
Room 421
Stochastic Models

Chair: Michael Braun
Doctoral Candidate, Wharton School, Univ. of Pennsylvania, 500 Huntsman Hall, 3730 Walnut St., Philadelphia, PA, 19104, United States, mbraun2@wharton.upenn.edu

1 - A Multivariate NBD Model for Internet Reach and Frequency Prediction

Peter Danaher, Professor, University of Auckland, Dept of Marketing, Private Bag 92019, Auckland, New Zealand, p.danaher@auckland.ac.nz

A multivariate media exposure model is developed for predicting exposure to an internet advertising campaign. Rather than adapting models previously used in traditional media, a new model is derived that is tailored to the internet environment. This new model is a multivariate generalization of the negative binomial distribution. For very large internet advertising schedules a simple approximation to the multivariate model is also derived. In a test of nearly 3000 internet advertising schedules, the two new models are compared with some proprietary and nonproprietary models previously used for internet advertising and are shown to be significantly more accurate.

2 - Quantifying the Double Jeopardy Relationship

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Cam Rungie

Brands that have higher market share also have a higher penetration of the available market than those brands with lower market share. Other measures of brand performance (eg purchase frequency, share of category requirements) also tend to vary in line with market share but not to the same degree. A number of techniques have been used in an attempt to

quantify the exact nature of this "double jeopardy" relationship ranging from drawing a straight regression line through the (curvilinear) x-y plot of penetration vs purchase frequency, to exponential regression, or even a rearrangement of Ehrenberg's empirical law of "w(1-b) is a constant." This paper describes a process for drawing a double jeopardy line as it would be estimated by the Erlang - Beta/Binomial model of purchase incidence and brand choice (Jeuland, Bass and Wright 1980). Considering the strong empirical support for this model through its multibrand cousin, the NBD-Dirichlet (Goodhardt, Ehrenberg and Chatfield 1984) it is anticipated that this approach is likely to generate superior fits when compared to the previously applied methods. Empirical application of the process is demonstrated. In addition to the methodological contribution described above, the extrapolation inherent in this approach begins to build insight as to how growth of small brands comes as a result of penetration increases and the degree to which larger brands are likely to grow through increases in customer loyalty. This technique also builds the foundations for a deeper analysis of market dynamics that arise from changes that occur in the broader product category.

3 - Modeling the "Pseudodeductible" in Insurance Claims Decisions

Michael Braun, Doctoral Candidate, Wharton School, Univ. of Pennsylvania, 500 Huntsman Hall, 3730 Walnut St., Philadelphia, PA, 19104, United States, mbraun2@wharton.upenn.edu
Peter Fader, Eric Bradlow, Howard Kunreuther

In many different marketing contexts, consumers "leave money on the table' by, for example, their failure to claim rebates, use available coupons, and so on. This project focuses on homeowners who may be reluctant to file insurance claims despite the fact their losses often exceed their policy deductibles. We model this decision by introducing the concept of the "pseudodeductible," a latent threshold above the policy deductible that governs the homeowner's claim behavior. We show how the observed number of claims is the output of two separate stochastic processes: the rate at which losses occur and the choice of the individual to file or not file a claim on that loss. We show that allowing for the possibility of pseudodeducitbles enables one to sort out (and make accurate inferences about) these two processes. We test this model using a proprietary dataset provided by a leading insurance company. Using Dirichlet process priors to capture heterogeneity and the interplay among the two processes, we uncover several relevant 'stories' that drive the number of claims. For instance, some customers have a small number of losses, but all are filed as claims, while others may experience many more losses, but are more selective about which claims they file. These stories lead to potentially divergent predictions about future behavior, with broad implications for customer lifetime value and market segmentation.

4 - Customer Lifetime Value Measurement

Sharad Borle, Assistant Professor of Marketing, Jones School of Business, Rice University, 6100 Main St., Houston, TX, 77005, United States, sborle@rice.edu
Siddharth Singh, Dipak Jain

The measurement of customer lifetime value (CLV) is important because it is a metric in evaluating decisions in the context of customer relationship management. For a firm, it is important to form some expectation as to the remaining lifetime value of each customer at the time a customer starts doing business with the firm, and at each purchase by the customer. In this paper, we use a hierarchical Bayes approach to estimate the remaining lifetime value for each customer at each purchase occasion. The data come from a membership based direct marketing company (in a non-contractual setting) where the date of joining the company and the date of termination of membership are known. We compare the performance of our model with that of the Extended Pareto/NBD model and a heuristic model on a separate validation dataset. The results show that our model performs better at predicting the remaining customer lifetime value than both the other approaches. The results show that a delay in purchase is likely to increase the spending by a customer during the next purchase occasion. Both male and female customers seem to have similar inter-purchase time intervals; however, women spend less as compared to men.

FB14
Room 453
Information Presentation and Framing

Chair: Moshe Givon
Prof. of Marketing, Tel Aviv University, Recanati School of Management, Tel Aviv university, Tel Aviv, 69978, Israel, givon@post.tau.ac.il

1 - Analogical Discourse: A Method of Conducting Inquiry into Complex and Abstract Concepts

James S. Kirley, Ass't Professor (Temporary), North Georgia College & State University, BADM, Newton-Oakes, Dahlonega, GA, 30597, United States, jskirley@ngcsu.edu
Robert A. Orwig

Much of the research in macro marketing theory concerns the idea of collective thought; the market. While this idea of collective thinking appears to be assumed, there has been little work to determine whether or not a transcendent mind is at work in the marketplace. Exploring such a concept presents a problem of choosing a method appropriate to such an abstract idea such as, 'collective mind." After a review of generally accepted methods of ethnographic and phenomenological research outlined by Guba and Lincoln, a method combining aspects of several techniques began to take shape. According to Vosniadou, this method has not been previously outlined in any substantial detail. It is however based on well documented concepts of learning through analogy. Using this method, it is possible to sort ideas developed through multiple analogies; called simultaneous integrated multiple analogies for high levels of material congruence called systematicity, by researchers Genter and Johnson-Laird. A second objective served by developing multiple analogies is to discover areas of emerging models that are informed by one body of theory for a particular discipline, even if they are not yet validated by one or more other bodies of theory. The study method may also be aided by the use of various computer soft-wares such as QSR-NUDIST. The method shows provides a meaningful and structured ways to examine complex and abstract concepts, and to place these ideas into familiar cognitive frames.

2 - The Effect of Message Framing on Product Choice and Skepticism

Rex McClure, Doctoral student, Southern Illinois University, Market Dept, 229 Rehn Hall, Carbondale, IL, 62901, United States, rexmcclure@yahoo.com
Siva Balasubramanian

Abstract: Message framing has been explored frequently as a component of choice. Typically, a message can be either positively or negatively framed, but the content of the message remains the same in absolute terms (e.g. This ground beef is 75% lean vs. This ground beef is 25% fat). Past studies have found that when a product attribute is framed positively, choice of that product is significantly more likely. This study builds on previous research by including skepticism measures, with the goal of describing how framing affects the believability of messages. By manipulating framing and elaborative thoughts this study intends to demonstrate framing affects choice and that a greater degree of elaboration will foster skepticism. Results indicate that framing did not have a significant effect on choice; however, negatively framed messages were perceived to significantly less believable than positively framed messages. This result suggests that advertisers may want to avoid using negatively framed messages, as these may adversely affect the credibility of their message. Consistent with our prediction, elaboration significantly increased skepticism, suggesting that it may be in advertiser's best interest to use simple messages that do not induce thought. Additionally, analysis of skepticism measures suggests that this construct may be bi-dimensional: consisting of truthfulness and believability dimensions. Future research should investigate the effect of framing on choice by employing more detailed purchase intention and attitude toward ad scales.

3 - Presentation of Time in Stated Preference Experiments. Does it Really Matter?

Moshe Givon, Prof. of Marketing, Tel Aviv University, Recanati School of Management, Tel Aviv University, Tel Aviv, 69978, Israel, givon@post.tau.ac.il
Itzhak Ditzian

Travel time is an important determinant of choice of transportation mode. Stated preference experiments are the main tool for studying, planning and justifying new transportation modes and routes. There are three optional forms of presenting travel time, which are considered to be interchangeable. (a) Percent of time saved or lost by using a new mode compared to the respondent's regularly used mode. (b) Absolute time saved or lost by using a new mode. (c) Actual travel time of alternative modes that are included in the presented choice set. We studied the effect of these three forms of time presentation on the choice of a new toll lane that is planned to be added to a major highway into Tel Aviv. A med logit model that includes time, cost and lane specific parameter was calibrated using Hierarchical Bayesian MCMC estimation procedure. We found significant effect of the form of time presentation on choice and estimated parameters of the model, including the derived value of time. Most notably, presentation of time in the form of "percent of time saved by the new lane" induces more choices of the new lane, the smallest resentment to the new lane, the highest sensitivity to travel time, the lowest sensitivity to cost of the new lane and the highest value of time.

4 - What to Say When: How the Delayed Presentation of Persuasive Information Influences Consumer Choice

Xin Ge, Ph.D. Student, University of Alberta, Ph.D. Program, School of Business,, Univ. of Alberta, Edmonton, AB, T6G 2R6, Canada, xing@ualberta.ca
Gerald Häubl

Consumers' product choices are often based on multi-stage processes. A typical two-stage decision process involves an initial screening phase during which unattractive alternatives are eliminated, followed by a second phase during which the final choice is made based on an in-depth examination of the remaining alternatives. When a purchase decision involves multiple stages, consumers may first learn a piece of persuasive information about a particular alternative (e.g., a favorable product feature) at any of the stages. In particular, such a favorable bit of information may not become available until the final choice stage. An interesting question that arises from this is: What is the effect of the delayed presentation of persuasive information on consumers' product choices? The central thesis of this paper is that, in the context of multi-stage purchase decisions, the delayed presentation of persuasive information about a particular product may increase consumers' ultimate preference for that alternative. The results of a series of experiments designed to examine this phenomenon are presented. We first demonstrate the basic effect, i.e., that the delayed presentation of favorable information about an alternative can have a strong positive effect on consumer preference for that product, even in the presence of an objectively superior competing product. In addition, we illustrate the dynamics of relative product preference over the stages of the decision process. Furthermore, the delayed presentation of too much favorable information is shown to be an important boundary condition for the basic effect. Finally, we examine the cognitive mechanisms that underlie the effect.

Friday, 1:30 - 3:00pm (Session C)

FC01
Room 130- Auditorium
Marketing Strategy in Practice

Chair: Bruce Clark
Associate Professor, Northeastern University, 202 Hayden Hall, Boston, MA, 02115, United States, b.clark@neu.edu

1 - Branding Internal E-Business Systems

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Branding, marketing, and selling are terms normally not associated with internal information technology systems. However, in this day of cost cutting, out sourcing, and staff reductions the basic principles of marketing are needed more than ever. This paper examines the impact of utilizing a marketing framework with an internal technology organization. This group was established in 1999 as part of an internal transformation to a more enterprise oriented architecture. The Metadata Services Group (MSG) has built a collection of repositories in order to deliver enterprise information to the technical and business community. MSG implemented the marketing framework in 2002 which establishes a foundation of products, services, and metadata knowledge. Detailed messages of quality, subject mater expertise, and application availability are then applied to the organizational strategies. Finally, six specific marketing mechanisms are created including: promotional materials, expertise of the brand, educational opportunities, metric promotion, expertise promotion, and levels of integration. This layered model will be described in detail as well as a case study application. Using the framework model for internal information technology programs can lead to: (i) increased content and usage for the repository collection, (ii) higher levels of integration into the architecture community, and (iii) increased demand for additional repositories.

2 - Measuring MBA Program Quality: A Skill Development Perspective

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MBA programs offering marketing and management education are under increasing pressure to deliver high-quality services to their students. Whether the program participants are working marketing managers or young, full-time students, the substantial tuition fees paid by participants combined with intensifying global competition has led many top business schools to pay careful attention to the quality of their offerings. While the marketing literature suggests that MBA program quality can be evaluated many ways, including accreditations, the extent that graduates are able to command high salaries, and even published rankings, evaluating MBA program quality by examining key business skill development effectiveness has received little attention in the literature. Skill development effectiveness is a growing area of interest among marketing educators, administrators, and MBA program constituents worldwide. The aim of this research is to examine the potential for MBA program quality to be evaluated rigorously and systematically by the extent an MBA program helps develop key business and marketing skills among its students. Toward this end, a methodology for measuring MBA program quality in skill development is presented. Data from a major business school are analysed and assessed to provide insight into the antecedent factors of MBA program skill development. Implications for MBA student selection, managing student expectations, and program initiatives are discussed. Insights into effective marketing skill development in MBA programs are also critically examined and presented.

3 - Managerial Identification of Competitors: Accuracy and Performance Consequences

Bruce Clark, Associate Professor, Northeastern University, 202 Hayden Hall, Boston, MA, 02115, United States, b.clark@neu.edu
Bernard Marr

Managers are routinely advised to identify their competitors for analysis as part of the marketing planning process. Previous research has examined what drives managerial identification of competitors and how well managers' perceived market structures match customer market structures. Better understanding of the competitive market structure one faces should in theory improve firm performance; no one to our knowledge, however, has tested this relationship. We examine this relationship in the context of the Balanced Scorecard (BSC) software industry. The BSC is a corporate performance measurement and management framework. As the framework has become popular, software vendors have developed packages to help companies implement it. Customers for these vendors tend to be large organizations spending tens to hundreds of thousands of dollars on a given software implementation. The study involved a longitudinal survey design to examine the relationship between managerial accuracy in year 1 and firm performance in year 2. Accuracy was examined by comparing managerial perceptions to (a) customer perceptions in year 1, and (b) managers perceptions of competition in year 2. Accuracy relative to customers had a larger influence on performance than accuracy regarding future perceptions. Two primary drivers of firm performance were identified: the degree

to which customer perceptions of competitors were correctly predicted by managers (positively relationship), and the degree to which managers saw themselves as competing with firms at different levels than did customers (negatively relationship). Accuracy in turn was influenced more by characteristics of the perceiving manager's firm than the experience of the manager.

FC02
Room 238
Game Theory III; Retailing

Chair: Andrei Strijnev
Assistant Professor, SUNY at Buffalo, School of Management, Jacobs Mgmt Ctr, Buffalo, NY, 14260, United States, strijnev@buffalo.edu

1 - The Effect of Store Brand Introduction on Channel Price Leadership

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Eunkyu Lee

In this study, we analyze how store brand introduction affects the relationship between a retailer and national brand manufacturers in terms of price leadership. In particular, prompted by the consistent suggestion of the literature that store brand introduction differentially affects the incumbent national brands, we investigate 1) whether store brand introduction affects the price leadership situation between a national brand manufacturer and a retailer, 2) whether this impact varies across competing national brands within a product category, and 3) if so, what factors are the key moderators of the impact of store brand introduction on channel price leadership. To explore these issues, we first develop a game-theoretic model of a channel composed of two competing national brand manufacturers and a retailer, who introduces a store brand to the category. By comparing the equilibrium solutions between before and after the store brand introduction under various conditions, we demonstrate that the size of a retailer's incentive to exercise channel price leadership against a particular national brand manufacturer depends upon the brand's relative quality and cost levels in the category. We next test these theoretical results empirically using a multi-product category retail database from a major grocery chain. By taking advantage of the longitudinal nature of the data, we analyze the patterns of vertical strategic interactions in multiple product categories using the time-series analysis approach. Our results indicate that store brand introduction leads to price leadership changes for some (but not all) national brands, following a pattern consistent with our theoretical result.

2 - Store Competition on Locations and Promotions

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Tat Y. Chan, Chakravarthi Narasimhan, Vishal Singh

The objective of this research is to investigate the effectiveness of store competition on two major dimensions, locations and promotion policies, under the dynamic changes of household basket purchases. Promotion policies include feature advertising, price discounts, in-store promotion, and loss leader promotion in a competitive environment. Our model captures four key constructs: 1. consumers' time-varying consumption needs for multiple categories; 2. consumers' search for price information; 3. consumers' trade-offs between traveling costs and expected savings on the basket; 4. interactions between effectiveness of store promotion policies and time-varying consumption needs. The store choice model is illustrated in the following figure. At beginning of each period, consumption needs (as a function of some exogenous factors such as household demographics and seasonality) arise. Consumers then search for price information through feature advertising, and form expectation about total cost of the basket at the different stores. Traveling costs, store preferences, and expected expenditures are combined to evaluate the total attractiveness of each store to make their store visit decisions. Once in a store, consumers are exposed to in-store promotions and they make the final decision on what to buy. Based on the estimation results, we will conduct policy experiments to answer the following important research and managerial questions, such as: how do demographic variables, holiday, and seasonality factors affect household consumption needs which involve multiple categories? Which categories and which brands are the best candidates for feature advertising at a given time?

3 - Shelf-Space Allocation for National and Private Brands: A Game Theory Approach

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Georges Zaccour

We consider a marketing channel formed of one manufacturer and one retailer. The latter carries the manufacturer's national brand as well as her private label. The manufacturer controls the wholesale price and the retailer the price to consumer of the two brands, as well as the shelf-space allocated to each brand. Whereas the objective of the retailer is to maximize the total category's profit, the manufacturer aims at maximizing her individual profit. The demand for each brand depends on both brands retail prices and on its exposure (facings on the shelf). We assume that the game is played á la Stackelberg, with the manufacturer as the leader and the retailer as follower. The paper does three things. First, it characterizes the shelf space and pricing equilibrium strategies. We assume here that the consumer has an intrinsic preference for product variety, i.e., ruling out the option where a brand is excluded from the shelf. Second, it discusses the differences with shelf-space allocation rules which are provided by optimization models or widely available software in retailing (e.g., Apollo, Cosmos and Spaceman). In the latter cases, the manufacturers' wholesale prices are given, whereas in our framework the wholesale price is a strategic variable. Finally, it provides a sensitivity analysis to shed a light on the impact of the parameters on equilibrium strategies.

4 - Profit Sharing and Channel Structure in the Motion Picture Industry

Andrei Strijnev, Assistant Professor, SUNY at Buffalo, School of Management, Jacobs Mgmt Ctr, Buffalo, NY, 14260, United States, strijnev@buffalo.edu
Nina Baranchuk

The motion picture industry is well known for its sliding scale profit sharing agreements between distributors and exhibitors. Existing research, however, offers few, often contradictory, explanations for such contracts. We propose a game-theoretic framework for analyzing strategic choices of the movie release, which explicitly models the channel structure. We model competition between multiple studios (competition effect) in a market with seasonal demand (seasonality effect), and consumers who rarely watch the same movie more than once (saturation effect). We show that these three effects are unable to explain a well-documented empirical observation that studios tend to release lower quality movies in periods with lower demand. Interestingly, we find that introducing profit-sharing agreements between studios and movie theaters may induce such behavior. We argue that profit sharing agreements benefit movie theaters by increasing their efficiency. Our results hold both for blockbuster movies that collect the highest revenue early in the product lifecycle, and for sleeper movies that rely heavily on word of mouth and may enjoy an increase in revenue later in the product lifecycle. We consider several extensions of the main model, including different competitive environments and uncertainty. Our results suggest a number of new empirical tests. Additionally, the results provide an insight on new product introduction in markets for products other than movies.

FC03
Room 234
E-Commerce / E-Marketing I; Information

Chair: Steven Huff
Marketing PhD Student, Haas School of Business, University of California Berkeley, Berkeley, CA, 94720, United States, huff@haas.berkeley.edu

1 - Online Provision of Free Ridable Product Information

Yacheng Sun, Doctoral Student, Marketing Department, Kelley School of Business, Indiana University, Room 328, Marketing Department, Kelley School of Business, Indiana Univ., Bloomington, IN, 47401, United States, yacsun@indiana.edu
Xing Pan

In online retailing, the digital presentation of product information becomes critical in influencing consumer purchase decisions, not only because richer information can be found online and comparison of products can be much easier but also because shoppers are physically separated from products. In addition, online information can be much more easily free-rided than that in conventional market, due to the elimination of retailers' territory boundaries. Thus, the nature and amount of information to be provided should be an important and deliberate strategic decision of e-tailers. We look directly into the possibilities of how information affects product demand, and then examine the optimal choices of how much information should e-tailers provide. Our discussion of product information focuses on its impacts on increasing consumer awareness and influencing consumer taste. We distinguish the novice and expert buyers who hold different uncertainty towards the product value and then are affected differently by the retailer provided information. We start with a simple analytical model where a monopoly seller sets the amount of information first and then price. Our analysis shows that it is not always optimal to provide maximum amount of information even if the cost of information provision is low. We then extend our model to the scenario involving competition, where e-tailers with reputation asymmetry sell homogeneous products and face the information free-riding problem. The incentives and disincentives for online retailers to provide information are examined. We show that branded and unbranded e-tailers have different concerns on information free-riding and they provide different amount of information in equilibrium. Our study offers useful insight for Internet marketers.

2 - Strategic e-Detailing to Improve Marketing ROI

Ravi Chitturi, Assistant Professor, Lehigh University, College of Business & Economics, 621 Taylor St, Bethlehem, Pa, 18015, United States, rac2@Lehigh.EDU
Franklin Carter

Rapid rise in innovation and competition in the pharmaceutical industry has put tremendous burden on physicians to keep up with the latest technological developments in order to provide the best service to their patients. Physicians need large amounts of medical information, but their patient loads limit their ability to see pharmaceutical sales representatives, attend conferences or other educational activities. They are constantly seeking more efficient methods of knowledge acquisition from various sources. Similarly, firms too are eager to reduce their sales expenditure that stands at 35% and is one of the highest across industries. Advances in the internet and the multimedia technologies have given the firms an opportunity with e-detailing to deliver latest information in a timely and convenient way to the physicians. These developments have challenged the marketers for physicians' time, diminishing returns on increasing sales forces, and meeting stricter regulations on approaching physicians.
This research will address the following main questions:

1. Is e-detailing more attractive for physicians than sales rep visits?
2. Does e-detailing lead to higher marketing ROI? In the proposed "promotion response model" (PRM) the main and interactive effects of e-detailing would be compared to that of other marketing m variables used by pharmaceutical marketers such as direct to consumer advertising, meeting and events, professional detailing, samples and medical journal advertising. The PRM would be calibrated on ten diverse therapeutic categories of ethical pharmaceutical products. Data would be collected on physician promotion activity by pharmaceutical companies.

3 - Feedback Control for Interactive Choice Model to Maximize User Information Rate

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Pushkin Kachroo, Reza Kheirandish, Steven Suhr, Kent Nakamoto

The amount of information presented to a consumer when making a choice has been the topic of much decision making literature. Information overload or lack of information can leave the consumer frustrated and unable to make an efficient choice. We thus consider the problem of deciding the appropriate number of choices to present to a consumer on a website. There will be an optimal number of choices to present per user at a given time that would enable the system to extract her/his maximum information rate (number of choices divided by the total time taken by the user between two consecutive decisions). This number however, can change for the same user over time, as the user gets more proficient with the system. Likewise, this number can be different for different users. To address this problem, we present a feedback control based design that estimates and tracks a user's optimal information rate. The feedback control design is based on an ordinary differential equations based dynamic model of the system. We propose and then validate a dynamic model of the system using collected data. Then, we design the feedback 'optimal' information rate tracking controller based on that model. The controller has two modules that have been designed to operate together. The estimation module estimates the (current) sensitivity of the change in user's information rate to changes in the number of choices. This estimated 'slope' is used by the tracking module that searches and tracks the peak of the curve that represents the plot of information rate versus number of choices. The overall control design is then tested via software dynamic simulations.

4 - Information Overload: Evidence from the Field

Steven Huff, Marketing PhD Student, Haas School of Business, University of California Berkeley, Berkeley, CA, 94720, United States, huff@haas.berkeley.edu
J. Miguel Villas-Boas

Our research is preliminary in nature. We investigate the existence of information overload in the behavior of online consumers in a real-world setting by creating an experimental product category in an online retailer in office supplies. Subjects observed in the experiment were sent e-mails with varying numbers of product descriptions and links. These links led them to the experimental category page of the retailer website where they were presented a varying number of products. We observe how the number of links presented in the e-mail affects the likelihood of clicking one of the links, and we observe how the number of alternatives subsequently displayed on the experimental category menu page affects their browsing behavior. We find evidence that consumers are affected by information overload in that the likelihood of making a selection when presented with multiple choice alternatives initially increases, but eventually begins to decrease when the number of alternatives presented is large enough to overload the subject. We also find evidence that although the likelihood of continuation eventually decreases due to information overload, it subsequently increases again as the number of alternatives offered increases suggesting that another effect is also at work in the choice situation presented to subjects. We provide a possible explanation for this second effect in that it could be driven by some unique characteristics of the online environment. Specifically, since the cost of a click is relatively low and it is reasonable to assume that consumers expect that a click would lead to richer information, then as the number of alternatives increases, so does the likelihood of continuation in search of richer information.

FC04
Room 231
Pricing Asymmetries

Chair: Charles Wood
Assistant Professor, Management, Univ. of Notre Dame, Mendoza College of Business, 230 MCOB, Notre Dame, IN, 46556-5646, United States, cwood1@nd.edu

1 - A Dynamic Model of Asymmetric Price Negotiation

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Many buyer-seller interactions are characterized by asymmetric negotiation in which the seller makes explicit offers that the buyer either accepts or rejects. Buyers are often faced with a purchase deadline, which causes the buyer's opportunity cost of delay (negotiation cost) to increase over time. In turn, an increasing negotiation cost causes the buyer's minimum purchase threshold (reservation value) to vary over time. This manuscript proposes a new model of asymmetric price negotiation that allows buyers' reservation values to change over time. The model reflects buyer decisions with respect to negotiation costs, the seller's offer rate, a discount rate, and

time. A dynamic structural model of asymmetric price negotiation is derived from the economic theory of search that integrates findings from the behavioral literature. In particular, buyers are assumed to maximize their net present expected utility, but do so myopically over a short time horizon. Buyers evaluate a seller's relative offer or the difference between the seller's current offer price and a reference price. The model is shown to imply that the purchase hazard rate increases with time and negotiation cost, but decreases with offer rate and average relative offer. Model properties are empirically tested using a competing-risks proportional hazard model derived from the structural model. The empirical model is estimated on a sample of actual negotiations over the rental of a durable product. The empirical results confirm the properties of the structural model. The empirical model is used to explore alternative specifications of the buyer's reference price. It is shown that buyers tend to rely on the most recent offer price when evaluating the seller's offer in the sample of negotiations.

2 - Positive and Negative Roles of Price in Product Evaluations
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Henrik Sattler

Price is a complex stimulus. At a minimum, price represents the amount of money that must be sacrificed, and therefore higher prices negatively affect purchase probability. However, many consumers perceive price more broadly than strictly as an outlay of economic resources. For example, consumers use price as an indicator of quality. To the degree price is perceived in this 'positive role' higher prices positively affect purchase probability. But the negative and positive role of price can extend even further, e.g. favorable or unfavorable perceptions of the price cue due to inferences about what it signals to other people about the purchaser. In practice, only the total effect of price is estimated, particularly by using conjoint analysis. The two main objectives of our research are: (1) to separate negative and positive price effects in a choice-based conjoint setting; (2) to explain the estimated price effects using several price-related constructs-eight consistent with a perception of price in its 'negative role' and four consistent with a perception of price in its 'positive role'. The analysis requires collecting data from two scenarios. One scenario is subject to a budget constraint and the other is not. Based on the two consequential estimated preference functions price elasticities respectively price effects can be inferred. We estimate the price effects using a hierarchical Bayes procedure to account for respondents' heterogeneity.

3 - How Asymmetric Price/Share Effect Works: The Moderating Role of Market Structure
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Lichung Jen

Measuring and modeling the asymmetric competition in price is one of the major topics in marketing research. Studying patterns in asymmetric price/share effect enables managers to recognize price competition in their marketplace, thereby providing guidelines for pricing strategies. A review of these studies showed that miscellaneous viewpoints were presented on this issue. For example, the asymmetric price effect favors the high-price brand while the asymmetric share effect favors low-share brand. Managers who were told about one of the asymmetric phenomena might make poor decision, and they might feel thoroughly confused when they learn more about this issue. Some managers are eager to know, but hesitate about "who should cut price under what condition?" In this article, the authors develop a framework to analyzing the patterns of price competition, and propose that asymmetric effects are moderated by brands market structure: when cross-price elasticity is considered, price competitions across different submarkets favor high-price brands but within submarket favor high-share brands. Additionally, when cross-price sensitivity is considered, brand price competitions across different submarkets favor low-share brand whereas within submarket favor low-price brand. We conducted a choice based conjoint experiment to test these hypotheses. The findings can help managers to predict the relative influence of price promotion on the variation of market share in a product category before a new promotional activity is conducted.

4 - Negative Asymmetry in Price Adjustment Patterns: Online High-Tech Shops
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Paul Messinger, Sourav Ray

Longitudinal pricing patterns in high-tech industries are often determined by the rate of technology decay, as newer product versions are introduced frequently. Contrary to many other sectors of the economy, therefore, price adjustments in high-tech sectors are often argued to show a negative asymmetry-with product prices more likely to fall than they are to rise. The presumed efficiency of this logic implies that market leaders are more likely to exhibit this negative asymmetry than non-market leaders. To investigate this, we examine daily prices for 1,209 different high-end cameras and computers from 186 different vendors online. Preliminary results suggest that in general, prices do tend to drop over time and that market leaders show a greater tendency to adjust prices downwards over time. Initial analyses also suggest that average price decreases for such market leading vendors are greater than their average price increases by almost 60%. This is more than twice that of vendors that are not market leaders.

FC05
Room 201
Channel Governance
Chair: Sandy Jap
Caldwell Research Fellow Associate Professor of Marketing, Emory University, 1300 Clifton Road, Atlanta, GA, 30322, United States, sandy_jap@bus.emory.edu

1 - Are More Relational Ties Always Better? The Performance Consequences of Relational Norms
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Susan Rosen, Mrinal Ghosh

The "trust" view of inter-firm exchange holds that relational norms (i.e., shared expectations of cooperative behavior) employed to evoke cooperative behavior will reduce ex post adjustment costs. As such, greater endowments of this social capital yield better performance. In contrast, transaction cost economics (TCE) contends that relational norms are consciously engineered as a specialized (costly) governance device in response to specific circumstances surrounding an exchange and they enhance performance only when the norms and exchange attributes are appropriately aligned. Despite significant conceptual differences, the available evidence linking relational ties to performance cannot parse the two viewpoints. We examine early-stage ties between 74 OEM-supplier dyads that have not yet "settled down". The data supports the three-step chain of events we posit. First, relational norms are engineered by symmetric investments and "incomplete" contracts, in accord with TCE logic. Second, these engineered norms set the expected level of cooperative behavior. Third, performance is significantly impacted by the deviations of actual behavior from the expectation of behavior. As per TCE, unanticipated deficits in cooperative behavior indeed reduce performance. Thus, more relational ties are not always better. However, unanticipated surpluses in cooperative behavior actually increased performance. We speculate on the implications of this asymmetry effect for managerial practice and theory development.

2 - The Antecedents and Performance Implications of Cooperative Exchange Norms
Sandy Jap, Caldwell Research Fellow Associate Professor of Marketing, Emory University, 1300 Clifton Road, Atlanta, GA, 30322, United States, sandy_jap@bus.emory.edu
Janet Bercovitz, Jackson Nickerson

Our study investigates the antecedents and performance implications of cooperative exchange norms. We theoretically argue that the level of expected cooperative exchange norms is facilitated by transaction attrib-

utes: joint transaction-specific investments and observability. The greater the level of these two exchange attributes, the greater the benefit derived from cooperative exchange norms, all else equal. We further argue that the realized level of cooperative exchange norms can deviate from the expected level since the development of such norms is the result of social processes that management cannot directly and fully control. The realized level of cooperative exchange norms thus possesses a stochastic element, which affects exchange performance. Performance suffers when the realized level of cooperative exchange norms falls below the expected level, whereas performance improves when the reverse is true. The analysis of a survey of 182 collaborative R&D alliances provides initial support for our theory.

3 - Rationale for Multi-Unit Governance Structure in Franchising

Rupinder Jindal, PhD Candidate in Marketing, INSEAD, Boulevard de Constance, Fontainebleau, 77305, France, rupinder.jindal@insead.edu

Franchising is a channel of distribution traditionally used for services and products "manufactured" at the point of purchase. A franchise system is based on a contract between two parties: a manufacturer or service-provider, known as franchisor, and a downstream distributor, known as franchisee. The contract allows the franchisee to do business under the franchisor's trade or brand name, and sometimes using its recommended business format, in a particular territory. In return, the franchisee pays a royalty on the gross sales and often an initial fee and other additional royalties. A vast literature exists, especially in Economics, looking at the reasons for the existence of this form of channel. Most of this literature has implicitly studied the traditional single-unit setting where each franchisee owns and operates a single unit or outlet. This setting provides the ideal case for comparison between a salaried manager and an owner-operator. Empirical evidence, however, indicates an increasing trend for franchisees to own and operate more than one unit, also known as multi-unit franchisees. The theories used to explain single-unit franchising are not able to provide a satisfactory explanation for the existence of multi-unit franchising. Recent literature has offered some conjectures to explain the phenomenon. In an attempt to find a solution for this puzzle, I consider all the potential reasons for the existence of this phenomenon. I derive testable hypotheses from these possible explanations. Using historical research and longitudinal secondary data analysis, I come up with a framework that explains the existence of multi-unit franchising.

4 - Reconciling Power and Efficiency Theories of Marketing Channel Governance

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Mrinal Ghosh

Marketing channel governance has been studied from both power and efficiency perspectives. These approaches advance strikingly different explanations for observed governance structures. Power theories suggest that governance reflects the preferences of more powerful firms, whereas efficiency theories posit that governance structures are chosen to maximize the overall efficiency (i.e. joint value) generated in the channel as a whole. Transaction cost analysis and other efficiency theories have abandoned power because it typically fails to discriminate between different governance structures in comparative analyses. We reconcile power and efficiency perspectives for the first time in any literature in a unified theory. We show that power can influence observed governance structures but only to the extent that firms cannot price-out their power differences through ex ante transfer payments due to the complexity of the task-environment. As ex ante transfers become more efficient, power demonstrates weaker effects on governance and governance becomes more efficient. The theory is supported with data from a sample of interorganizational relationships for high-technology new product development.

FC06
Room 204
Customer Lifetime Value I: Extensions of the Pareto/NBD
Chair: Peter Fader
The Wharton School, University of Pennsylvania, 700 JMHH, 3730 Walnut Street, Philadelphia, PA, 19104, United States, faderp@wharton.upenn.edu

1 - Incorporating Satisfaction into Customer Value Analysis: Optimal Investment in Lifetime Value

Teck H. Ho, William Halford Jr. Family Professor of Marketing, University of California, Berkeley, Haas School of Business, Berkeley, CA, 94720-1900, United States, hoteck@haas.berkeley.edu
Young-Hoon Park, Yong-Pin Zhou

We develop a model that extends Schmittlein, Morrison, and Colombo's model (1987) of customer lifetime value to include satisfaction. Purchase arrivals are modeled as Poisson events and the rate of arrivals depends on the satisfaction of the most recent service encounter. Customers purchase at a higher rate when they are happy than when they are disgruntled. A closed-form formula is derived for predicting total expected dollar spending from a customer base over a time period (0,T]. This formula reveals that approximating the mixture arrival processes by a single "aggregate" Poisson process can systematically under-estimate the total number of purchases and revenue. Interestingly, lifetime value is increasing and convex in satisfaction. If the cost is sufficiently convex, our model reveals an over-investment in productive processes when a firm ignores variation in customer satisfaction. Put differently, the aggregate model leads to an over-investment in customer satisfaction. The model is extended to include two other benefits of customer satisfaction: (1) Satisfied customers are less likely to leave the customer base than dissatisfied customers; and (2) Satisfied customers spend more per trip on average than dissatisfied customers. We show that all the main results carry though to these general settings.

2 - RFM and CLV: Using Iso-value Curves for Customer Base Analysis

Peter Fader, The Wharton School, University of Pennsylvania, 700 JMHH, 3730 Walnut Street, Philadelphia, PA, 19104, United States, faderp@wharton.upenn.edu
Ka Lee, Bruce Hardie

We present a new model that links the well-known RFM (recency, frequency, monetary value) paradigm with customer lifetime value (CLV). While previous researchers have connected the two conceptually, none has presented a formal model that requires nothing more than RFM inputs to make specific lifetime value projections for a set of customers. Key to this analysis is the notion of "iso-value" curves, which enable us to group together individual customers who have different behavioral histories but similar future valuations. Iso-value curves make it easy to visualize and summarize the main interactions and tradeoffs among the RFM measures and CLV. Our stochastic model, featuring a Pareto/NBD framework to capture the flow of transactions over time and a gamma-gamma sub-model for dollars per transaction, reveals a number of subtle but important non-linear associations that would be missed by relying on observed data alone. We conduct a number of holdout tests to demonstrate the validity of the model's underlying components, and then focus on our iso-value analysis to estimate the net present value for a large group of customers of the online music site, CDNOW. We summarize a number of substantive insights and point out a set of broader issues and opportunities in applying such a model in actual practice.

3 - Customer-Base Analysis with Discrete-Time Transaction Data

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Peter Fader, Paul Berger

Many businesses track repeat transactions on a discrete-time basis. These include: (1) companies with transactions that occur at regular intervals (such as subscription renewals), (2) firms that frequently associate transactions with specific events (e.g., a direct marketer that records whether or not customers respond to a particular catalog), and (3) organizations that simply use discrete reporting periods even though the transactions can occur at any time. Furthermore, many of these businesses operate in a noncontractual setting, so they have a difficult time differentiating between those customers who have ended their relationship with the firm versus those who are in the midst of a long hiatus between transactions. Our goal is to develop a model to predict future purchase patterns for a cus-

tomer base that can be described by these structural characteristics. Our "beta-geometric/beta-binomial" (BG/BB) model allows for heterogeneity in each of the underlying behavioral processes (customers' purchase propensities while active, and time until each customer becomes permanently inactive), and yields relatively simple closed-form expressions for future expectations conditional on past observed behavior. We apply the model to a previously published dataset consisting of cruise-line transactions for a cohort of 6094 customers over a period of five years, and demonstrate the valuable insights that arise from our forward-looking modelling framework.

FC07
Room 207/208
Special Session: Store Brands in the Mfr-Retailer-Consumer Relationship

Chair: Kusum Ailawadi
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1 - A Review of Analytical Models of National Brand vs. Store Brand Competition

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The growing importance of private labels has generated a significant amount of research on national brand vs. store brand competition. This paper reviews research employing analytical models of national brand vs. store brand competition, with the objective of summarizing the insights obtained from them and specifying directions for future research. Over 50 research papers that employ analytical models to study national brand vs. store brand competition are reviewed. An integrative framework is used to classify them along several dimensions: retailer/manufacturer objectives, game structure, model assumptions, marketing variables considered, and model findings. Many of the insights obtained from these models have enabled us to refine conventional wisdom about national brand and private label marketing strategies. The framework is then used to identify gaps in the literature and specify several directions for future research.

2 - Vendor Selection in a Supply Chain: Quality and Clientele Effects

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Suresh Radhakrishnan, Nanda Kumar

We model a supply chain consisting of a national brand manufacturer and an independent manufacturer, both of whom are potential suppliers of store brand to a single retailer. The retailer in our model serves two customer segments - a quality sensitive segment (high type) and a price sensitive (low type) segment. The retailer serves these two segments by targeting the national and store brands respectively to the quality and price sensitive segments. The retailer's choice of the vendor for the store brand is endogenous in our model. We show that the retailer will choose the national brand manufacturer to supply the store brand when (a) the size of the high type segment is large relative to the low type segment, (b) the valuations of the high type segment is large relative to the low type segment, and © the retailer's margin requirement on the store brand is not very high. When the national brand manufacturer supplies the store brand he internalizes the effect of store brand quality on the national brand's retail prices. This leads the national brand manufacturer to choose a lower store brand quality than the independent manufacturer. This decrease in store brand quality has the benefit of increased revenues from the high type customers; along with an associated cost of decreased revenues from the low type customers. Thus, when the benefit outweighs the cost the retailer chooses the national brand manufacturer to supply the store brand. Overall, these results suggest that retailers with a higher quality (price) sensitive clientele would have the national brand (independent) manufacturer supply the store brand.

3 - Store Brand use and Store Loyalty

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Jan-Benedict Steenkamp, Kusum Ailawadi, Koen Pauwels

Does store brand use drive store loyalty? This question is important to retailers, as they decide how much to emphasize store brands in their stores, and to national brand manufacturers, as they look for effective ways to both cooperate with and compete with retailers. Yet, empirical evidence of the association between store brand use and store loyalty is both limited and med. In this study, we develop an econometric model of the relationship between store brand use and store loyalty that includes the major drivers of both these consumer behaviors and controls for simultaneity in the relationship between them. The model is estimated using a unique dataset that combines complete purchase records of a panel of households in fifty different product categories and across multiple retail formats, with extensive demographic and psychographic characteristics of the panelists. We also examine how the relationship between store loyalty and store brand use varies across retail formats and across categories. Is store brand use more strongly associated with higher store loyalty in one retail format versus another? Is the use of store brands in certain product categories more effective in engendering store loyalty than store brand use in other categories? Do these "strategic" categories differ across retail formats? Specifically, are store brands more effective in those categories that are already strongly associated with a particular retail format (e.g., health and beauty aids in drug stores, and food products in grocery stores) or are they more effective in categories that are not typically associated with the retail format?

4 - The Impact of the Business Cycle on Private Label Share

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Barbara Deleersnyder, Jan-Benedict Steenkamp, Marnik G. Dekimpe

We investigate how private-label success is linked to cyclical expansions and contractions in the economy. During economic downturns, when consumers become more restricted in their disposable income, the popularity of private labels tends to increase considerably. In the subsequent recovery, however, some consumers are reluctant to switch back to the more expensive national brands. National-brand manufacturers may amplify this substitution towards private-label brands during economic contractions, as they not only reduce their advertising budget during those periods, but also re-allocate their budget towards price promotions, thereby emphasizing the attribute where private labels have a distinct advantage. Recent time-series developments (Deleersnyder et al., 2005) are used to formally investigate the cyclical dependence of private-label success, and to assess whether this dependence is amplified through managerial budget-allocation decisions. We compute the co-movement elasticity between the isolated cyclical components of private-label performance, GDP and advertising spending, and assess to what extent they behave asymmetrically across expansions and contractions. Data covering multiple decades are available for several European countries. Preliminary findings indicate a negative co-movement elasticity with GDP and (for some of the countries) aggregate advertising TV spending. Moreover, the combined evidence across countries suggests that asymmetries are present: the increase in private-label share is more extensive and faster during contractions than its decrease in expansionary periods. Cross-countries differences exist in the extent of this cyclical sensitivity.

FC08
Room 338
Loyalty and Satisfaction

Chair: Ad de Jong
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1 - The Great Leap of Faith: Managing Trust in Electronic Marketplaces through Reputation Mechanisms

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Paul Chwelos

Business-to-consumer e-commerce in the US exceeded $55 billion in 2003 and is growing at an average rate of 26%/year. In such markets, the information asymmetry is particularly intense, in that the seller knows much more about the quality of the goods and his intent to fulfill the transaction than does the buyer. The seller would like to be able to commit to behave

in a trustworthy manner and thereby maximize the buyer's willingness to pay, but, having no credible or cost-effective way to do so in the online context, the seller suffers the consequences of the resulting moral hazard. To mitigate the buyer's perception of the risks, marketplaces such as Amazon.com have invested in building reputations for safe, secure transactions. However, these marketplaces cannot directly guarantee the trustworthiness of the participants in markets. To resolve the information asymmetry, markets use a variety of "reputation mechanisms" to allow participants to leave feedbacks. Despite the high growth in online markets, little is known about the effectiveness of reputation mechanisms. Researches to date have used data from a single auction site that uses only one particular reputation mechanism design. Our paper addresses the use of online reputation to overcome the information asymmetry and moral hazard problems using a unique dataset from a major online multi-channel retailer. These data enables a number of novel analyses: (a) comparison of the most popular reputation mechanisms, (b) the impact of reputation and feedback on sales. Results of our study suggest that the effect feedback is asymmetric; negative feedbacks have significant adverse affect compared to insignificant positive feedback affect. Sales performance is more sensitive to feedback ratings at Amazon than at eBay.

2 - Antecedents of Long-term Relationships in the Context of CRM: An EQS Approach

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Ramendra Thakur

Building trust and long-term relationships (LTR) with customers can be an elusive goal for an organization. This research empirically examines how an organization can establish LTR with its customers based on the following:(1)customer trust CT);(2) customer commitment(CC); &(3)customer satisfaction (CS). LTR is an area which is lacking in the current marketing literature and needs to be further explored. An effective strategy for maintaining LTRs with customers is to provide them with automated systems that simplify their lives and provide conveniences that enhance customer satisfaction. This further leads to customer trust and commitment for an organization, thus increasing their long-term relationships. To obtain a LTR with a customer, an organization should strive towards adopting a customized strategy. This strategy should lead to an increase in CS, which should result in the building of CT and CC to the organization. We adopt the perspective of the consumer and, using consumers' data, attempt to identify the conditions under which a consumer would be willing to have a LTR with an organization. In this research, we explore the factors that will influence consumers' willingness to have a LTR using data based on a sample of 235 consumers. Subjects were asked to respond to their purchase satisfaction, trust, commitment and their long-term relationship establishment with an organization from where they purchased grocery products most frequently. The findings indicate that customers' LTR is predicted by the level of CS and CT that the organization is able to establish in the mind of their customers. In contrast, CC is not a predictor of LTR establishment. In addition, CS and CT were found to directly influence CC; however, CC was not a mediator between CS, CT and LTR.

3 - Effects of Customer Satisfaction and Recommendation on the Customer Relationship Duration

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Youngchan Kim

While Customer Satisfaction has been broadly accepted as a key strategic market performance measure, its value as a survey measure to monitor and manage to improve the bottom line performance, for example, the financial performance, has been often challenged. For example, Bradley Gale's Customer Value (1994) is an example of this line. More recently, Reichheld (2003) suggested that the companies should focus on the measure of Recommendation rather than Customer Satisfaction. These arguments about which customer measure should be the focus of measurement and management seem to create unnecessary confusion among practitioners. We discuss the relationships among these constructs and possible differential strategic roles. As an effort to enhance the understanding of the impacts of Customer Satisfaction and Recommendation on financial performance, we investigate the effects of these constructs on the duration time from the initial sign-up to cancellation of high speed internet service by survival analysis. The study is still in progress, and as the data becomes available, we are planning to evaluate the relationship between these constructs and the new sign-ups, which will provide us with an empirical evidence of their roles in company growth.

4 - A Cross-National Assessment of the Satisfaction-Loyalty Relationship: The Role of Customer Delight

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Ko de Ruyter, Martin Wetzels

As a result of saturation and competitiveness across markets, practitioners and academics are increasingly aware of the strategic impact of customer delight for the bottom line in service marketing. Customer delight has been defined as "...a profoundly positive emotional state generally resulting from having one's expectations exceeded to a surprising degree," (Oliver, Rust, and Varki 1997, p.86). While several studies have pointed to the significance of delighting customers, there is considerable empirical uncertainty about the impact of customer delight, as it has not unequivocally been established whether customer delight demonstrably leads to either increasing or decreasing returns (Ngobo 1999). Furthermore, as services are increasingly sold internationally, it has not been established what the impact of cultural dimensions is in explaining variance in customer delight. In a study we employed a cross-national survey among 5500 business customers from 11 countries of a major manufacturer of office equipment (e.g., printers, copiers, etc). The findings reveal strong positive cubic effects of satisfaction on various loyalty parameters. Specifically, we found a vertical S-shaped effect, which reflects that a one-unit change in extremely high (and low) levels of satisfaction have a substantial stronger effect on a customer loyalty when compared to equal changes in moderate levels of satisfaction, This provides strong support for the notion that customer delight leads to increasing returns. Furthermore, we found moderating effects of the cultural dimensions, such as power distance and uncertainty avoidance on the satisfaction-loyalty link.

FC09

Room 334

Marketing Research; Generalizations

Chair: Stefan Stremersch
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1 - A Meta-Analytic Review of Social Networks

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Sundar Bharadwaj

Numerous studies in marketing, organizational theory, and management have focused on the role of social networks within organizations. The network perspective views organizations as a system of objects that are joined together by relationships. These objects can be connected both directly and indirectly via these relationships. Uncovering the drivers and outcomes associated with the various relationships is the central focus of network research. Network analysis is unique in that it is able to effectively model organizational phenomena at different levels of analysis. Because of this, the role of networks has been studied extensively in several disciplines, including marketing. While the importance of this domain has not gone unnoticed, there seems to be little integration among the different disciplines investigating social networks in firm-level phenomena. Scholars have pointed out that while several different disciplines make significant contributions to the conceptual development of the network perspective, these contributions have yet to be synthesized together in order to gain a more complete understanding of the research conducted and conclusions reached in this domain. This study uses emerging meta-analytic methods to synthesize empirical studies that examine the correlates of social networks. This study draws upon a database of 208 samples (88 studies) spanning 1975-2004. Specifically, the study examines the impact of 43 correlates of networks with an overall sample size of 251,580. A multivariate GLS moderator analysis indicates that measurement and research design considera-

tions in model specification significantly bias the observed effects within a given study. The study identifies surpluses and shortages in the literature on social networks.

2 - The Intellectual Structure of New Product Development Literature: A Bibliometric Study
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Giulia Calabretta

The aim of this paper is to reconstruct the evolution of the research field in new product development, by using the bibliometric technique of citation and co-citation. The final result of citation and co-citation analysis is the production of an empirical map of prominent authors in various areas of scholarship, and, in our paper, in the field of new product development. The bibliometric approach does not pretend to substitute a content analysis of the main literature in the fields, but it can be useful in controlling the subjective interferences of the researcher and in organizing research flows particularly articulated as in the case of new product management. We decided to use articles published in the Journal of Product Innovation Management from 1989 to 2004 to obtain a reliable set of relevant articles in new product development. The one hundred most cited articles have been considered for doing the co-citation analysis and producing a significant visual map of the discipline. For studying the evolution of the field we defined sub-periods of five years inside the chronological interval 1989-2004, and for each period the citation and co-citation analysis has been repeated. In the last part of the paper we discuss the emerged directions and theories that characterized the evolution of research on innovation and new product development in the last two decades and suggest a possible content analysis of the empirically validated pattern.

3 - Identification Bias and Equivalence in Mediator Models
James Hess, Professor, University of Houston, 375H Melcher Hall, Dept of Marketing, Houston, TX, 77204, United States, jhess@uh.edu
Ulie Lee

The typical marketing structural equation model is a "mediator model," where one variable influences another directly and through an intervening mediator variable. Such a model is "partial recursive" because there are no feedback loops in the path diagram, but it only becomes "recursive" with the additional assumption that error variables are independently distributed. Recursive models are identified while partial recursive models are not. If researchers wishfully assume uncorrelated errors when there are some common latent causes of the endogenous variables, then the estimates of direct and indirect effects are biased. Even for small correlations, the bias can be severe enough to change substantive findings. This paper discusses diagnostic checks of identification, the potential empirical test of under-identification, and alternative methods to deal with a model that could suffer for identification problems. Two structural equation models are observationally equivalent if every probability distribution compatible with one is compatible with the other. Lee and Hershberger (1990), and Verma and Pearl (1990) have developed simple tools to recognize equivalent models, and using these tools one can show that the direction of all the causal arrows in a simple mediator may be reversed and the resulting model is observationally equivalent to the initial model. There are more complex mediator models that definitively establish causality. An analysis of JM, JMR, JCR, and Marketing Science papers is done to determine whether researchers are accounting for identification bias and model equivalence in their structural models.

4 - Globalization of Authorship in the Marketing Discipline
Stefan Stremersch, Erasmus University Rotterdam, Burg. Oudlaan 50, Rotterdam, RA, 3000 DR, Netherlands, stremersch@few.eur.nl
Peter C. Verhoef

Marketing scholars have reflected upon the marketing discipline's internal evolution before. However, no prior study has assessed the globalization of authorship in our discipline (as some related disciplines, such as psychology and economics, have done), let alone assessed its consequences for the field. This paper addresses the following two questions: (1) Is there evidence of increasing globalization of authorship in the marketing discipline? (2) If yes, does it help or hinder the field? It shows empirically how the globalization of our discipline evolved, how the US dominance is fading and which countries experienced a rise in productivity of their affiliate and native scholars. We also show that the increasing globalization both helps and hinders the discipline. It hinders the field, because it has a negative effect on the impact of several major journals (most importantly JM and JMR). It helps the field, because it has a positive effect on the diversity of our discipline. We discuss the implications of our findings for editors, publishers and sponsoring organizations of marketing journals and individual marketing scholars.

FC10
Room 331
Bayesian Models I

Chair: Anand Bodapati
Asst Professor, UCLA Anderson Graduate School of Management, 110 Westwood Plaza, Los Angeles, CA, 90024, United States, bodapati@ucla.edu

1 - Estimating State-Space Models of Consumer Behavior: A Hierarchical Bayes Approach
Ling-Jing Kao, Ph.D. Student, The Ohio State University, 500 Fisher Hall, Neil Ave., Columbus, OH, 43210, United States, kao.50@osu.edu
Greg Allenby

Bayesian data augmentation is developed for models with discrete dependent variables and latent auto-correlated variables. The proposed estimator has wide application, including models of discrete choice, models of forward-looking behavior, and models where the evolution of the latent variable does not have a closed-form representation. Direct marketing data is used to illustrate use of the method in a model where latent inventory levels are assumed to affect customer purchase and resignation decisions. Extensions to other marketing models are discussed.

2 - A Bayesian Model for Estimating Spousal Influences on Consumer Preferences of Television Programs
Vishal Narayan, Doctoral Student, Stern School of Business, New York University, Suite 9-171, 44 West Fourth Street, New York, NY, 10012, United States, vnaraya0@stern.nyu.edu
Henry Assael, Sha Yang

When making product choices, consumers are influenced by the preferences of other consumers such as family members, friends, neighbors, and colleagues. Family members such as spouses are important influencers of consumer decisions because of cohabitation and strong emotional ties. The nature of spousal influence poses several interesting questions. For example, in the context of consumer products, do husbands exert a stronger influence on wives, or are wives stronger influencers? How does the magnitude of spouses' influence vary across categories of a product? Can the heterogeneity in spousal influence across households be explained on the basis of the demographic characteristics of the spouses? To answer these research questions, we develop a hierarchical Bayesian simultaneous equation model of interdependent preferences. Unlike existing models that specify a spatial autoregressive structure to capture the consumer preference interdependence, we are able to estimate the asymmetry in influences within a household. In a simulation study, we show that models that ignore interdependence of preferences yield biased estimates of consumers' sensitivity to observed attribute preferences. In an empirical application, we estimate spousal influence on data on ratings of television programs of husbands and wives in 483 households. We find that husbands exert a much stronger influence on their wives than wives do on their husbands. There are significant differences in influence estimates across categories of television shows. Differences in levels of influence across families are partially explained by the age and the education level of family members.

3 - Modeling Asymmetric Price Effect under Nonhomothetic Demand for Variety
Jaehwan Kim, Assistant Professor of Marketing, Korea University Business School, 5 Anam, Sungbuk-gu, Seoul, 136-701, South Korea, jbayes@korea.ac.kr

Asymmetric switching between high quality- and low quality-brand has been well documented in the literature. Previous studies(e.g. , Allenby and Rossi 1991) found a significant difference in quality perceptions for different brands and showed that the differential income and substitution effect between different quality tiers induced this asymmetry in market response to price promotions. The literature, however, captures the asymmetric switching through brand choices only, not quantities together. Also, such asymmetric response gets more complicated when consumers purchase multiple items at a time. In this paper, a nonhomothetic utility model is proposed. The model captures the differential price impact for both discrete and continuous demand as firms do price promotions, and it allows one to understand the differential income/substitution effect in the market where customers typically reveal the horizontal variety seeking behavior.
The model is specified at the individual level in hierarchical Bayesian random effect framework, and it is applied to panel data in a consumer product category. The parameters were estimated via MCMC method.

4 - Estimating Nested-Logit Models for Purchase Incidence Without Access to Purchase Incidence Data

Anand Bodapati, Asst Professor, UCLA Anderson Graduate School of Management, 110 Westwood Plaza, Los Angeles, CA, 90024, United States, bodapati@ucla.edu
Sachin Gupta

Scanner data vendors like IRI and Nielsen have given academic researchers data of a kind not usually given to manufacturers and their other customers. Academics have had access to panel data which record (a)trip data: the time points where each panelist made a trip to the store, (b) purchase incidence data: whether or not she made any purchase in a certain category, and (c) choice and quantity data: what specific SKUs and how many units she bought. Such data enable academics to estimate logit/nested-logit models for choice, purchase incidence and category expansion. These models allow one to predict the effects of promotions on brand shares, category volumes and brand volumes. In contrast with academic researchers, manufacturers and other customers of scanner data vendors have access only to restricted data. The panel data available to manufacturers typically contain only choice and quantity data and no trip or purchase incidence data. Because the usual analytical framework for purchase incidence modeling requires access to explicit purchase incidence data, manufacturers have been able to estimate only share effects of promotions and not volume effects and category expansion. In this research, we demonstrate the surprising result that nested logit models for purchase incidence and brand choice can be estimated EVEN if the firm has only conditional choice data. It turns out that information on purchase-incidence elasticities can be reconstructed by comparing the marketing-mix vectors at the occasions where different consumers elected to make purchases. This greatly increases the practical usefulness of scanner panel data to manufacturers. We propose and estimate a hierarchical Bayes logit/nested-logit with Gaussian random effects.

FC11
Room 301
Market Entry & Exits I

Chair: Richard Staelin
Edward and Rose Donnell Professor of Business Administration, Fuqua School of Business,Duke University, 1 Towerview Drive, Durham, NC, 27708, United States, richard.staelin@duke.edu

1 - Delayed Product Introduction

Qiuhong Wang, PhD student, National University of Singapore, Blk14 Level 10, Unit 35, Prince George's Park Residences, Singapore, 118431, Singapore, wangqiuh@comp.nus.edu.sg
Kai-Lung Hui

We investigate the incentive of a durable-goods monopolist to delay the introduction of a new and improved version of its product. Specifically, we use a three-period framework to study the introduction timing and pricing decisions of a monopolistic seller, who faces homogeneous price- and quality-sensitive consumers. The seller could sell an old version of a product in the first period. In the second period a new version of the product with quality improvement arrives. Both versions are durable in that they can provide services to consumers for n > 2 periods before being obsolete. The extent of quality improvement is exogenously determined (perhaps by technological progress that is beyond control by the seller). With this setting, the decision of the seller is to choose optimal product m, introduction, and pricing strategies in each of the three periods such that its total profit is maximized. In this process, the seller has to consider various marketing issues such as cannibalization, intertemporal price discriminations, and time inconsistency and consumer expectations. Because we employ a three-period model (rather than two-period, as in most past studies), we can directly study the strategy of introducing the new version only in the third period ("delayed introduction"). Our analytical results show that delayed introduction strategies are optimal in a wide range of market conditions, and it is sometimes socially efficient for the seller to postpone the launching of new products. We inspect the sensitivities of our results with respect to different market parameters, and provide useful policy implications.

2 - Why Do Products Exit Markets?

Michael Luchs, Ph D Student, University of Texas at Austin, Michael.Luchs@phd.mccombs.utexas.edu
Raji Srinivasan

Market evolution is characterized by the entry, survival and exit of new products in a category. While there are rich insights from prior research on market entry strategy and its implications for firm performance, we know much less about the factors that influence a firm's product exit decisions. In this paper, we examine the factors influencing the timing of product model exit from a market. The exit of product models in the early stages of the digital camera market serves as the empirical context for this study.
Based on the literature in economics, technology strategy and marketing, we develop a model and hypotheses of new product model exit considering the differential effects of the characteristics of the product model, the firm and the competitive environment. We estimate a parametric hazard model of the timing of the product model's exit using data on new product introductions of 60 firms in the U.S digital camera market in the period between 1991 and 2000. The results strongly support the proposed model and indicate that product, firm and competitive characteristics differentially affect the timing of a product model's exit.

3 - Competition in Local-Serive Sectors: The Video Rental Case

Kathleen Cleeren, Doctoral Student, Catholic University Leuven, Naamsestraat 69, Leuven, 3000, Belgium, kathleen.cleeren@econ.kuleuven.ac.be
Marnik G. Dekimpe, Frank Verboven

The nature and intensity of competitive interactions have been widely studied, often in data-intensive environments such as the FPCG, pharmaceutical and/or automotive industry. Much less attention has been devoted to local-service sectors, such as the hotel and video-rental sector. This may be attributed to the fact that key input data on the relevant players in those markets is often missing: not only are some of the key performance drivers hard to directly measure, the multitude of local players often inhibits a comprehensive data collection. Using recent developments in empirical entry models (e.g. Bresnahan and Reiss, 1991; Genesove, 2004), we propose to study competition in local-service industries by inferring information on the profitability and degree of competition from observed entry decisions of firms in local markets, and illustrate the proposed modelling framework on data from the Belgian video-rental market. The resulting ordered probit model will not only allow us to infer the change in competitive intensity when an additional player enters a local market, but also to test various theory-based hypotheses on factors driving the profits of these firms. The hypotheses will cover a variety of socio-demographic characteristics of the environment (e.g. household size, income, age), including the presence/absence of competition through sequential distribution channels (e.g. movie theatres and/or pay television).

4 - Response to Competitive Entry in a Differentiated Durable Goods Market

Richard Staelin, Edward and Rose Donnell Professor of Business Administration, Fuqua School of Business, Duke University, 1 Towerview Drive, Durham, NC, 27708, United States, richard.staelin@duke.edu
Preyas Desai, Norris Bruce

In most durable goods markets, new products are considered important drivers of their manufacturers' profitability and are potential threats to competing products already present in the market. Therefore, incumbent firms need to react to the new products with reactions with one or more elements of marketing mix. This research examines the nature and speed of incumbents firms' reactions to the introduction of new (or modified) products by a competitor. We develop a set of hypotheses about how durable firms can use pricing, trade promotions and consumer promotions to fight the new or modified product. We estimate our empirical model using a proprietary data base that includes all the customer and trade promotions given by the three U.S. car manufacturers and the four major Japanese manufacturers for the period 1992-1997. We find that the nature and the speed of incumbents' reactions are affected by the product quality, market concentration, and inventory levels.

FC12
Room 304
Retailing IV; Assortment

Chair: Jie Zhang
Assistant Professor, Ross School of Business,University of Michigan, 701 Tappan Street, Ann Arbor, MI, 48109, United States, jiejie@umich.edu

1 - Using Out of Stocks to Identify Super SKUs

Peter Boatright, Associate Professor of Marketing, Tepper School of Business, Carnegie Mellon University, Pittsburgh, PA, 15213, United States, pbhb@andrew.cmu.edu
Sharad Borle, Kirthi Kalyanam

Retailers often believe that their product categories contain key items, or Super SKUs, that are crucial to the success of the category. Due to its presence in the assortment, a Super SKU is believed to impact category sales over and above its own sales. We use information on SKU sales and SKU stockouts to investigate the presence of Super-SKUs. We develop a SKU level store sales model that measures the following effects of the stockout of a SKU: (1) impact on own sales, (2) substitution to other SKU's (3) and impact on overall category sales. We confirm the existence of Super-SKUs, finding that the absence of certain items depresses sales of the entire category beyond the magnitude of the lost sales of the stocked out item.

2 - Opportunities for Active Stock-Out Management in Online Stores: The Impact of the Stock-Out Policy on Online Stock-out Reactions

Els Breugelmans, Ph D student (FWO-aspirant), University of Antwerp (UA), Prinsstraat 13 (PB, Z-310), Antwerp, 2000, Belgium, els.breugelmans@ua.ac.be
Katia Campo, Els Gijsbrechts

This paper investigates the impact of an online retailer's stock-out policy on purchase incidence and choice. We make a distinction between three policies: (1) stock-outs are immediately visible and there are no suggestions, (2) stock-outs are only visible after clicking and (3) a replacement item is suggested for each stock-out product. Results from an extensive and realistic online grocery shopping experiment reveal that the adopted stock-out policy has a significant impact on both decisions. First, making stock-outs not immediately visible creates confusion and intensifies the consumer's loss experience, thereby reducing the tendency to buy in the category. Second, while suggesting a replacement item normally leads to a substantial increase in the item's choice probability, this effect is canceled out when higher-priced - suspicious - items are suggested. Overall, these results indicate that retailers have an interest in pursuing open and convenience-oriented stock-out policies.

3 - Brand Level Effects of SKU Reductions

Jie Zhang, Assistant Professor, Ross School of Business, University of Michigan, 701 Tappan Street, Ann Arbor, MI, 48109, United States, jiejie@umich.edu
Aradhna Krishna

When retailers make product assortment changes by eliminating certain stock keeping units (SKUs), how does this affect sales of individual brands? That is the main question we address in this paper. Previous research on product assortment changes has primarily focused on their impact at the store and product category levels. While a category- or store-level analysis is very useful for retailers, a brand-level analysis bears direct relevance to both retailers and manufacturers. Utilizing data from an online retailer who implemented a permanent system-wide SKU reduction program, we investigate how consumers reallocate purchases among the remaining brands. This is done using a joint model of purchase incidence, brand choice and quantity, and then conducting a "would-be" analysis that controls for changes in the marketing m before and after the SKU reductions. We find substantial differences among brands in terms of how they are affected by the SKU reductions, and explore possible factors that are driving the differences and find: reduction in the number of sizes is more important in affecting the change in a brand's purchase share after the SKU reduction than the reduction in the number of SKUs; higher market share brands and those with frequent promotions tend to gain share; and an increase in a brand's share of SKUs in the category increases its share of purchases. Finally, our results indicate that the SKU reduction effects on category purchase incidence, sales quantities and revenue are generally negative although the extent varies by category. Our findings are of importance to both retailers seeking to make product assortment changes and marketers affected by them.

FC13
Room 421
Topics in International Marketing

Chair: Chris Shao
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1 - A Model of the Effect of Institutional Environment and Cognitive Style on Export Channel Coordination

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Daniel Bello

Due to the differences in business objectives and strategic preferences, as well as information and power asymmetries, exporters' productivity suffers in foreign markets and usually fails to deliver superior coordination results. To find the underlying factors inhibiting exporters' channel performance, many studies have been done recently. However, extant researchers have centered upon the investigation of either macroenvironment or interorganizational antecedents, and largely overlooked the effect of individual-level factors. Meanwhile, at the macroenvironment level, existing analyses are fragmental and ambiguous, lacking a systematic framework. Furthermore, channel scholars have paid little attention to undeveloped or transitional economies, which in fact are emerging as the world's most prospective and dynamic markets. The purpose of this research is to develop a comprehensive model that incorporates the macro institutional environment and exporters' cognitive style into a western exporter-Chinese distributor setting (model available upon request). Consistent with prior research, power and conflict bases serve as the mediators to the institutional antecedents and coordination consequences. We define three institutional perspectives, three underlying processes and s legitimate mechanisms to explore China's unique macroenvironment. We model the coercive and non-coercive sources of power and the goal, perception of reality and domain conflicts to predict western exporters' task-based and resourced-based coordination with Chinese distributors. Western exporters' cognitive style, which is measured along the nonagressive-aggressive continuum, acts as a moderator. Besides being theoretically insightful, the article also provides rich managerial implications.

2 - May Counterfeit Products Help Sales of Genuine Products?

Boonghee Yoo, Associate Professor, Hofstra University, 131 Weller Hall, Hempstead, 11459, United States, mktbzy@hofstra.edu
Seung-Hee Lee

The number of counterfeit products on the market is rapidly increasing and could account for about 18% of all world trade by 2004. Despite various efforts and outcry against, counterfeiting continues to thrive around the

world. While firms are often unsuccessfully struggling with counterfeiting, firms might benefit from counterfeits if consumers of counterfeits become buyers of genuine products. The purpose of our study is to examine the propensity of consumers of counterfeits to purchase originals versus counterfeits. Five fashion product categories—handbags, designer shoes, apparel (casual and formal), sunglasses, and jewelry (earrings, rings, and necklaces)—were investigated through both a survey and experiment of female college students. The study confirm that manufacturers of genuine products need not worry much about the rapidly growing circulation of counterfeits because revenue loss and brand equity dilution of the original do not result from counterfeits. In fact, counterfeits promote genuine products. First, we found consumers prefer genuine products to counterfeits, regardless of their product experiences. Second, we found that consumers who have experienced counterfeits show stronger intention to buy genuine products than those who have not. Third, consumers who have experienced genuine products show as low intention to buy counterfeits as those who have not but higher intention to buy genuine products than those who have not.

3 - Shift in Marketing Paradigm from Supply Chain Focus to Providing ROI: Case of Indian Railways

G Raghuram, Professor, Indian Institute of Management Ahmedabad, Wing 15, Indian Institute of Management, Vastrapur, Ahmedabad, 380015, India, graghu@iimahd.ernet.in
Rekha Jain

The Indian Railways (IR) encouraged private wagon ownership, especially in the context of special purpose wagon requirements. This brings additional marketing challenges to IR. The transportation of bulk cement, required special purpose wagons. The wagon investments were made by the customers. Hence the customers required not only a streamlined cement supply chain, but also better turnaround of the wagons to achieve a higher return on assets. This was an important marketing paradigm shift for the IR. The client system was in the private sector (unlike the other major commodities carried by IR) and hence was more demanding and representative of the future orientation of industrial activity in India. The market share for cement transportation by rail had declined from 56% to 43% over the past decade. In an attempt to arrest the sliding market share, the IR wished to focus more on customer service.
This paper examines what the IR should do in such a context. The methodology involved examining the details of the actual bulk cement movement circuit for over three months from a modern cement plant to its bagging plant close to a large market. The study brought out implications for the contractual elements between IR and the customer. Further, there were implications for infrastructure, services, organization and information systems for IR.

Friday, 3:30 - 5:00pm (Session D)

FD01
Room 130- Auditorium
Game Theory IV

Chair: John Zhang
Associate Professor, Wharton, 3730 Walnut Street, Philadelphia,PA, 19104, United States, zjzhang@wharton.upenn.edu

1 - Hotelling Model with Variety-seeking Consumers

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Jagmohan S. Raju

The objective of this paper is to investigate the location decision of firms in the presence of consumers who seek variety and to see whether we can sustain the "principle of minimum differentiation" under suitable conditions on the model parameters. To accomplish this goal, we use the standard Hotelling framework in this paper to examine a two stage model of product choice with 'elastic demand'. Firms first choose locations and then prices. The transportation cost is assumed to be quadratic in nature and consumers are assumed to have different utilities associated with buying from both firms and with buying only from one firm. We show that an equilibrium in prices exists in the second stage for each pair of locations and an equilibrium in locations exist in the first stage. We find that the principle of minimum differentiation can be sustained when 'some consumers' buy from both the firms.

2 - Product Line Design with Persuasive Advertising

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Chakravarthi Narasimhan

Firms design product lines to cater to heterogeneous tastes. Apart from product features, consumers gain utility through other marketing m such as advertising appeals that cater to their emotional/ psychic/ social needs. An interesting question is whether a firm should use such persuasive advertising to enhance the appeal of all its products or should it be selective and concentrate on the high or low end only. To explore this, a product line design model is constructed with the persuasive advertising effect entering consumers' utility function. We first derive monopoly's optimal choice of quality and price levels when allowing persuasive ad campaign to cover the whole product line. Comparative static analysis reveals that the monopolist would want to use persuasive advertising uniformly on the entire product line and not use a targeted campaign. We then extended the model to a duopoly setting where firm faces both intra product line cannibalization and inter brand competition. We show that under some conditions the competing firms would choose to use persuasive ad campaign focusing on the high end model only. This implies the strategic choice of uniform versus product specific targeting is to lessen inter brand competition, while the levels of strategic variables (quality, price, ad expenditure) are tools in dealing with product line cannibalization.

3 - Surprise and Secrets as a Competitive Tool

Steven Shugan, Professor, University of Florida, 2030 NW 24th Avenue, Gainesville, FL, 32605, United States, sms@ufl.edu
Jinhong Xie

This paper makes a first attempt at considering how to use two important elements of competitive strategy - the elements of surprise and secrets. As we define them, these two elements of competitive are intimately related. When formulating a competitive strategy, the proper use of surprise and secrets can often provide a temporary competitive advantage. For example, in military operations, the element of surprise can often help inferior forces achieve favorable consequences. Many firms spend nontrivial resources to monitor competitive activities to thwart potential future surprises and reveal secrets. In fact, espionage is considered a prevalent corporate activity. However, most firms take significant measures to kept corporate activities secret. We adapt a traditional game-theoretic approach to allow a temporary gain made possible by surprising one's competitors. Using this approach, we do the following. (1) We define surprise and secrets in terms of when actions are taken and how information is revealed. (2) We provide examples of the use of surprise and secrets, as well as how their use can provide a competitive advantage. (2) We provide examples of conditions leading to the opportunity to surprise competitors. (3) We provide managers with guidance regarding when surprising competitors is desirable and when it is not. (4) Although our analysis only provides some preliminary findings, we provide several suggestions for extending this research for advising decision-makers on making competitive actions while remaining largely loyal to traditional descriptive Nash-equilibrium analysis where decision-maker actions are dictated by required assumptions.

4 - Combative Advertising

John Zhang, Associate Professor, Wharton, 3730 Walnut Street, Philadelphia, PA, 19104, United States, zjzhang@wharton.upenn.edu
Yuxin Chen, Yogesh Joshi

We analyze the effects of combative advertising on market power. Combative advertising, a characteristic of mature markets, is defined as advertising that shifts consumer preferences, increases the overall willingness to pay, but does not expand the market. In the past, researchers have shown that combative advertising leads to high prices and profits; but empirical results are in conflict - while some demonstrate significant but

weak effects, others demonstrate a lack of effect of advertising on sales/profits. We attempt to resolve the observed conflict by proposing a model for combative advertising that shifts consumer preferences towards the advertising firm, and show that combative advertising can have both anti-competitive and pro-competitive effects. Combative advertising also need not always be excessive, and could in fact increase consumer welfare, depending on market characteristics. Costs of advertising could be a blessing in disguise - with higher unit costs of advertising, the equilibrium levels of advertising are lower, resulting in higher profits. But higher costs of advertising do not necessarily imply lower total spending on advertising.

FD02
Room 238
Choice
Chair: Bob Price
University of Alberta, Dept. of Computing Science, Edmonton, AB, Canada, price@cs.ualberta.ca

1 - Mass Customization versus Mass Production: Variety and Price Competition
Aydin Alptekinoglu, Assistant Professor, University of Florida, Warrington College of Business, Decision and Information Sciences, 358 Stuzin Hall, POBox 117169, Gainesville, FL, 32611-7169, United States, aalp@ufl.edu
Charles Corbett

We study competition between two multi-product firms with distinct production technologies in a market where customers have heterogeneous preferences on a single taste attribute. The mass customizer (MC) has a perfectly flexible production technology, thus can offer any variety within the product space, represented by Hotelling's (1929) linear city. The mass producer (MP) has a focused production technology, thus can only offer a finite, predefined set of products in the same space. The firms simultaneously decide whether to enter the market. Next, MP designs its product line, i.e., the number and position of its products; MC's flexible technology makes this unnecessary. Finally, both firms simultaneously set uniform prices. We analyze the sub-game perfect Nash equilibrium in this three-stage game, allowing firm-specific fed and variable costs that together characterize their production technology. We find that MP can survive this competition even if it has a higher fed cost of production technology or a higher marginal cost of production or both. We also find that an MP facing competition from an MC offers lower product variety compared to an MP monopolist: when there is a cost associated with variety, a firm should soften price competition by reducing variety rather than use higher variety as a competitive weapon.

2 - Consumer Demand for Internet Access: the Effect of Consumer Heterogeneity
Yingshi Jin, Department of Marketing, Kellogg School of Management, Northwestern University, United States, y-jin@kellogg.northwestern.edu

Understanding historic and recent development in consumer demand structure for Internet access is our main point of interest. Although there are many studies addressing the supply side issues for Internet access market, there are few empirical studies investigating the demand structure. This omission is surprising. In 1998 the Internet access market was 10.8 billion dollar industry, with roughly half that revenue coming from access fees. When we look at Internet economy for 1995-2000 era, the Internet access market was a very important source of revenue. This paper is the first step in attempting to understand the demand structure for consumer Internet access. This study uses choice modeling framework to examine consumer choice data collected on December 1998 and August 2000. Of particular interest is how consumer price elasticities varied across the population of potential adopters, and the heterogeneity in reaction to different access plans offered by the ISPs' Internet Service Providers). Other important consumer demographic variables are also considered in order to understand major factors that influence decisions regarding access and mode choice. Our analysis shows that accounting for the quality variations of different plans is very important in correctly understanding consumer demand for access. Another important finding is that consumer heterogeneity plays a major role in forming variations in price elasticities across the general population. Rich people and educated people are less sensitive to the access price. It is also found that the overall price elasticity is relatively small. Among the consumer demographics, income and education were the important factors for consumers' decision of Internet access.

3 - Consideration and Choice—Unveiling the Effect of Self-Congruity on Store Patronage
Andre Menck, Visiting Professor, University of Alberta, 3-23 Business Building, Edmonton, AB, T6G 2R6, Canada, amenck@ualberta.ca

The construct "self-congruity" intends to represent the matching or mismatching of the consumer's self-image with the image s/he has of a store (or product). Although intrinsically appealing, it has eluded empirical research for decades. Self-congruity has failed to significantly account for more than a negligible portion of the variance of attitudinal variables. This research extends the investigation to a two-phased decision model: consideration set formation and choice. A survey with 446 respondents assessed the measures for choice set formation, store choice, self-congruity and the evaluation of the store's functional offer. Preliminary, independent analysis using simple logistic regression for store consideration and multinomial logit for choice provides supporting evidence for the hypothesis that self-congruity influences store consideration, but not choice within a consideration set. Moreover, a significantly larger effect of self-congruity on store consideration—but not on store choice—in a more socially-involving shopping situation provides added face validity to the results.

4 - Modeling Customer Preferences for the Automatic Construction of Personalized Customer Interfaces
Bob Price, University of Alberta, Dept. of Computing Science, Edmonton, AB, Canada, price@cs.ualberta.ca
Gerald Häubl, Russ Greiner

The grand vision of personalization is to be able to automatically optimize the layout and features of a computer-based user interface to improve users' subjective perception of the interface and/or increase their ability to use the interface to complete a task. Automatic interface personalization frees users from the need to know what optimizations are possible and eliminates the burden of learning how to express these optimizations. It can anticipate users' future needs and infer needs that users themselves are unaware of or unable to articulate. While eliciting user needs or preferences in an explicit fashion can be useful, the concept of automatic optimization achieves its most effective form when such needs and preferences can be unobtrusively inferred from the user's past interactions with the interface, or from prior information gained through other systems. Online customer interfaces probably encompass the largest and most economically important class of computer-based user interfaces. The potential benefits of interface personalization to consumers who are faced with large, complex product assortments in online shopping environments are substantial. In addition, the vast amount of historical data collected by such systems provides a basis for automating the personalization of customer interfaces. In this paper, we introduce a framework for performing the automatic construction of customer interfaces from past user behavior. We describe a parameterized space of user interfaces that can be easily personalized and show how to abstract past consumer behavior into a formal process model that effectively supports the personalization process.

FD03
Room 234
E-Commerce / E-Marketing II; E-Agents
Chair: Jonathan Bohlmann
Asst. Prof., Michigan State University, N370 BCC, East Lansing, MI, 48824, United States, bohlmann@msu.edu

1 - Search Engine Advertising with Rational Customers and Branded Products
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Rajiv Dewan, Marshall Freimer

We model a market for horizontally differentiated goods in which a search

engine helps the customer find a suitable product. All the agents in this model are rational and seek to maximize their respective surpluses. The search engine charges the vendors for preferentially listing their products. In response to a customer's query, the search engine produces a list that includes a short list of sponsored products that the search engine thinks may appeal to the customer and a larger additional list of vendors in order of some arbitrary ranking function. The vendors can detect customers who arrive via the sponsored link and charge them a higher price. Despite this, the customers find it rational to use the sponsored link as it reduces their expected search cost. In the second part of the paper we consider branded products and unbranded products. We show that a separating equilibrium ensues in which only the unbranded firms choose to pay the search engine to sponsor a link.

2 - Recognizing Our Non-Human "Customers": Marketing to Shopbots, Search Engines, and Electronic Agents

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Marketing is concerned with making products and services attractive to customers, be they individual consumers, households, and/or firms. There is an implicit assumption that these customers are human: either a single human (e.g., an individual consumer) or a group of humans (e.g., a firm.) But is this assumption valid? Might it be possible that, given the increasing sophistication of computerized agents such as shopping robots ("shopbots") and search engines, that the customer could actually be a machine? For example, consider a human consumer who programs a shopbot to make purchases on his behalf. Although the consumer guides the shopbot's behavior by programming decision rules, the shopbot is the entity that is ultimately responsible for interpreting the messages provided by marketers and making purchases. Thus, it is possible that the electronic agent will supplant the human as the customer that marketers seek to influence. In instances where this is unlikely to be the case, for example in markets in which human cognition and/or social relationships are essential, agents may nevertheless represent an important distribution channel for marketers to consider targeting. This motivates the following research questions: Should firms market their products and services to electronic agents such as shopbots and search engines? How might such a marketing program differ from (and/or resemble) traditional marketing to human customers? Drawing upon work in marketing, information systems, computer science, and economics, this research explores these questions and includes empirical support developed via analysis of Internet shopbots and search engines.

3 - Affiliate Programs: Sales-based versus Customer-based Compensation Plans

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Jagmohan S. Raju

Understanding new institutional arrangements on the Internet is important for marketing researchers. Within this broad class of topics, affiliate programs are readily identifiable as an area worthy of investigation. Under affiliate programs, a firm pays a commission to its agent for customers or sales from a link located on the agent's site. Not only is such an arrangement interesting from a theoretical perspective, it is also substantively important: Affiliate programs account for a sizable portion of total E-commerce sales and constitute the fastest growing form of Internet marketing today. We conceptualize and develop an analytical model of affiliate programs, focusing on key issues that arise in this institutional setting: The optimality of two commonly used compensation plans. The firm can choose a compensation plan based on either sales or the number of customers emanating from the agent. The model provides an explanation for the observed differences in types of compensation plans adopted by firms, and suggests ways to improve the relative performance of one type of plan over the other. The questions addressed are fundamental to sales force compensation in general and are not limited to Internet arena. Examining an important consumer-centric channel relationship between a firm and its agent, this study has also a direct conceptual link to the growing research on customer relationship management.

4 - Internet Product Recommendations: Effectiveness in Context

Jonathan Bohlmann, Asst. Prof., Michigan State University, N370 BCC, East Lansing, MI, 48824, United States, bohlmann@msu.edu

Many internet retailers utilize product recommendation agents to help consumers discover new products and generate demand for unfamiliar products. These recommendations often occur in a particular context which may influence the recommendation's effectiveness in generating a desirable consumer response. For example, the recommended product may appear alongside other products for which the consumer has a definitive preference. Prior research recognizes the importance of recommendation context on its informational value. However, many contextual influences remain untested for their effects on how a consumer perceives a recommendation's usefulness. Our empirical studies analyze the influence of several contextual variables on consumer favorability toward a recommended product. Specifically, we examine context in terms of the recommended product being 1) denoted as "new," as opposed to being merely unfamiliar to the consumer; 2) accompanied by other recommendations that are known to be liked or disliked by the consumer; 3) presented for a product category that is or is not of primary interest to the consumer. Covariates such as need for cognition and internet trust are also studied, with some moderating effects. The results reveal several contextual approaches that may improve the effectiveness of internet product recommendations.

FD04
Room 231
Pricing Psychology

Chair: Rabikar Chatterjee
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1 - Differentiating Among Reference Prices

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The existence of reference prices and the mediating role they play in price judgments have been well established. The literature has also suggested a variety of possible reference prices including expected price, fair price, and reservation price. However, there has been little by way of a systematic attempt to differentiate among these reference prices. We do not know when each particular reference price is used or even how each is formed, let alone how marketers may influence them. In a prior exploratory experimental study, the author found some intriguing results. The study suggested that consumers use different reference prices for different tasks; they appear to predominantly use "expected price" for matching tasks and "fair price" for judgment tasks. They also appeared to use different prices in forming different reference prices; fair price using the broadest pricing information and reservation prices using the narrowest price information. The present study builds on these results by testing hypotheses suggested by the earlier findings. Two 3x3 factorial experiments are envisaged using student subjects and the same product category. One experiment will focus on different streams of price information in a given store, while the other will focus on prices across stores in a given market. The first experiment is a test of hypotheses based directly on the earlier study. The second experiment attempts to broaden the scope of the enquiry by looking at prices across stores to examine if the same pattern of utilizing price information persists.

2 - A Theory of Value Formation with Price Priming and Context Effects

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We propose a model of consumer reservation price formation that explains context effects and priming. This model makes several new predictions about interactions of similarity and preference on the formation of reservation prices and on magnitude of differences between willingness to pay and willingness to accept, on the effects of specific objects recalled on the ability to shift prices with irrelevant primes.

3 - Making Sense of Ignoring Cents: Price Points and Price Rigidity under Rational Inattention

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Daniel Levy, Robert Kauffman, Haipeng Chen, Dongwon Lee

The paper makes two contributions. First, we explore the practical importance of price points and their role in price rigidity in two large retail datasets ñ one a scanner dataset, and the other a dataset of prices from Internet e-tailers on a wide range of products. We find that 9-ending price points contribute to price rigidity, based on three types of evidence. First, we find that the most popular terminal digit is 9, and that there are more price-endings with 99 cents than with any other two digits, including 89, 79, ...or 09 cents. Second, our correlation and logistic regression analysis results demonstrate that once a terminal digit of a price is set at 9, it is less likely for the price to change compared to when a terminal digit is not 9. Third, when the prices do change, they tend to change in multiples of dimes for 9¢-ending prices and in multiples of dollars for 99¢-ending prices, bringing the last digits back to 9. Our second contribution is that we offer a rational choice explanation for the phenomenon of 9-ending price points. The theory is an extension of the recent literature on rational inattention, which suggests that it may be rational for consumers to be inattentive to the rightmost digits when faced with large amounts of information and processing-capacity constraints. The practice of 9-ending pricing, we argue, may be the outcome of firms' optimal reaction to the customers' rational inattention to rightmost digits.

4 - Reservation Price as a Range: An Incentive Compatible Measurement Approach

Rabikar Chatterjee, Professor of Business Administration, University of Pittsburgh, Katz Graduate School of Business, 340 Mervis Hall, Pittsburgh, PA, 15260, United States, rabikar@katz.pitt.edu
Tuo Wang, R Venkatesh

We propose a new approach for the incentive compatible elicitation of an individual's reservation price range, based on the proposition that an individual consumer's reservation price for a product or service is more meaningfully and accurately represented as a range than as a single point. This approach mitigates biases associated with specific extant reservation price elicitation methodologies. We report the results of a large-scale study using several hundred undergraduates at two major universities that tests the performance of our proposed approach relative to three commonly used self-elicitation methods and two other incentive compatible methods that have been employed - the Vickrey auction and the Becker-DeGroot-Marschak (BDM) methods, as well as the incentive compatible elicitation at point-of-purchase variation to the traditional BDM approach proposed by Wertenbroch and Skiera. Our results demonstrate the superior predictive ability of our proposed approach over extant methods, and additional diagnostic benefits (in terms of providing a measure of the extent of uncertainty in individual consumers' willingness to pay). We also show analytically the implications of explicit consideration of this uncertainty in optimal pricing decisions, and conclude with a discussion of the study's theoretical and managerial implications, limitations and future research directions.

FD05
Room 201
Relationships and Alliances

Chair: Scott Colwell
Assistant Professor, University of Guelph, Dept. Of Marketing and Consumer Studies, Faculty of Management, Guelph, ON, N1G2W1, Canada, scolwell@uoguelph.ca

1 - Value Creation in Asymmetrical Alliances: Insights from the Information Technology Industry

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Venky Shankar, Rajan Varadarajan

Although a wide range of issues pertaining to strategic alliances have been explored in marketing, management and economics literature, empirical research focusing on value creation and apportionment in asymmetrical alliances is characterized by a dearth of research. The question of what determines, and how the benefits of participating in asymmetrical alliances get apportioned between the alliance partners is of major concern to managers. In this study, we develop and empirically test a model of shareholder value creation / erosion (specifically, short-term financial gains / losses that accrue to the alliance partners) in asymmetrical alliances. Performance is modeled as a function of the characteristics of the focal firm, the alliance and the alliance partner. Using secondary data assembled from multiple sources, the model is tested for a sample of 167 asymmetrical alliances formed between 1993 and 2004 in the information technology industry. The preliminary results pertaining to alliance characteristics suggest that while alliance scope (broad as opposed to narrow alliances) contributes positively to the financial gains of the large firm, alliance type (scale as opposed to link alliances) contribute positively to the financial gains of the small firm. The preliminary results pertaining to partner characteristics suggest that while the reputation of the large firm enhances the financial gains of the small firm, the innovativeness of the small firm enhance the financial gains of the large firm. As regards firm characteristics, the results suggest that the magnitude of the financial gains accruing from prior alliance experience to small and large firms differ substantially.

2 - From Perceptions to Collaboration: Role of Perceived Trust in HQ-Subsidiary Relations

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Roger Calantone

This paper introduces a boundary condition to the agency theory, where the headquarters (HQ) and the subsidiary agree on the goal but disagree on the means to achieve the goal. In-depth interviews are conducted with the senior executives working at multinational corporations' subsidiaries in Turkey, a turbulent market. The setting chosen for the interviews is global new product launches and global brand management practices of the MNCs. Multinational corporations continuously transfer their global brands into different markets, and management of global brands requires certain standard practices throughout the world. Due to multiple ownership, divergent views may emerge between the HQ and the subsidiary regarding how to manage a global brand. Based on the interviews, the main reason for means incongruence is identified as differences in "perceived competence trust." A "dual" (what one party perceives vs. what the other party perceives) and "relative" (one party's competence trust toward the other party vis-á-vis its competence trust toward itself) perspective to trust are introduced. An exogenous factor that shifts both the HQ's and the subsidiary's perceptions is identified as environmental turbulence, which causes increased information asymmetry between the HQ and the subsidiary and a subsequent shift in the perceptions of both parties regarding the relative competence levels of each other. Implications for conflict, collaboration, and autonomy preferences for the headquarters and the subsidiary of a multinational corporation are investigated. A diagnostic and prescriptive framework is proposed, and various mechanisms through which disruptive conflict can be transformed into functional conflict and collaboration are explored.

3 - The Formation of Buyer-Supplier Relationships: Detailed Contract Drafting & Close Partner Selection

Stefan Wuyts, Assistant Professor Marketing, Tilburg University, Marketing Department, P.O. Box 90153, Tilburg, 5000 LE, Netherlands, s.h.k.wuyts@uvt.nl
Inge Geyskens

When firms select suppliers for new purchase transactions, they are faced with two strategic decisions: the decision whether or not to draft a detailed contract for the purchase agreement and the decision whether or not to select a supplier with whom the buyer shares a close tie. We study how organizational culture guides firms in these decisions, as well as the effectiveness of these decisions in curtailing the partner's opportunistic behavior. By administering questionnaires with key informants at firms active in

specific SIC categories (industrial equipment and components), we obtained complete and detailed information on 177 purchase agreements. We estimated models using partial least squares to test our hypotheses concerning the drivers and consequences of detailed contract drafting and close partner selection. Here follows a summary of our main findings. (1) We find that organizational culture exerts an important, but different, influence on these decisions. (2) In terms of hedging against the partner's opportunistic behavior, contracting only becomes effective when the dyadic exchange relationship is strongly embedded in a network of mutual contacts. (3) In contrast to detailed contract drafting, close partner selection shows a marked ability to control opportunism. However, selecting a close partner also has its shortcomings, in that, beyond a certain point, it encourages the opportunistic behavior it is designed to discourage. (4) Further, detailed contract drafting and close partner selection act at cross-purposes and actually increase partner opportunism when used in combination.

4 - Antecedents to Partner Satisfaction in Non-Equity Based Contractual Alliance Forms

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Conor Vibert

A significant body of literature exists regarding antecedents to satisfactory inter-firm alliances. However this research has largely focused on longer term forms such as equity based strategic alliances and joint ventures, with little attention given to the non-equity based contractual alliance forms. Non-equity based contractual alliances focus on narrowly defined objectives with an intentionally limited life-span. Recent estimates indicate 34% of alliance to be non-equity contractual forms, with industry specific estimates reaching upwards to 85%. Our research focuses on potential antecedents to partner satisfaction in non-equity contractual alliances. We developed and tested hypotheses considering organizational similarity, monitoring cost, fair treatment and operational flexibility as antecedents to partner satisfaction. Data was collected on 72 engagements from 24 Canadian consulting engineering firms. Our model accounted for 72% of the variance in partner satisfaction. Higher monitoring cost was associated with lower satisfaction, and higher fairness was associated with higher satisfaction. Organizational similarity did not moderate the paths as hypothesized. A rival model indicated higher similarity was significantly associated with lower monitoring costs and higher fair treatment with positive indirect effects to satisfaction. Our results indicate that partnering with similar organizations may increase the potential for satisfaction. While similar results have been noted in equity based alliance forms, this research extends these findings to contractual alliance forms. Managers should consider initiating their search for similar organizations by investigating previous partnerships with which they have had satisfying experiences with.

FD06
Room 204
Customer Lifetime Value II

Chair: Ward Hanson
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1 - Improving the Prediction and Diagnosis of Customer Churn: A Heterogeneous Hazard Modeling Approach

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Randolph Bucklin

Our research looks at the impact of customer satisfaction, failure recovery and payment equity on the probability of churn for customers of a direct-to-home satellite TV provider. We model the probability of a customer exiting from the firm in a given month as a function of overall satisfaction with the service experience, overall performance of failure recovery efforts, and perceived fairness in the trade off between utility and cost of product usage. These factors are measured over the duration of the customer's relationship with the firm. We use a latent class Weibull parametric hazard model with exit from the firm defined as an event. Our model allows for heterogeneity not only in the baseline hazard probabilities but also in the response parameters. We find significant links between customer satisfaction with the service experience, performance of failure recovery efforts, and payment equity on the customer's churn probabilities. Further, the customers form distinct segments in terms of the degree to which service experience, failure recovery efforts, and payment equity impact churn probabilities.

2 - Modeling and Managing Customer Lifetime Value in a Multichannel Setting

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Peter Fader, Jehoshua Eliashberg

We develop a rich descriptive model of multichannel buyer behavior, and overlay it with a normative model of optimal resource allocation for the firm. These models center on the question of how multichannel behavior varies across customers and over time when there is uncertainty about each customer's preference for each channel. This uncertainty can arise naturally from two sources: the firm may not have many observations on the customer, and the customer's preferences may change as she gains more experience with the firm. We assume that the retailer holds Bayesian beliefs about the state of the customer and decides which channel-specific marketing instrument (e.g., emails or catalogues) to send each period, while the customer can decide whether to shop online or offline. Some customers may be profitable in only one channel, while others may be profitable across all channels. The firm faces a tradeoff between learning about the customer's preferences for each channel in the long run and exploiting immediate profitability in the short run. This tradeoff motivates using dynamic programming in order to find optimal policies. We naturally allow for uncertainty in the customer's state and firm's profit by making use of general results for a partially observable Markov decision process (POMDP). Using a dataset from a large multichannel retailer, we estimate a heterogeneous hidden Markov model that allows for customers to change their preferences after a certain amount of exposure to firm marketing. We use the estimates from this model to formulate optimal policies in the second stage.

3 - What's in your Wallet? Estimating Customer total Category Requirements

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Paulo Costa, Wagner Kamakura

The wallet of a customer is defined as the total requirements by a customer for a certain product category in a given time frame. Knowledge of the past, present, and future wallets for customers is of unquestionable importance for optimizing sales and marketing efforts. Despite this fact, a review of the literature about wallet-estimation models revealed a surprising lack of publications in this area. In the business-to-business area, two alternatives are usually considered: a) the "top-down" approach where category demand is estimated at a higher level of aggregation (e.g., SIC code) and then broken down at the customer level, or b) the "bottom-up" approach where total requirements are directly estimated at the customer level. In this paper, we discuss the value proposition associated with wallet estimation, review methodologies, and compare the "top-down" approach with two "bottom-up" models based on Finite-Mixtures and Machine Learning, developed for customer-level wallet estimation. This comparison is done using primary and secondary data on information-technology expenditures by businesses in United States.

4 - Choosing the Proper Discount Rates in Customer Lifetime Value Calculations

Ward Hanson, Stanford University, Mailstop 6015, Landau Building, Stanford, CA, 94305, United States, hansonw@stanford.edu

Whenever streams of revenue and costs occur at different times, it is necessary to use a discount rate to properly compare current and future payments. Almost no work on customer LTV has concerned itself with the proper discount rate for these calculations. This is odd, as Pfeifer and Farris(2004) demonstrate that discount rate changes have much the same leverage on LTV as heavily studied retention rates. Previous LTV research

use widely varying values, with little or no systematic guidance for what is appropriate. This paper is closest to that of Dhar and Glazer(2003), although the approach has some fundamental differences. The methodology applies the financial theory of risky project analysis to the customer lifetime value setting. While well accepted in the finance literature, the risky project methodology has quite striking implications for customer analysis. The first fundamental conclusion is that most firms should be using multiple risk-adjusted customer-specific discount rates in their LTV calculations. Proper rates reflect the correlation between expected customer returns and the external financial marketplace. It is possible that the same firm might use a low single digit rate for some customers while discounting others at rates exceeding twenty percent. As expected customer lifetime value strongly influences customer acquisition spending, widely varying rates dramatically affect direct and online marketing actions. It changes both customer acquisition and retention targeting and spending. The work also demonstrates why large corporate marketers may be optimally more aggressive in recruiting the same customers than privately owned firms.

FD07
Room 207/208
Special Session: Brand Metrics Linking Marketing to Financial Performance

Chair: Raj Srivastava
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1 - Marketing's Impact on Firm Value

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MinChung Kim

This study evaluates the impact of marketing spending for several hundred manufacturing companies using 10 years of data from SEC filings. By calculating the value of a firm's intangible assets (e.g., brand equity) and identifying the portion resulting from marketing spending, we are able to examine the relationships between revenue, marketing spending, and brand equity. Revenues and firm value with marketing spending were compared to estimates of revenues and firm value with no marketing spending. Overall, marketing spending was found to offer high levels of return.

2 - Staying Ahead in the Innovation Race: New-Product Introductions and Relative Firm Value

Jorge Silva-Risso, Assistant Professor, University of California, Riverside, Riverside, CA, 92521, United States, jorge.silva-risso@ucr.edu
Shuba Srinivasan, Koen Pauwels, Dominique M. Hanssens

While product innovation is a key contributor to long-term firm performance, new-product failure rate remains high, especially in the face of intense competition. Therefore, marketers need a better understanding of how and why firms benefit from new product activity relative to industry competitors. Which types of innovations have the greatest impacts on relative firm value? In particular, which innovation, brand, firm and market characteristics influence the long-term performance effects of new product introductions? This paper addresses these questions with a large-scale empirical study on new-product introductions in the economically important automobile industry. First, vector-autoregressive models quantify the over-time impact of product introductions and promotional incentives on relative financial performance and firm value. Second, weighted least squares regression assesses the moderating role of innovation, brand, firm, and market characteristics. A key finding is that new-product introductions can be managed strategically for competitive advantage in investor markets. Indeed, their relative performance impact is higher in growth categories, and especially for pioneering innovations that are highly advertised. In contrast, sales promotions do not offer such strategic benefits, as we find no meaningful moderators of their impact on relative market value.

3 - Valuing the Brand Asset and Its Components

Natalie Mizik, Professor, Columbia University, 3022 Broadway, room 513, Uris Hall, New York, NY, 10027, United States, nm2079@columbia.edu
Robert Jacobson, Ed Lebar

Making use of "customer mind-set" measures of brand attributes, we seek to assess the effect of the brand asset and its components on firm current and future financial performance. We combine three different data sources. First, we use brand perceptions measures from the Y&R BAV database. Our analysis is based on 278 'mono-brand" publicly traded firms tracked by Y&R as a part of their surveys undertaken over the 1993-2003 period. Our analysis focuses on five key brand asset components. Four of the measures - Differentiation, Relevance, Quality, and Knowledge - are the basic brand asset components underlying many brand equity frameworks. We enhance this set with a fifth component reflecting brand Vitality, which we base on perceptions of brand Innovativeness and Dynamism. Next, we accessed the primary, full coverage, and research COMPUSTAT databases to obtain quarterly accounting data and the CRSP monthly returns file to obtain stock returns data. Our findings suggest that approximately 70% of the effect of the brand asset on stock return is incremental to that reflected by current-term operating performance; 30% is reflected in current-term accounting measures. The brand asset does not, however, have homogeneous effects on financial performance. Rather, its different components have differential effects. By focusing on the future financial performance outcomes of brand assets we were able to identify Brand Vitality as a key missing component in existing conceptualizations of Brand Asset.

4 - The Pay-off of Brand Building Investments in Early Stage of Product Lifecycle: Some Empirical Evidence

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Sundar Bharadwaj, Debdulal Mallick

Mainstream advertising effectiveness research and sales response analysis have resulted in med findings on the impact of brand building efforts through advertising. Short-term brand building advertising effects are often drowned by price-promotions. Examining its impact primarily in terms short-term (say monthly or weekly) sales response is destined to understate the impact of advertising. A related issue is that the vast majority of prior research has been conducted on mature brands, where the payoff is difficult to discern because of ceiling effects. While a substantial body of research has examined the effects of advertising related brand building on upstream measures of cognition (such as awareness, liking, persuasion etc.), it is important to understand what are some of the downstream effects of these communications (negotiating power over retailers, price/share premiums etc.). Using a database of an emerging category, bottled water, we present empirical evidence that tests the proposition that early and cumulative advertising is important for building brands. We also present evidence on related propositions that once differentiated brands have been developed they can be leveraged to provide superior marketplace performance in terms of better price elasticities and/or lower sales/distribution costs, as well as distribution reach. Moreover, we are able to demonstrate both the short-term and long-term impacts of building brands through advertising. Our results provide guidance to brand and marketing managers that, "brand-building investments" represent strategic options that can provide multi-period payoffs.

FD08
Room 338
Satisfaction; Consumer Heterogeneity Patterns

Chair: Jianjun Zhu Ph.D. Candidate, University of Iowa, 108 PBB S252, Iowa City, IA, 52242, United States, jianjun-zhu@uiowa.edu

1 - Changes in Customer Preference Heterogeneity Patterns

D. Sudharshan, Dean, Gatton College of Business and Economics, University of Kentucky, Lexington, KY, 40506, United States, sudharshan@uky.edu
Andreas Mild

This paper presents a computer simulation study exploring how customer heterogeneity patters and therefore groupings of customers change over time when each customer is acted upon, in a stylized manner, by both a propensity to conform to others and a propensity to differentiate from others. The first is a force leading an individual to want to belong to a group, or a conforming or an imitation force and is a function of the interactions within a group. The second is a force to be unique, to stand out, or to be different from other members of a group. This force can also be interpreted

as customers' uncertainty about other preferences. In particular, we study the emergence of segments of customers due to social interaction and the change in the number of such segments over time, the spread or concentration of customers across segments and the spread or compactness of each market. These properties have obvious meaning for Marketing having implications for market size, changes in differentiation needs over time and product adaptation over time. We show that both, the imitation force and customers' uncertainty influence the above mentioned properties. In addition, we find the initial distribution of customers' preference to be an important property to explain preference change.

2 - Spatial and Demographic Influence on the Satisfaction Loyalty Association

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Lopo Rego, Gary Russell

Customer heterogeneity is present in most marketing phenomena (e.g., at the store level, within local/regional markets and even across national markets). Failure to identify and address customer heterogeneity is likely to result in suboptimal marketing decisions and practices. This is particularly relevant for businesses that have national operations, across multiple markets, experiencing significant levels of customer heterogeneity. Recent research has addressed the phenomena of customer heterogeneity via differences in the physical and psychological (i.e., spatial and demographic) landscapes experienced by customers (Mitall, Kamakura and Goving, 2004). This theoretical framework suggests that consumer behavior and attitudes are likely to vary across different physical and psychological spaces. We extend this framework to examine how customer satisfaction perceptions vary with context, population and environment (Anderson and Mitall, 2000). More particularly, we investigate the spatial and demographic influences on the strength of the association between customer satisfaction and customer loyalty. Using American Customer Satisfaction Index (ACSI) data we test for spatial variation on the association between customer satisfaction and loyalty. Utilizing geographically weighted regression methods, we investigate the nature of spatial and demographic patterns in the relationship between the two constructs. Preliminary results indicate significant spatial variation in the strength of the satisfaction-loyalty association. Additionally, results confirm demographic variation on the association between the two constructs.

3 - Beyond Satisfaction: Measuring and Managing Customer Disposition the IT industry

Ravichandar Venkataraman, CEO, Feedback Business Consulting Services Pvt. Ltd, 5th Floor, Oxford Towers, 139, Airport Road, Bangalore, India, ravi@feedbackconsulting.com

The boom in IT outsourcing not with standing, it has become more important than ever before for IT service providers to differentiate themselves among their target customer groups. This field study - from the perspective of India's Infosys Technologies - makes the point that while the customer satisfaction paradigm has been helpful for customer management, understanding customers' disposition toward service providers vis-á-vis alternate solutions has proved to be more effective. The study draws on data from six years of collaboration between Feedback Consulting and Infosys on the topic. The presentation will outline Feedbackís Customer Disposition Model (CDM) and its underlying rationale. It will trace the evolution from traditional satisfaction measurement to customer disposition measures, attitude profiling and account profitability mapping. The main conclusions: • Firms need to focus on customer disposition based on an assessment on select outcomes. For instance, these outcomes could be overall satisfaction, loyalty, advocacy and value for money with using IT service providers • A three-dimensional classification grid mapping customer attitudes towards IT outsourcing and account profitability by experience with the service provider can be an effective guide for specific account level improvements • Views of both positively and negatively disposed customers are important in leveraging the proposed framework. Clustering customers into distinct groups based on their disposition scores is a desirable prerequisite for the formulation and delivery of IT solutions.

FD09
Room 334
Marketing Research Applications

Chair: Dae-Yong Ahn
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1 - Using GIS as Decision Support Tool: The Case of Automobile Dealership Network Planning

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Mark Uncles, Gary Gregory, Alan Mann

This paper focuses on how to develop an analysis methodology and provide decision support for the processes of retail network expansion and rationalisation within large corporations, specifically on resolving problems of where to locate future automobile dealerships and satellite service centres and where to consolidate existing retail dealerships and service centres. The need to make dealership networks more efficient should be the primary driver in fuelling the process of expansion or rationalisation. In this strategic planning process, multiple criteria related to the dealership network objectives should be combined together. Among these criteria, the importance of taking into account the distribution of existing and potential customers has made the spatial component a significant consideration in dealership network planning. Previous research has demonstrated that information about the geographical dimension of a business is essential, both to understanding its performance and to planning for its future. Therefore, it has become increasingly important in recent years for strategic managers and planners to have an understanding of the sources and types of spatial data that are available and to have effective and reliable systems for handling this data. The paper focuses on the use of Geographical Information Systems (GIS) for business decision-making support. A motor manufacturer and its dealership network in the state of Victoria, Australia, is used as a case study. Specifically, the dealership has the task of managing its existing 6 locations and adding a proposed new location. The study demonstrates that spatial analysis, supported by GIS technology, has the capacity to assist decision-makers when planning their dealerships and service networks.

2 - Application of the Left-Truncated Normal Distribution to Store-Level QC

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Trevor Mason, Michael Kruger, Arvid Johnson

This paper describes a statistical approach to enhance the efficiency of a daily, store-level quality control (QC) system for consumer packaged goods (CPG) sales data. The store-level data are analyzed at an aggregated level in order to identify incomplete data. One of the more important measures used in store-level QC is the ratio of the total depromoted units to the total seasonal baseline units for a group of uniform product codes (UPCs). The characteristics of this measure are described within the context of the QC procedure, and various distributional assumptions are investigated. The use of a standardized, left-truncated normal distribution table is found to be efficient for the procedure. Furthermore, this approach provides a forum in which other statistical techniques may be explored to build an effective QC system.

3 - Evaluation of Distributional Assumptions for Retail Sales Movement Data

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Arvid Johnson

This paper compares several distributions (e.g. normal, lognormal, exponential, poisson and truncated normal) to assess their utility in finding outliers in sales distributions. The weekly and quad-weekly retail sales movement data are examined for 100 top moving and 100 randomly select-

ed products in 15,000 US grocery stores in order to determine which distribution(s) work best in detecting high-end outliers, which indicate bad or highly suspect data. The distributional models are compared versus the empirical distribution in terms of the mean difference, the mean absolute difference, the mean squared difference, and the maximum distance between the cumulative probability distributions. This work has potential applications in all fields in which skewed sales distributions need to be evaluated.

4 - Modeling Chain Store Location Decision

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This study provides an empirical framework that helps determine the optimal location of chain stores. Two issues are relevant when chains decide their store locations: the location of their existing stores and the location of competing chains' stores. An ideal location for a new store is one in which a chain does not cannibalize the sales of its own stores while avoiding competition from other chains' stores. On the other hand, chains may suffer long-term losses in profits from poorly selected store locations due to inherently high exit costs. In this paper, we propose a spatial model that estimates the degrees of spatial cannibalization and spatial competition. Data from grocery chains in a Midwestern MSA is used to estimate the model. The variables, such as population size and proximity to high ways, are included to control for macroeconomic conditions that may affect sales performance. The proposed model is well-suited for situations in which information about competitors is difficult to come by. The results suggest that some chains may be over-expanding their network of stores; chain stores draw sales from their own chain stores rather than competing chains' stores.

FD10
Room 331
Bayesian Models II

Chair: Miguel Arranz
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1 - Control of Consumer Attention: Stimulus and Memory Factors in Brand Search

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Rik Pieters, Michel Wedel

The ease of finding a brand on store shelves or other product displays is an important predictor of market share, because consumers frequently devote limited time and other resources to search. Deep insight into the visual attention strategies of consumers during the process of locating a target brand from among the competition is therefore important input for packaging design and the organization of the shelf and similar display layouts. Recent findings appear to indicate that attention is guided top-down, depending on the goals of consumers and the memory templates activated, as well as bottom-up depending on the characteristics of the stimuli in the display. However, it is unclear what the weights of these two components are in search tasks, that is, to what extent such search, which is a common task that consumers engage in daily, is memory-based versus stimulus-based. The aim of this research is to disentangle these two components that guide attention during such common search tasks. In a series of eye-movement experiments, consumers searched for 1-out-of-n possible targets on a computer-simulated retail shelf. We propose and test a dynamic spatial model that, in addition to uncovering the latent (covert) search strategies of consumers, separates the top-down from the bottom-up component in the search process. The findings contribute to the brand equity and search literatures, and to theories of attention and perception control. Implications for category and shelf management, and package design, and for marketing research on these issues are offered.

2 - Scoring Massive Customer Datasets Using Hierarchical Bayesian Models and Parallel Processing

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Jim Gallagher

Bayesian methods and hierarchical models have become extremely popular in modeling applications for marketing. Hierarchical models and Bayesian methods are particularly attractive for modeling applications involving large transaction files with many customer records. While some transaction histories are long, the majority of the customer records typically have small numbers of transactions; in this situation, the shrinkage inherent in the Bayesian hierarchical approach substantially improves the accuracy of predictions for many customers. However, typical MCMC algorithms for hierarchical models that are appropriate for smaller datasets do not scale properly when applied to massive customer transaction files with millions of records; as a result, hierarchical Bayesian methods are not typically used for this purpose. The paper discusses our experience with parallel Bayesian computation for estimating hierarchical models with customer-level parameters using massive transaction files. Our approach uses parallel data structures, a common (public-use) message passing library, and a simple grid consisting of off-the-shelf computer hardware. An important distinguishing feature of the approach is that message passing between nodes on the grid occurs within MCMC iterations. The paper discusses two applications with real data : 1) Estimation of a hierarchical transaction duration model and the development of scores for churn; 2) Clustering of transaction histories using transition mixture models.

3 - A New Look at Maximum Difference Scaling: Accounting for Scale Differences in Best-Worst Analysis

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Terry Elrod, Adam Finn

Assessment of preference for alternatives in marketing is generally based on rankings, ratings or choices of alternatives. Choice data are thought to be the most valid, but they contain the least amount of information. Best-worst analysis obtains additional information about preferences by having consumers simultaneously choose the best and worst alternatives from differing subsets of all alternatives. Best-worst analysis is now offered by many marketing research firms (Cohen 2003). In this study we analyze best-worst preferences for grocery stores. In particular, we compare the scaling of stores implied by the "best" information with the scaling implied by the "worst' information. Numerous Bayesian models show that these two scalings of stores are not the same. This finding is largely independent of how preference heterogeneity is modeled. We discuss likely reasons for this difference and possible remedies.

4 - Bootstrap Inference on a Nonlinear Time Series Model of Advertising Effects

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This paper deals with the analysis of a nonlinear time series model of the effects of advertising. Given the nonlinear nature of the process it is not possible to rely on the asymptotic inference. Furthermore, we can not provide an (asymptotic) pivotal statistic. Our solution is the application of bootstrap techniques. In particular, we find that the double bootstrap procedure provides good results. In this case, the choice of model-based time series resampling, sieve bootstrap or moving-blocks (circular blocks) bootstrap seems to have negligible effects on the confidence intervals of the parameters.

FD11
Room 301
Market Entry & Exits II

Chair: Sriram Venkataraman
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1 - Survival of the Fittest or the Wheat from the Chaff?: Survival and Sales Determinants in E-tailing

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Nadya Toskova

What are the determinants of success in e-commerce and how do we define success? We look at how different factors affect two popular measures of success - sales and survival. Using the conceptual frameworks of Mahajan, Srinivasan, and Wind (2002) and Varadarajan and Yadav (2002) we look at how components of competitive strategy, industry structure, firm and product characteristics, and the macro environment affect sales and survival in the online market space. In particular, we focus on the order of entry effect. Our two unique sets of databases allow us to compare it on two dependent variables that have raised controversies in the literature. Studies using market share as the dependent variable have been accused of suffering from survival bias. We overcome this deficiency by tracing the survival determinants for a large set of e-tailers over a span of 10 years and then estimate the same effects in a cross sectional study of the top 100 e-tailers in 2003. We do not register strong order of entry effects in the survival study. However, once the weak e-tailers have exited the market, we observe early entry advantages among the survivors. The study also clearly outlines the time-varying effect of certain success determinants. Managerial implications are discussed.

2 - Dissolution Versus Acquisition: The Differental Effects of Product-Market Strategy on Type of Firm Exit

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Gary Lilien, Arvind Rangaswamy

New firms face severe challenges in their early years, resulting in high failure and exit rates. While inadequate marketing is frequently cited as a major reason for the poor performance of new firms, there is little research on what constitutes a successful product-market strategy for new firms. In this paper, we examine how the scope of a new firm's product-market strategy affects the timing of two types of exit from the market: by dissolution and by acquisition. Based on the literature in strategy and organizational sociology, we consider the differential effects of firm's performance and the competitive intensity in the environment as factors that moderate the effects of a new firm's product and market scope on the two types of firm exit. We develop a parametric hazard model of competing risks to represent the timing of firms' exit through dissolution or acquisition. We estimate the model using data on 1,438 firms incorporated in the technology intensive sector in the United States between 1993 and 2002. The results support the proposed model and indicate that a new firm's product-market strategy affects the two types of exits differently. Increases in product scope decreases the time to either type of exit, whereas increases in market scope lengthen the time to exit by either mode. However, a broader product scope in combination with a broader market scope (i.e., product-scope market scope interaction) leads to a shorter time to exit by dissolution (i.e., more success for an organic growth strategy) and a longer time to exit by acquisition. Hence, product-market diversification does not aid new firm performance, whether through organic growth (i.e., longer time to dissolution) or through earlier acquisition.

3 - Second Mover Strategies

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Sridhar Moorthy

We examine the entry strategies of a second mover in a market where the first mover is the incumbent. Consumers know the quality of the incumbent, but are uncertain about the quality of the entrant. When products are also defined on an observable horizontal attribute, the high-quality entrant has to decide whether to signal its quality or not. We show an equilibrium where it is better to pool on quality than to signal quality (while being undifferentiated horizontally). Along the way, we examine different methods of signaling including choosing a location other than 1/2 on the horizontal dimension, setting a high price, or investing in uninformative advertising (money burning). We show that, because of collusive effects, sending signals through a high price is the optimal signaling strategy for a high quality firm. This suggests that signaling strategies in an oligopoly may be fundamentally different from signaling in a monopoly.

4 - Dynamic Equilibrium Model of Firm Entry, Stay and Exit Decisions

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Vrinda Kadiyali

This paper proposes an empirical dynamic oligopoly model of endogenous market entry, stay and exit decisions. In the lodging industry, decisions of entry and/or exit involve considerable irreversible investment in capital and uncertainty about demand, cost and competition. An inactive firm anticipating better market conditions in the future may differ entry to future periods and in the process risk forfeiting advantages from early entry to its competitors. An incumbent firm in anticipation of future entries or exits, can chose to either continue to stay or exit the market. Hence current and anticipated future market conditions can affect a lodging property's market entry/exit timing decisions. Despite these long-run considerations, the extant literature predominately uses static/two period models and identifies factors like—market uncertainty, excess capacity, firm heterogeneity and learning-by-doing—to affect and in turn be affected by firm entry/exit decisions. Building on prior findings, this paper presents a unified empirical framework accounting for these effects in the context of discrete dynamic games, wherein the firm decisions i.e. entry, stay and exit are endogenously determined in Markov perfect equilibrium. Unlike previous static/two period models, firms in this paper are forward-looking, and maximize their profits over an infinite-time horizon. The optimality conditions are computed numerically using dynamic programming techniques and the model is calibrated using aggregate monthly panel data for the Texas lodging industry from 1991-2003.

FD12
Room 304
Not for Profit; Public Policy

Chair: Mark Vandenbosch
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1 - Understanding How Embedding a Social Cause in a Product Affects Consumer Choice

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Neeraj Arora

Several offerings in the marketplace make a sale-contingent promise to donate a fed amount of money to a social cause. Examples include Yoplait and Susan G. Komen Breast Cancer Foundation, and Target Visa Card and K-12 education. Building upon terminology used by economists, in this research we call such offerings impure private goods and the attached social cause component an embedded premium (EP). While impure private goods are quite common, surprisingly little research has investigated the mechanisms that govern choice contexts that involve an offering with an EP. We conduct three studies, including two nationwide consumer experiments using a MarketTools web panel, to study choice contexts that involve an impure private good. We incorporate EP (e.g. 1% of amount charged to your Visa donated to Red Cross) in a standard hierarchical Bayes choice model and study the extent to which it impacts consumer choice. We then investigate heterogeneity in EP effectiveness and factors that explain EP effectiveness heterogeneity. In order to glean insights into the interplay between "self" and "the other", we compare EP to an equivalent payback to self (e.g. 1% of amount charged to your Visa paid back to you). Results indicate substantial heterogeneity in EP effectiveness. This heterogeneity is related to factors such as cause affinity, political affiliation, age, education and income. At low levels of EP, a sizable number of consumers are shown to be "selfless" and their reasons for choosing an impure private good include normative, affective and utilitarian motivations.

2 - The Rural-urban Digital Divide: A Content Valuation Perspective
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Adam Finn, Stuart M. McFadyen

A number of studies have used usage data to investigate the existence of a digital divide based on socio economic characteristics and / or demographical variables. A statistic Canada study of "Digital Divide" shows that the rural-urban digital divide is slowly closing in Canada. This study examines the digital divide from the point of view of the values household place on the benefits they derive from Intenet content and services. Specifically we use the data from a choice experiment valuation of Internet content and services to study the rural-urban divide. The data provides values for Portals, News and Information, Entertainment & Games, Online Shopping, Education & Career, Government, Banking & Financial, Travel & Tourism, Sports and Adult content. We find evidence of lower valuation of Internet content and services by the rural households. To address the issue of "Internet Experience" we also examine the effect of hours of current Internet usage.

3 - Assessing the Value of the Alberta SuperNet
Adam Finn, Professor, School of Business, University of Alberta, 3-30B Business Building, University of Alberta, Edmonton, AB, T6G 2R6, Canada, adam.finn@ualberta.ca
Stuart McFadyen, Dominic Thomas

In June 2001 a National Broadband Task Force (NBTF) recommended the deployment of a Canadian broadband network, at a cost of between $1.85 billion and $4.5 billion (Cdn). Emphasis was put on connecting rural and remote communities and Aboriginal settlements, with priority given to providing service to health facilities, libraries, schools, and other public institutions. While not taken up federally, the Government of Alberta has invested $193 million to build the Alberta SuperNet to make affordable IP broadband connectivity available to all schools, hospitals, libraries, government buildings and municipalities throughout the province. Approximately 4,700 facilities in 422 communities across Alberta have access to the network. Finn, et al (2001) argue that choice experiments (Louviere, Hensher and Swait 2000) can be used to resolve funding-level decisions for such public programs. Here we assess the relative size of the private and public value obtained from the services provided by the Alberta SuperNet using a household survey choice experiment. This experiment manipulates both the types of content and services made available and the scope of benefit (own householdís use only versus both own and others use) to estimate both service specific and total externalities. The results allow conclusions to be drawn about the merit of the Broadband Taskforce recommendations for Canada.

4 - The Effects of Appeals, Content, and Delivery on Fundraising Donations
Mark Vandenbosch, Professor and Magna International Inc. Chair, Ivey Business School, University of Western Ontario, 1151 Richmond St. North, London, ON, N0L 1G4, Canada, mvandenbosch@ivey.ca

How and to what extent do fundraising campaigns motivate people to support organizations such as PBS, the Red Cross, and Body Positive? We address this question within the context of four televised fundraising drives for a public television station. We model the effects of three fundraising appeal dimensions on actual dollar donations: who is identified as the beneficiary of the donation, the degree to which the emotional content is positive or negative, and the level of rationality or argumentation. The model is based on a unique dataset integrating (1) information on the dollars donated during pledge breaks between regular programming, (2) a content analysis of 584 scripts used on-air by the station, (3) audience size and composition information from Nielsen®, and (4) assessments of on-air appeals by a sample of the station's target audience. Our modeling approach enables us to determine the effects of advertising appeal dimensions, on-air content, individual hosts, and the timing and placement of the pledge breaks on dollar donations. Implications for marketing practitioners and academics are discussed.

FD13
Room 421
Customer Loyalty Management

Chair: Mengze Shi
Associate Professor of Marketing, Rotman School of Management, University of Toronto, 105 St. George Street, Toronto, ON, M5S 3E6, Canada, mshi@rotman.utoronto.ca

1 - From Customer Pyramid to Customer Cube: A New Conceptual Model for Customer Relationship Management
Gurram Gopal, Assistant Professor, Elmhurst College, 190 Prospect Avenue, Elmhurst, 60126, United States, ggopal@elmhurst.edu

Customer Pyramid is one of the popular tools of Customer Relationship Management in use currently. Marketing Managers in many firms have deployed it to drive higher profitability through greater effectiveness of their marketing programs. Traditional customer pyramids have been built on measures like a customer's expected lifetime value on a product by product basis. In this paper we first present a variant of the customer pyramid that combines the "product m depth" (PMD) of the firm with the current share of the wallet (SOW) into a new variable called the "Customer Penetration Index" or CPI. This variable is then used with the other profitability measures to develop marketing development programs that are needed to move customers from a lower pyramid level to a higher level, while increasing retention at the higher levels. The paper then presents a new conceptual model- the "Customer Cube" for industrial marketing. The Customer Cube adds a third dimension, "Supply Chain Integration" or SCI, to the profitability and the product m depth dimensions in order to capture the complex nature of the relationships and investments between firms. Marketing Managers can increase investment to move customers up the SCI dimension by tighter collaboration with the customers and thus raising the switching costs. Using these three dimensions marketing managers can make better decisions on where the marketing dollars are invested.

2 - Customer Intention As Key to Successful CRM Implementation
Obaid Al-Shuridah, Southern Illinois University at Carbondale, College of Business Administration, Department of Marketing, Carbondale, IL, 62901, United States, shuridah@siu.edu
Siva Balasubramanian

In their universal quest to improve customer relationships, firms rely heavily on technology-based solutions that CRM provides. However, studies and business reports estimate that 30% to 75% of CRM initiatives fail to achieve their goals. This high incidence of failure is often attributed to firm-related factors (e.g., lack of cultural readiness) or technology (e.g., software incompatibility with firm-specific needs). We contribute to this debate by highlighting several customer-related factors that are critical to CRM programs. Following an extensive multi-disciplinary literature review, we develop a structural model where customers' intention to engage in CRM programs is influenced by four antecedent constructs: attitude toward CRM, subjective norm, perceived behavioral control, and past experience. The attitude toward CRM construct, in turn, is influenced by perceived benefits, perceived risk, and attitude toward the CRM provider. The model was estimated with online survey data collected by Greenfield.com from 501 US respondents. We obtained excellent model fit. All hypothesized relationships among model constructs were empirically supported. Overall, our model provides managers with a comprehensive understanding of factors that influence customer participation in CRM programs. Our study showcases actions that managers can take to increase customers' intention to engage in CRM programs, thereby increasing the likelihood of CRM success.

3 - Repurchase Behavior of Customers as a Population
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Takahiro Ohno, Dae Ryun Chang

We are motivated that customers can be considered as a population. The customers of a unit time(a year) in a category will pass the stages: birth, growth, matured, and death or reproductive. First of all, we analyze the sur-

vivorship curves, and population growth by duration Time Table. The characteristics of our customers will be clear by duration time analysis. Second, it will be important point that how many customers are at each duration classes in years. They are the latent customers in the future repurchase market. Third, our final goal is to quantify the reproductive value of customers at duration classes in years. The behaviors of latent customers will be classified into staying in their brands, reproducing(repurchasing) of the same brand, and switching to other brands. Finally, three results above will be connected to CRM, loyalty and retention, and profitability.

4 - Managing Consumer Switching Costs through Loyalty Incentives
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Firms often reward consumers' repeat purchases with cash or free gifts. For example, hotels provide their frequent guests with free room stays, and cereal manufacturers enclose in-pack coupons to be redeemed with future purchases. These loyalty incentives are intended to increase consumers' costs of switching suppliers. However, such (endogenous) switching costs affect price competition differently from other (exogenous) switching costs, e.g., transaction costs and learning costs. This paper studies how firms should manage endogenous switching costs through loyalty incentives according to the size of exogenous switching costs. We start our analysis with a case study of Hong Kong cellular phone market. Loyalty incentives were offered in the form of handset rebates: an operator provided a new customer with a monthly rebate for a contracted number of months. If a consumer switches to another operator, s/he would have to give up the rebate. During the period we study, Wireless Number Portability (WNP) was implemented to reduce switching cost by allowing subscribers to retain phone numbers when switching operators. Before that, market surveys showed that the need to change telephone numbers was the most frequently quoted reason preventing users from switching operators. The paper first examines how the rebate schemes responded to the implementation of WNP. We then conduct theoretical analysis to understand the empirical observations from Hong Kong market.

FD14
Room 453
Durable Goods Pricing

Chair: Mrinal Ghosh
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1 - Trade-ins in Durable Goods Markets
Raghunath Rao, PhD Student, University of Minnesota, 3-150, Carlson School, 321, 19th Ave S, Minneapolis, MN, 55455, United States, rrao@csom.umn.edu
George John, Om Narasimhan

The act of trading in a used car for the purchase of a new car is one that resonates with practically all consumers. While the car example is the canonical instance, similar transactions occur in markets as disparate as golf clubs and industrial equipment. What roles do trade-in transactions play from the standpoint of the firm? What determines how much the seller of new good offers for the trade-in? These are basic questions concerning an important transaction in durable goods markets, one worth billions of dollars - surprisingly, however, none of these questions have been addressed in any formal fashion in the marketing (or economics) literatures. The intuitive notion is that trade-ins stimulate primary demand, but as we show below, trade-ins actually play a more complex role. Our dynamic equilibrium model features new and used goods wherein a new good buyer gets a stochastic realization of quality of used good in the next period. Although the owner observes this realization, potential buyers do not, thus setting up the well-known Akerlof's "lemons" problem. One consequence of this information asymmetry is that some buyers of new good will hold on to their used good and forgo buying a new good, despite their desire to do so. We model trade-ins in this market by allowing producers to accept the used good as a part payment for their new good. This instrument enables segmented pricing between new good buyers who possess a previously purchased good and those who do not. Our analysis demonstrates that the efficacy of this instrument increases with the frictions in the used goods market.

2 - How Strategic are Firms When Deciding on How Much to Lease?
Srabana Dasgupta, University of British Columbia, 2053 Main Mall, Vancouver, BC, V6T 1Z2, Canada, dasgupta@sauder.ubc.ca
Sivaramakrishan Siddarth

In many durable goods categories, used goods are traded in a decentralized secondary market over which a firm has no control, and the origin of a significant proportion of these goods can often be traced back to products that were originally leased by the manufacturer. These "off-lease" goods re-enter the market as strong substitutes for new products and can therefore have a strong negative effect on a firm's future profits and production. In the automobile market in particular, industry analysts have predicted "the oversupply of [off-leased vehicles] could severely depress the prices of new and used vehicles" that could result in losses as high as $18 billion over the next two years (The Wall Street Journal, August, 2002). We combine a disaggregate model of demand with an aggregate dynamic oligopoly model of a differentiated product market that describes the interaction between the new and secondary car markets. A discrete choice model of demand is developed where consumers choose among leasing or buying a new car, or buying a used one. On the supply side, firms choose the number of new cars to manufacture and the fraction of cars to be leased, which in turn determines the degree of competition in subsequent periods. We test the hypothesis that high-durability car producers benefit from over-leasing in the current period in order to exploit the existence of the secondary market to potentially reduce the future production and profits of competitors who produce lower durability cars.

3 - Leasing Versus Selling as Governance Devices: An Investigation in Industrial Markets
Mrinal Ghosh, Assistant Professor, University of Michigan, Stephen M. Ross School of Business, 701 Tappan Street, Ann Arbor, MI, 48109, United States, mghosh@umich.edu

Operational leases, the practice where the title of the leased product is owned by the vendor, is a pricing format that is widely used in the marketing of industrial, medical, and high-technology equipment. Despite its widespread use, very little research has clarified the purpose and efficacy of such a practice and the conditions under which it is more beneficial than selling the equipment outright to the customer. In this research we develop a theoretical framework that, at its core, argues that leasing is an efficient governance device that is used to solve a double-sided moral hazard problem. We develop a set of refutable hypotheses to outline the conditions under which contracting parties would use leasing instead of outright selling, and vice versa. We also investigate the normative implications of this choice and analyze the costs of failing to use the right strategy. The theoretical framework is tested using primary survey data obtained from sales managers of firms supplying durable, industrial equipment. Our framework will shed light on fundamental strategic issues related to the development, marketing, and pricing of complex, durable equipment.

4 - Paid Placement with Optimal Cost-Per-Click Prices
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Yifan Wang

Currently, the most lucrative segment of online advertising is paid inclusion or placement in search engine results, otherwise known as "paid placement" or "paid search." Internet searching which was once viewed as a commodity has become so profitable that it is now being called the next killer app. In 2003, 35% of Internet advertising spending went for paid placement with Google Inc., grabbing the lion share. Our analysis supports the popularity of paid placement advertising and shows that when client firms are allowed to select their optimal cost-per-click price, they select the price efficiently, benefiting both the Internet advertising firm, which is able to engage in first degree price discrimination and the client firm. We also show that this method maximizes social welfare.

Saturday, 8:30 - 10:00am (Session A)

SA01
Room 130- Auditorium
Special Session: Non Traditional Models of Consumer Preferences and Consumer Choice

Chair: John R. Hauser
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Co-Chair: Theodoros Evgeniou
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Co-Chair: Olivier Toubia
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1 - Consumer Inferences in Product Design and Evaluations
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P.K. Kannan, Brian Ratchford

In a retail store environment, consumers often evaluate a product based on its overall appeal. Therefore, some subjective product characteristics (such as aesthetics and ergonomics) often have significant influences on consumer's preferences for products (Srinivasan, Lovejoy, and Beach 1997). However, existing studies of consumer preferences such as conjoint models are limited in incorporating the influence of these subjective characteristics into product design and evaluations. In this study, we have developed a model to determine whether the consumers use the objective product attributes (such as weight and switch type) as cues to make inferences about the subjective characteristics (such as comfort) of the product, and whether both the objective product attributes and the subjective characteristics jointly affect consumer's evaluations towards products. The proposed model has the form of a structural equations model with the subjective product characteristics treated as latent constructs. By incorporating additional information about consumers' ratings for the subjective characteristics into the estimation procedure, this model has the potential of providing the designer with better understanding of consumers' product evaluation process, as compared to a traditional conjoint model. An empirical application is under development to illustrate our approach using customer-ready prototypes in the context of a new power tool development project undertaken by a US manufacturer.

2 - Representation and Inference of Lexicographic Preference Models and their Variants
Rajeev Kohli, Columbia University, United States, rk35@columbia.edu
Kamel Jedidi

A lexicographic rule orders multi-attribute alternatives in the same way as a dictionary orders words. Although no utility function can represent lexicographic preference over continuous, real-valued attributes, we show that a constrained linear model suffices for representing such preferences over discrete attributes, which are often used in conjoint models of consumer preferences. These constraints imply a utility function that has the same structure as that of a number system used for representing a sequence of numbers. We then describe two variants of lexicographic preferences. In the first variant, which we call a satisficing lexicographic model, consumers are indifferent to attributes levels above or below a threshold. In the second variant, which we call a binary lexicographic model, consumers use attribute levels, but not necessarily attributes, to make lexicographic judgments. This allows for back-and-forth switching across attributes. Consumers making preference judgments can also combine the two variants. We present utility representations for the various variants. We then address the following questions: (1) how can we tell from preference data if a consumer is using a lexicographic method for ordering alternatives? (2) if we know that a consumer uses a lexicographic rule or its variation, can we infer the structure of the rule from preference data? and (3) how well does an unconstrained linear model approximate the ordering of attributes due to a lexicographic decision process? We answer these questions both theoretically and empirically. First we present algorithms for inferring the various lexicographic models using preference data (rankings, ratings or pairwise comparisons) over multi-attribute product concepts. Then we use the algorithms to (1) test if a linear model or a lexicographic model is appropriate for describing a consumer's preferences, and (2) if a lexicographic model is appropriate, to identify which, if any, of the variants of the standard lexicographic model best describes the consumer's preferences.

3 - Table Stakes: Non-compensatory Consideration-then-Choice Inference
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James Orlin, Ely Dahan, Michael Yee

We propose practical methods to test whether respondents use non-compensatory processes and, if so, to infer the details of those processes from either consideration-then-choice or full-rank tasks. Inference is a non-trivial combinatorial problem which has hitherto been too time-consuming to address. "Greedoid languages" provide a structure and theory to transform this problem and decrease estimation time by a factor the order of 109 for practical 16-aspect problems. Monte Carlo simulation experiments suggest that it is feasible to infer, albeit with noise, the process that respondents use to evaluate product profiles. We test Greedoid methods empirically by asking 491 respondents to evaluate SmartPhones. The data suggest that most respondents use a lexicographic-by-aspect strategy in this category and that non-compensatory Greedoid estimates predict better than compensatory models developed from the same data. Interestingly, allowing respondents to sort profiles by aspects does not induce more lexicography. Two additional experiments use the Greedoid inference engine to (1) replicate the result that non-compensatory processes are more likely as the number of products increases and (2) test whether non-consistent profile pruning induces lexicography. Greedoid methods also provide a practical, but non-compensatory conjoint-like method to forecast consumer response and to find minimum feature levels, the "table stakes," to enter a category. This method is particularly useful in product categories where consumers are presented with large numbers of potential choices. Not only do Greedoid estimates appear to predict better (in most cases) than compensatory estimates, but the consideration-then-choice task is perceived by respondents as more enjoyable, more accurate, and more interesting. It also saves time and increases completion rates - both of which translate directly into cost savings.

4 - Modeling and Exploiting Response Time in a Conjoint Analysis
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Jacob Goldenberg, Olivier Toubia

We propose that measures of subjects' response time (RT) have a potential to carry valuable information, which, in some cases, could lead to better Utility estimates, as well as to a better understanding of the choice process. We argue that although response time analysis is subject to various noise sources, incorporating it within traditional methods, using appropriate filters, could result in improved predictions. We first establish the information value of response time on an existing metric paired-comparison data set (Toubia et al. 2003). We control for a strong order effect using Haaijer et al.'s approach (Haaijer Kamakura and Wedel 2000). We investigate several models of RT and show how they can complement and improve traditional Utility models. For example, loss aversion can easily be incorporated into RT models and improve their predictive abilities. Second, we develop a new adaptive question design method that uses RT to reduce the number of conjoint questions. An experiment is scheduled for the Spring of 2005, which will test the method against non-adaptive benchmarks.

SA02
Room 238
Game Theory V

Chair: Tieshan Li
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1 - Incorporating Behavioral Theories into Analytical Pricing Models: Further Empirical Perspectives

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While numerous behavioral studies indicate that consumers employ a number of judgmental heuristics when making purchasing decisions, few analytical studies have examined the implication of these heuristics for firms' behavior. With the premise that incorporating important consumer behavioral characteristics will enhance the relevance of theoretical models, this paper further examines the role of price-quality heuristics and how more empirical testing can be conducted to test the robustness of the results across time and across cultures. The proposed empirical tests will be to indirectly measure the price-perceived quality heuristic construct by computing the relationship between price and the measured perceived quality level. Research into demographic and socioeconomic characteristics that can affect this relationship will also bear significant implications on a firms' pricing and quality decisions. An immediate feasible empirical extension would be to enlarge the survey sample size to assess the generalizability of the current findings using nonstudent consumers. Demographic and socioeconomic data can be collected and analyzed for moderating effects. The same sample could also be surveyed over time to investigate the stability of the price-perceived quality heuristic to further support the schema consumers adopt as proposed by Mizreski, Golden and Kernan (1979). Zhou, Su and Bao (2002) found that there are significant differences in the use of price to infer quality over different markets, namely between the China and US markets. Similarly, people from these two markets can be surveyed. Main results from these empirical extensions that are similar to our current study will further add to the robustness of our model.

2 - Voluntary Information Disclosure by High and Low Quality Firms

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Dongsoo Shin, Andrew Stivers

This research studies a vertically and horizontally differentiated oligopoly with asymmetric information regarding firm's quality. Firms have access to an independent certification technology that discloses to a fraction of consumers information regarding the firm's true product quality. Firms can also use prices to signal quality to the remaining fraction of uninformed consumers. Our results show that firms' choices of certification are dependent on the resulting equilibrium regimes in the price signaling competition between the firms: pooling equilibrium, internal separating equilibrium, high-price signals quality equilibrium, or low-price signals quality equilibrium. As one may expect, there are regimes under which the high-quality firm will choose to disclose information, while the low-quality firm will choose not to do so. However, our results also show that there are regimes under which the high-quality firm will choose not to certify (thus voluntarily withholding information that it produces high-quality products), and there are regimes under which the low-quality firm will choose to certify (thus voluntarily disclosing information that it produces low-quality products).

3 - Media Bias, Competition, and Information Efficiency

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Miklos Sarvary

Traditional economic theories suggest that competition will drive away media bias. The media objectivity argument is built on the assumption that readers want non-partisan, unbiased information. This paper considers readers who are heterogeneous on their reading preferences, i.e., people want to read content that is consistent with their tastes, or prior beliefs. Our game-theoretic model consists of two competing newspapers, selling news to two kinds of readers. The first kind of readers is biased and wants to read news that is consistent with their prior beliefs. The second kind of readers is conscientious and wants to know the truth. We find that media bias is a result of reader heterogeneity and does not diminish with competition. Furthermore, we find that media bias increases when there are more conscientious readers. However, this increased media bias does not necessarily lead to more departure from the truth. The conscientious readers, who really care about truth, can actually recover more information from the two biased newspaper than from a single newspaper. Consequently, conscientious readers can know more about the truth.

4 - Who Benefits From Market Expansion?

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Daniel Putler, Charles Weinberg

This paper studies the effect of market expansion on two retailers under spatial competition. To fix ideas, assume that the two retailers (A and B) are located on a Hotelling line. While there are many results for the single period game, there is little examination of the optimal location if the market expands. The most interesting results occur when expansion (in the second period) is asymmetric. Without loss of generality, we assume that retailer A is located to the left of retailer B and expansion occurs through extension of the line to the left of retailer A. Our key question is: under what conditions will one or both firms move and which firm will gain the most from the market expansion? We find, surprisingly, that there are no Nash equilibrium solutions where both firms move. However, if there is no fed cost of moving, or if the fed cost of moving is sufficiently low, then a Nash equilibrium exists with firm A moving to its left. However, firm B does not move and, in fact, is the more profitable of the two firms. We also find a region where there is a second equilibrium condition in which firm B moves, but firm A does not. When fed costs exceed a certain level (dependent on the amount of market expansion), neither retailer chooses to move. Throughout our analysis, retailer B has the highest profits.

SA03
Room 234
E-Commerce / E-Marketing III

Chair: Arvind Rangaswamy
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1 - The Flip Side of Technology: A Study of the Impact of Connection Speed on Online Purchase Behavior

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P.K. Kannan, Paul Zantek

Both the trade press and academia has several articles enumerating the benefits of new and improved technological innovations. However, every new technology while presenting customers with increased convenience also brings with it a new set of issues that require resolution. Today, the widespread use of the Internet has also resulted in improvements in connection speed with customers being able to choose between narrowband and broadband connections. This paper studies the impact of connection speed on online purchase behavior. Extant literature on online purchase behavior has not taken into account connection speed, which is an important variable dictating consumer behavior. We develop a choice model that prescribes a relationship between connection speed and purchase likelihood at a given website. The model is supported for a variety of product categories when estimated and tested using data. We attempt to outline possible explanations for these findings and to extend them to more general scenarios. Finally, we present the conclusions and managerial implications of our analysis.

2 - Analysis of Herding on the Internet - An Empirical Investigation of Online Software Download

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Bin Gu, Andrew Whinston

Online shopping often requires consumers to choose among multiple products without detailed information about their quality. Herding is common

in such a situation as consumers infer product quality from other consumers' choices and incorporate the information into their own decision making process. The Internet affects herding phenomenon in two ways. On the one hand, it provides more information about other consumers' choices, therefore making herding feasible. On the other hand, it provides more details about product quality, thus making herding less desirable. This paper examines the two effects in the context of online software download. We collect data on daily software downloads and study how each day's number of downloads is related to the cumulative share of downloads as well as to the rating of professional reviews and users' feedback. We find significant herding behavior in our data, and, surprisingly, the provision of professional product reviews or user reviews does not have significant influence on the herding phenomenon. Our results suggest that consumers choose to ignore their own information, in favor of information inferred from others' behavior. Such a result is consistent with the prediction of the information cascade literature. It also indicates that the vast amount of information provided on the internet may not have as a big impact on consumer decision making as previously expected. This paper contributes to e-commerce and marketing research in investigating and understanding online consumer behavior. This paper also contributes to the emerging literature of studying the impact of online product feedback systems.

3 - Web Orientation and Value Chain Evolution in the Tourism Industry

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Elisabetta Corvi

This paper reports on the findings of a study on the web strategy and efficacy of different kind of firms operating in the tourism industry. The study has been conducted considering both European and American companies. In a rapidly increasing tendency, touristic establishments are benefiting from the new information technologies. The Internet is a growing channel for commerce. While the opportunities afforded by this phenomenon seem readily apparent, there is still much debate and speculation on exactly how the use of the Internet and in particular the World Wide Web will affect the industry. In this article we investigate the value chain of the tourism industry. We examine the roles played by intermediaries in the distribution chain and investigate the threats and opportunities that the emergence of the virtual channel, and other associated trends, present for the industry. The aim is to discover which tourism producers are the most prepared to use the real potential advantages offered by the web. Travel agencies are using the web site as a communication tool, and hotels are using it to market goods and services, to receive reservations, and to evacuate customer complaints/suggestions. Based on this, a profile is made for successful intermediaries and, finally, we assess the implications of this profile on the control of the electronic channel. In order to take advantage of the opportunities presented by the virtual channel and the trends in marketing and the industry, successful intermediaries will have to offer information and specialised knowledge in a single format.

4 - Competing with Illegal Free Goods: Experiences from the Penn State - Napster Service

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Michel Clement, Srikant Vadali

Since January 2004, Penn State students have had free access to Napster's premium service which allows them tethered access (downloads and streams) to over 500,000 songs, as well as allowing them to purchase individual tracks (untethered downloads) at 99 cents each. We use the theory of planned behavior to investigate how the new service modifies students' attitudes and behavior regarding music. Specifically, we assess how the availability of the service modifies their mental models with respect to music downloads, as well as the changes in their music consumption behavior over time, in regard to amount of music consumed (songs downloaded, songs purchased, number of songs per album downloaded), and changes in tastes (variety of genres and artistes sampled). We use random samples from populations of students who had access to the service and who did not have access to the service. We have conducted two surveys, one just before, and the other several months after, the service was introduced. For 48 weeks, we also tracked every download of those who had access to the service. We use a structural equation model with latent thresholds to model the changes in the mental models, and in the behaviors of subjects in our study. Our results indicate that there were attitudinal changes, such that subjects with access to the service became more averse to illegal downloading. There were also behavioral changes in music consumption induced by the availability of the service.

SA04
Room 231
Pricing I

Chair: Amit Pazgal
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1 - A Theory of Consumer Options

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Sridhar Balasubramanian, Barry Bayus

Buying an "option" confers to the buyer a right, but not an obligation, to follow through on some action. The theory of financial options has had a long and rigorous development, beginning with the seminal work of Black and Scholes (1973). Likewise, considerable research exists on the concept of "real" options in the production context. Consumers are often faced with risky decisions. Correspondingly, options can play an important role in the context of a firm's pricing and marketing decisions. However, extant literature does not address this issue. Our interest is centered on building a parsimonious theory of consumer options. Specifically, we focus on designing and pricing risk-moderating options for consumer markets. We examine the role of options in a sporting event setting, where the stadium (firm) can sell tickets to a set of Final-Four games. Ex-ante, sports fans (consumers) have preferences for certain teams, but only have probabilistic expectations about which teams will make the Final Four. However, conforming with reality, the tickets have to be sold before such uncertainty is resolved. With classic ex-ante pricing, uncertainty hurts, and profits are lower than those obtained in the Full Information case (i.e., the profits the firm obtains when it knows for sure which teams make the Final Four). We demonstrate that, when the firm uses consumer options, it can attain the Full Information profits with ex-ante pricing-this constitutes our central result. We provide some empirical validation of the model using questionnaires that ascertain respondents' willingness to pay for different game tickets under different probability scenarios, with and without consumer options.

2 - Coordination of Marketing and Production for Price and Lead-time Decisions

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Paul Griffin, Pinar Keskinocak

We study a firm that serves customers that are sensitive to quoted price and lead-time, where pricing decisions are made by the marketing department and lead-time decisions by the production department. We analyze the inefficiencies that are due to the decentralization of the price and lead-time decisions. In the decentralized case, the total demand generated is larger, lead-times are longer, quoted prices are lower, and the firm profits are lower as compared to the centralized case. In order to coordinate the system, we propose a contract where marketing pays production a transfer price per unit produced, and both departments receive a fraction of the total revenues generated as a bonus payment. We show the existence of a unique transfer price for a given fraction of the total revenues offered to marketing that achieves coordination as long as production receives a satisfactory incentive as a fraction of total revenues. We also examine the robustness of the proposed contract to estimation errors in the problem parameters and provide insights on the sensitivity of the optimal decisions with respect to market behavior and the available capacity level.

3 - Limited Brand Loyalty and Equilibrium Pricing Strategies

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Zhong Wen

This paper extends Narasimhan (1988) by assuming finite, instead of infinite, brand loyalty. In Narasimhan (1988), the loyal consumers of a firm never switch to the competing firm, regardless of their price difference. In the present paper, the loyal consumers of a firm will switch to its rival if the price of the latter is sufficiently lower. In the first model, we look at price competition between a branded firm and an unbranded firm, with the former having a loyal customer base. A unique med-strategy equilibrium exists and splits into three cases: (1) when consumer reservation price is low enough, both firms have the same continuous price range; (2) when reservation price is sufficiently high, the branded firm charges higher maximal and higher minimal prices than the unbranded firm; and (3) when reservation price is in the middle, the price range of the branded firm becomes discontinuous. Several comparative statics are obtained. In particular, as the loyal consumer base of the branded firm increases, the mean prices of both firms may decrease. Our second model considers two branded firms. We show that each firm's expected profit function is a unimodal function of its loyal customer base, meaning that the presence of some switchers can benefit both firms. The rationale behind is that existence of some switchers eases firms' incentive to invade into each other's loyal base and thus relaxes price competition. We also show that, when both firms are branded, both industry profit and individual firm's profit are higher than when only one firm is branded. This is due to branding's effect on product and consumer differentiation.

4 - Behavior and Location Based Price Discrimination: Is it a Winning Play and if so When?

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David Soberman

Marketers now have access to better customer information as well as the improved ability to process it. As a result, a burgeoning practice is for firms to make tailored offerings to customers based on individual-level information. This has led to a research stream that examines the impact of tailored prices on firm behaviour and performance (Thisse and Vives 1988 and Chen, Iyer and Padamanabhan 2002). Firms can also set prices that discriminate between new and repeat customers. Accordingly, there is research that examines the impact of prices that depend on the past behaviour of customers (Fudenberg and Tirole 2000 and Villas-Boas 1999). A third possibility is for firms to collect detailed information from each existing customers and use this information to set a tailored price for subsequent purchases. This point to a pricing policy that straddles the two literatures cited above whereby a firm implements a combination of location and behavior based price discrimination. We study this phenomenon using a steady state spatial model in two different contexts: one where the second purchase is closely related to the first (e.g. additional drill bits for previous purchasers of drills) and a second context where the second product is unrelated to the first (e.g. microwave ovens and patio furniture). In general, we find that behavior/location based pricing can be profitable when implemented unilaterally. However, when both firms engage in the practice, the overall effect is to drive profits down.

SA05
Room 201
Special Session: Multiple Channels of Distribution I

Chair: Peter C. Verhoef
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Co-Chair: Scott A. Neslin
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1 - Customer Channel Migration

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Asim Ansari, Scott A. Neslin

With the advent of the Internet, channel usage has become a central issue to firms that purvey consumer products across multiple channels. Common wisdom suggests that firms can increase profits by providing consumers with an array of purchase options. The extent to which this materializes depends critically on how customer usage of various channels affects demand, and on the role of marketing in shaping channel usage. However, scant empirical research addresses these issues. Accordingly, we develop a model of customer channel migration and apply it to a retailer that markets over the Web and through catalogs. The model (1) identifies the key phenomena required to analyze customer migration, (2) shows how these phenomena can be modeled, and (3) develops an approach for estimating the model. The methodology is unique in its ability to accommodate heterogeneous customer responses to a large number of distinct marketing communications in a dynamic context. Results indicate that (1) Web purchasing is associated with lower subsequent purchase volumes relative to buying from other outlets (2) marketing plays a pivotal role in channel usage, offsetting negative Web experience effects, and (3) negative interactions occur between like communications (catalog/catalog or email/email) as well as between different types of communications (catalog/email). We further find that, over the four-year period of our data, a Web-oriented "migration" segment emerged, and this group had higher sales volume. Much of this was driven by marketing. We rule out alternative explanations such as that the Web attracted customers who were already heavy users, or that the Web developed these customers into heavier users. We conclude with a discussion of implications both for academics and practitioners.

2 - Multichannel Shopping Behavior: Drivers and Consequences

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Venkatesh Shankar

Multichannel (e.g., catalog, Internet, and physical store) shopping is emerging as a key phenomenon in consumer shopping behavior. A better understanding of multichannel shopping behavior and its drivers is important for marketing managers, particularly, retailers, to formulate sound channel strategies. Anecdotal evidence and industry reports suggest that multichannel consumers'customers constitute a highly valuable segment for firms. However, published research that analyzes customers' cross-channel behavior and its impact on marketing strategies, especially with regard to resource allocation across channels, is scarce. In this research, we focus on the drivers and consequences of multichannel shopping behavior and examine the resource allocation issue. We develop choice models to understand the drivers of multichannel shopping behavior in terms of the impacts of customer, channel and product characteristics on channel choice. We also develop a Markov chain model of customer life time value that allows us to estimate customer equity generated in each channel. We use the customer life time value model to determine allocation of promotional budget across different marketing channels to maximize expected revenues from a customer during a given time period. We estimate our models using multi channel shopping data obtained from a one million customers who were randomly selected from a cooperative database of 96 million customers of 750 retail firms with multiple channels. Our preliminary results show that multichannel customers not only spend the highest amount, but they also spend more frequently and spend more on each purchase occasion. This valuable customer segment comprises young to middle aged, high income upwardly mobile professionals.

3 - Who are the Multichannel Shoppers and How do they Perform?: Correlates of Multichannel Shopping Behavior

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Rajkumar Venkatesan

We develop a conceptual framework, which identifies the customer-level characteristics and supplier factors that are associated with purchase behavior across multiple channels. We also propose that multichannel shoppers provide benefits as measured by several customer-based metrics. We conduct an empirical analysis of our propositions using the customer database of a high technology hardware and software manufacturer. We find that

customers who buy across multiple product categories, initiate more contacts with the firm, have past experience with the supplier through the online channel, have longer tenure, purchase more frequently, are larger and receive communication from the supplier through multiple communication channels, especially through highly interpersonal channels. We also find evidence for a nonlinear relationship between returns and multichannel shopping, and that there is a positive synergy towards multichannel shopping when customers are contacted through various communication channels. Customers who shop across all the available transaction channels provide higher revenues, higher share of wallet, have higher past customer value, and have a higher likelihood of being active than other customers. We derive several implications for managers who wish to target customers for a multichannel strategy.

4 - Browsing Versus Buying: Determinants of Customer Search and Buy Decisions in a Multi-Channel Environment

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Scott A. Neslin

Today's consumers have several shopping options, and vary their use of these channels by stage in their decision process. For example, they may search for information in a bricks-and-mortar store and purchase on the Internet. This presents a challenge for firms in designing channels to best serve its customers at a profitable level. Our goal is to understand the factors that influence consumers to use channels for search versus purchase. We assume that channel attributes (convenience, privacy, etc.) drive the overall attractiveness of each channel for search or purchase. We also assume that search and purchase are directly related. For example, making the Internet more attractive as a search channel also makes it more attractive as a purchase vehicle, because customers recognize the convenience of one-stop shopping. We formulate a simultaneous regression model that translates attribute perceptions to perceived attractiveness. A multivariate probit model translates search attractiveness into search choices, and a multinomial logit model translates purchase attractiveness into purchase choice. We estimate the model using survey data from 398 consumers. The results show that attributes indeed do drive channel attractiveness. We also find strong support for direct relationships between search and purchase. We use simulations to demonstrate how improving a channel's search attributes persuades more consumers to use it for purchase as well as for search. We discuss implications of these findings for researchers as well as managers.

5 - Multichannel Marketing

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Peter C. Verhoef

Today firms use multiple channels in their customer contact strategy. So far, literature on channels, has mainly focused on the use of single channels by customers and/or firms. However, the use of multiple channels by firms and customers provides new interesting research topics, such as: modeling channel migration, determinants of multi-channel customer behavior, and customer profit consequences of multi-channel behavior. In this special session we aim to present state-of-the-art research on multichannel marketing. The titles include:

1.Customer Channel Migration (Presenter: Carl Mela) 2.Multichannel Shopping Behavior: Drivers and Consequences (Presenter: Venky Shankar) 3.Who are the Multichannel Shoppers and How do they Perform?: Correlates of Multichannel Shopping Behavior (Presenter: V. Kumar) 4.Browsing Versus Buying: Determinants of Customer Search and Buy Decisions in a Multi-Channel Environment (Presenter: Peter C. Verhoef)

SA06
Room 204
Customer Relationship Marketing I; Product Portfolios

Chair: Jonathan Lee
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1 - Incorporating Sequence Information into Multinomial Choice Models: An Empirical Comparison

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Anita Prinzie

Given the purchasing history of an individual customer, what category will he/she purchase from next time? To answer this typical CRM-related question, we review three alternative methods incorporating sequential information into choice models: (1)Markov/MTD/MTDg models, (2) event-history analysis, (3) SAM = sequence alignment methods. Sequence-analysis methods can be categorized depending on whether the sequences are treated as a whole or step by step. Step-by-step methods examine relationships among elements or states in the sequences. (1) When the variable of interest is categorical, Markov/MTD/MTDg methods are appropriate to study the dependence of a sequence on its own past. The latter methods calculate transition probabilities based on the transition between two events. (2) Transitions from just one prior category can be modeled by using event-history/survival-analysis methods. In this case, the central focus is on 'time until transition'. (3) Whole-sequence methods (e.g. SAM) use the entire sequence as unit of analysis to discover similarities between sequences resulting in typologies. The main objective of this study is to improve the predictive performance of a category-level multinomial choice model. We present the empirical results of a comparison of alternative choice models for a home-appliance retailer.

2 - Modeling Adoption and Adoption Timing of a New Service: A CRM-Perspective

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Peter C. Verhoef

Companies have several strategies to increase the value of their customer base. One way to accomplish this is to launch new products or services, which may induce cross-buying and upgrading behavior by existing customers. An important advantage of having existing customers adopt a new product is that the company already has information on customer characteristics and past purchase behavior of those adopters. These data can be used to select customers for individually targeted marketing efforts to speed up the diffusion process. Although recent studies in marketing science have modeled the adoption behavior of individuals (e.g. Kamakura, Kossar, and Wedel 2004; Steenkamp and Gielens 2003), the use of past purchase behavior in these models has been rather limited. In this study, we examine the effect of past purchase behavior, customer characteristics, and individually targeted marketing efforts on the adoption decision and on adoption timing of a new mobile service. For this purpose, we use data on 16,000 mobile telecom customers over a period of 25 months, after the introduction of a new mobile consumer service. We apply a split-hazard approach to model adoption probability and adoption timing of existing customers. The results provide insights into the relationship between past purchase behavior and new product adoption. Additionally, we show the effect of individually targeted marketing efforts on the adoption probability and adoption timing.

3 - Portfolio Dynamics and the Multi-Service Firm: Customer Evolution Since Acquisition

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Eric Bradlow, Peter Fader

Any multi-service provider (such as a financial institution or a telecommunications firm) is interested in understanding the evolution in the portfolio of services (and perhaps goods) that each customer acquires (and later drops) over time. These goods and services, may be related to each other in terms of their adoption and retention by customers, but these patterns may be highly heterogeneous and could vary dramatically based on each customer's past history with the firm. Rather than modeling the retention and adoption of each service as independent processes, we propose a multivariate retention and adoption model that captures the underlying evolutionary dynamics for the portfolio as a whole. Using individual-level time series

data from a leading telecommunications firm, we model the customer-firm relationship as it progresses over time. We uncover discrete phases, or "life stages" of the relationship, which help us understand how each customer is likely to transition from being interested in one subset (or portfolio) of services to another. This has clear implications for cross-selling, as we can identify the services to which individuals are most likely to subscribe based on their current "life stage." More importantly, it provides a general framework that allows companies to understand how the ownership of different products relates to the long term profitability of customers.

4 - Managing Customer Profitability: The Role of Relationship and Product Portfolio

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Shantanu Dutta, Jisook Hong

There has been a rich stream of research that has explored how firms can assess profitable customers. Some of the factors suggested in prior research that impact life time duration of profitable customers is amount spent, frequency of purchase, purchase timing and degree of cross-buying among others. In business-to-business markets, very often customers buy multiple product lines that vary in their margins. Thus it is possible to have customers who buy very frequently from the firm but are less profitable than customers who buy more profitable product lines but make less frequent purchases from the firm. Further, often managers making purchase decisions are not the ones who purchase those products or pay for them. Thus managing customer profitability entails that a firm has to manage relationship with the decision makers while at the same time taking actions to enhance profitability of the product portfolio purchased by that customer. The purpose of our study is to suggest how firms can enhance customer profitability through simultaneously managing relationships and m of product portfolio. We develop a model of customer profitability incorporating both these facets. Our empirical study is based on a unique data set from the pharmaceutical sector that includes information on physician prescription, hospital purchase, margins on different products and volume purchased. The initial findings suggest that there are significant differences across customers (hospitals) in terms of the strength of relationship and the profitability. We discuss interesting managerial implications for firms in business-to-business markets.

SA07
Room 207/208
Marketing Metrics

Chair: David Reibstein
William Stewart Woodside Professor, Professor of Marketing, The Wharton School, University of Pennsylvania, 700 Jon M. Huntsman Hall, 3730 Walnut Street, Philadelphia, PA, 19104, United States, reibstein@wharton.upenn.edu

1 - Linking Consumer- and Firm-Based Brand Equity: An Integrated Approach to Brand Equity Management

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Vithala R. Rao

Most of the extant research on brand equity has looked at the issue from either the perspective of the consumer or the firm. In this paper, we explore the link between consumer- and firm-based measures of brand equity and propose an integrated approach to brand equity management. We do this by developing an econometric model of supply and demand that takes into account both the equity maximizing behavior of the firm as well as the utility maximizing behavior of the consumer. We model firm-based brand equity in the form of market performance measures of the firm's profit, profit premium, and revenue premium and derive the firm's optimal pricing and advertising decisions under specific game-theoretic assumptions of competitive behavior. We model consumer-based brand equity within a random utility framework, using a logit choice model that accounts for the product's physical characteristics, marketing mix variables, as well as consumer brand perceptual measures of perceived quality and satisfaction. In particular, we examine the relationship between these consumer brand perceptions, the brand's performance in the marketplace, and the firm's optimal pricing and advertising decisions, and explore the importance of including such consumer brand perception data in a model of brand equity management. We empirically test our model using publicly available consumer and firm data from the automobile industry, discuss managerial implications of our results, and suggest how our model may assist managers in making optimal brand equity management decisions.

2 - Impact of Marketing Metrics on Shareholder Value

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Bernd Skiera

Publicly traded enterprises need to explain and affect market capitalization or shareholder value. The shareholder value concept aims to create value for the shareholder as the formal owners of an enterprise. In applying the shareholder value concept, models are required which enable to calculate shareholder value, give guidance to affect shareholder value, and help to measure performance. For enterprises with contractual customer relationships key metrics are the number of current customers, retention rate, and retention expenditures (customer retention), the number of future customer and acquisition expenditures (customer acquisition), customer cash flows (customer selling), and discount rate (customer risk). We develop a model that links those marketing metrics to customer lifetime value, customer equity, shareholder value and financial market value and analyze the impact of the different marketing metrics on customer equity and shareholder value in different situations. Our empirical results as well as the results of a simulation study show that customer retention is the most important marketing metric in many situations and its impact surpasses substantially the impact of the discount rate.

3 - The Impact of Marketing Metrics Use on Product Sales and Profit in a Transition Economy

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John Farley, Hoang Thuy Nguyen, Donald Lehmann

Various forms of metrics have been increasingly used by firms to manage key areas of marketing performance: customer satisfaction and retention, retailer and wholesaler satisfaction and retention, branding success, advertising success, and new product success (Feder, 1965; Ambler and Kokkinaki, 1997; Clark, 2001). The use of some of these key indicators has been linked to enhanced financial performance of their respective firms (Bhargava Dubelaar and Ramaswami, 1994; Ittner, Larcker, and Randall, 2003). Various ownership structures, market conditions, and strategic orientations may also have an impact on the use and effectiveness of certain types of marketing metrics, and these effects may be pronounced under changing economic conditions, especially those found in transition economies. In this paper, we consider a transition-economy setting to document the use and performance implications of 28 marketing metrics in a multi-industry sample of 200 SBUs from the northern and southern portions of Vietnam. Results indicate that a wide range of metrics are used, many of whose use is significantly related to increased performance. Market conditions and ownership type both impact the type of metrics employed and needed to gain higher performance. From these results management can better understand the most important marketing monitoring tools needed to achieve higher financial performance in the newly emerging economies.

4 - Marketing Dashboards: A Decision Support System for Assessing Marketing Productivity

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David Norton, Yogesh Joshi, Paul Farris

In this paper we investigate the role of marketing dashboards in helping managers set budgets levels and allocations across various marketing activities. Dashboards have recently become very popular. The question is what

exactly are these dashboards and what is their impact. We conduct a survey to assess the overall adoption and the state of development. The survey reveals that dashboards are being widely adopted, however, they are in their infancy. Few, if any, believe, their dashboards are complete. The impact has varied from "not noticeable" to having a direct impact on resource allocation decisions, reduction in costs, more organizational focus, and a shared understanding throughout the firm. The question about the overall financial performance is still an outstanding question. To address this more specifically, we also detail one application, Harrah's, where we are able to identify how the dashboard was employed and the impact on the firm's performance. The analytics involved in the Harrah's dashboard have led to significant reallocation of resources, more particular to certain types of marketing programs as well as directing some marketing programs to certain segments. The overall effect on the firm has been increased "same store" sales, greater cross-selling, higher levels of profitability and higher than industry profit performance.

SA08
Room 338
Market Orientation
Chair: Gary Gebhardt
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1 - Antecedents and Consequences of the Entrepreneurial Orientation of a Firm
Iryna Pentina, Department of Marketing and Logistics, University of North Texas, P.O. Box 311396, Denton, TX, 76203-1396, United States, pentinai@unt.edu
H. David Strutton

A comprehensive model of antecedents and consequences of the entrepreneurial orientation (EO) of a firm is proposed. EO is conceptualized as a firm-level behavioral characteristic manifested through innovativeness, calculated risk-taking, and proactiveness. Proposed antecedents include the firm's degree of market orientation (MO), culture, structure, reward systems, and top management encouragement of entrepreneurial behavior. The information asymmetry advantage - thought to most closely characterize entrepreneurial firms - is posited to result from the emphasis of the firm's MO on gathering, disseminating, and utilizing information about the company's potential customers and competitors. More organic cultures (adhocracy and clan) are posited to encourage higher EO than more mechanistic cultures (hierarchies and markets). Organizations characterized by decentralized decision-making, low formalization of processes and few compartmentalized activities are suggested to exhibit higher EO than organizations with centralized, formalized, and departmentalized structure. Top management commitment to and continual emphasis on innovative, risk-taking, and proactive processes and behaviors of managers and employees, as well as organizational measurement and reward systems encouraging such behaviors, are posited to lead to higher levels of EO. EO is theorized to influence performance directly, in terms of market share growth and profitability, and through innovation in terms of the new product success. Consistent with Resource-Advantage theory, EO represents a higher-order organizational resource, which, under certain contingencies (level of environmental turbulence, industry life cycle stage, firm size and age), is capable to contribute to the firm's competitive advantage.

2 - Market Orientation and Performance at the "Bottom of the Pyramid": The Case of Zimbabwean Retailers
Steve Burgess, Research Director and Professor of Business Administration in Marketing,University of Cape Town Graduate School of Business Breakwater Campus, Portswood Road Greenpoint, Cape Town, 8001, sburgess@gsb.uct.ac.za

This study examines the effects of market orientation on the performance of retail outlets in Zimbabwe, a low-income country (LIC). The context of political, social and economic turbulence in this less-industrialised country provides a unique opportunity to assess the boundary conditions of the market orientation - performance link. A covariance structure model of the hypothesised relations indicates that market orientation improves performance. Reward systems have a positive effect on market orientation and a positive indirect effect on performance through market orientation. Attitudes towards risk, and levels of internal conflict, centralisation of authority, and formalisation of organisational structure did not have significant effects on business performance. The results and context suggest that the market orientation-performance link is incredibly robust and that some risks of entering LICs may be lower than often thought.

3 - Market Orientation Strategies and Organizational Effectiveness
Amir Grinstein, PhD candidate, The Hebrew University, Mt. Scopus, Jerusalem, 91905, Israel, amirgr@mscc.huji.ac.il
Arieh Goldman

As the positive effect of market orientation (MO) on organizational performance is no longer in doubt, MO research should shift its focus to other issues such as the different ways MO is being implemented. In this paper we focus on one basic decision of MO firms, ignored by previous research: how to implement MO in situations where the company routinely deals with a number of different types of customers. We view this decision as constituting a set of possible MO strategies. Firms need to choose which to follow. The choice of an MO strategy is important because it affects resource expenditure, shapes the firm's structure and behavior, and is likely to impact its performance. Based on the MO and stakeholders' research literatures we identify the customer categories relevant for MO firms. Then, based on strategic management and organizational ecology literatures, we develop our conceptual framework and suggest hypotheses, identifying the set of possible MO strategies that firms pursue, and specifying the conditions under which MO firms are likely to choose different strategies and when these are likely to be particularly effective. Our empirical study involved a cross-industry sample of 115 firms. We found a large diversity of MO strategies according to the combination and number of customer categories used by firms, and that strategies differ in their effectiveness. This study should help advance MO research by moving research and thinking towards the study of issues associated with MO implementation and by moving away from the simplistic treatment of customers as one homogenous entity towards a more realistic perspective in which the existence of a number of customer categories is acknowledges and firms develop different approaches towards them.

4 - Creating the Market-Oriented Firm: A Longitudinal Qualitative Study of Organizational Transformations
Gary Gebhardt, Assistant Professor, University of South Florida, College of Business, 4202 E. Fowler Avenue, BSN3403, Tampa, FL, 33620, United States, ggebhard@coba.usf.edu
Gregory Carpenter, John Sherry

The notion of market-orientation has been a cornerstone of management thought and practice for nearly half a century. In this time, market-orientation has been the focus of extensive research. Studies have examined the differences between market-oriented firms and firms with other orientations. Empirical studies have explored the impact of market-orientation on firm financial performance, reporting a positive relationship. These results have fueled a growing interest in organizations becoming market-oriented. At the same time, research on organizational behavior has revealed processes through which organizations change. Despite these developments and the intense interest in market-orientation, the central question of how firms become market-oriented has received little attention. In this study, we address how firms develop a greater market-orientation. To do so, we conducted an in-depth study of seven firms undergoing such a transformation to understand the process of change and to develop a more general understanding of market-orientation. The seven participating firms are distributed across various stages in this process - at the outset of the change, in the midst of the change, and those that have completed the process and are working to remain market-oriented. The firms were studied using the longitudinal-processual method, combining ethnographic inquiry with historical analysis of each firm and the changes it has undergone. This research offers new insights in two areas. First, it offers new insights into the process of organizational change to a market-orientation. Second, it offers new insights into the larger issues of organizational change.

SA09
Room 334
Marketing Research
Chair: Naresh Malhotra
Georgia Institute of Technology, The College of Management, Room 4212 (430), 800 West Peachtree, Atlanta, GA, 30332-0520, United States, naresh.malhotra@mgt.gatech.edu

1 - Generalized Structured Component Analysis: Empirical Applications and Recent Developments
Heungsun Hwang, Assistant Professor, HEC Montreal, 3000 chemin de la Cote-Sainte-Catherine, Montreal, QC, H3T 2A7, Canada, heungsun.hwang@hec.ca
Naresh Malhotra, William Dillon, Yoshio Takane

Structural equation models (SEMs) have become a remarkably popular tool for the specification and testing of hypothesized relationships among observed and latent variables in marketing and various fields. Two different approaches have been proposed for SEMs: Covariance structure analysis (CSA) and partial least squares (PLS). Hwang and Takane (2004) recently proposed generalized structured component analysis (GSCA) as a new method for SEMs. In this paper, the theoretical aspects of GSCA are discussed in brevity. The performance of GSCA is then empirically compared to that of CSA and PLS with customer satisfaction data. Furthermore, recent extensions of GSCA that further strengthen its generality (e.g., dealing with longitudinal data and unobserved cluster-based respondent heterogeneity) are briefly discussed.

2 - Generalizing the Aggregate Med Logit Model
Charles Romeo, Economist, US Department of Justice, Economic Analysis Group, 600 E Street, NW—Suite 1000, Washington, DC, 20530, United States, charles.romeo@usdoj.gov

We explore the possibility of incorporating multivariate extreme value errors into a mixed logit model in an aggregate data context. The motivation for this generalization of the logit model is to alleviate the IIA property and to effect the rate of expansion of the product space with increases in the number of products. Mixing the logit alleviates the IIA property but does not resolve the product space expansion problem. As discussed by Berry and Pakes (2002), this may make inferences from these models unreliable, in particular, regarding questions that are specifically about changes in the number of goods. The type of general error distribution generalizations that we are considering have previously been incorporated into the med probit model for household level data by McCulloch and Rossi (1994) and Hajivassiliou and McFadden (1998). We anticipate identification problems in trying to incorporate more general error structures into an aggregate data model. Particular parameterizations that make use of information not currently used in the literature should make identification possible. In addition, there is an observational equivalence between certain important parameterizations of the extreme value distribution and the random coefficient structure, that allows these parameterizations to be studied without having to simulate a solution to a J-1 dimensional integration problem in a J dimensional product space. Simulations are in process to evaluate two things: (1) our ability to identify interesting parameterizations; (2) the effect of controlling for correlations in extreme value errors on consumer welfare estimates of value of a new good.

3 - An Evolutionary Approach for Dual Objective Segmentation
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Subodha Kumar, Peng Han

In business, cluster-based segmentation is increasingly employed by marketers in designing effective marketing strategy and to this end different clustering methods are used. The trend over the last many years has been a move away from traditional a priori segmentation to a post-hoc segmentation approach. Many factors are important in effectively and profitably segmenting the target market, however, two of the most critical are identifiability and responsiveness ((Krieger and Green, 1996, Brusco, Cradit, and Stahl, 2002). There is increasing interest in the move toward Dual Objective Segmentation from a pragmatic standpoint given its usefulness (Forsyth, Gupta, Haldar, Kaul and Kettle 1999). This is starting to occur because of managerial interests in going from highly precise but less actionable segmentation to greater focus on actionable segmentation schemes that might be less precise on the needs based variables. This tradeoff requires new methodologies and recent effort that has been underway includes Kreiger and Green (1996) Brusco, Cradit and Stahl (2002). As we are dealing with a combinatorially difficult problem, efficient search heuristics are required. This is problem with high stakes given the huge managerial investments involved of resources and time. Technically too, it is a challenging problem given that identifiability and responsiveness in a customer base are not perfectly aligned. Advances that model the trade-off between them needs to be well balanced to achieve the overall optimality. In this talk, we examine a new methodology that we propose based on Genetic Algorithms for addressing this problem and present some initial results.

4 - Comparing the k- means Approach to a Neural Network Method to Analyze Data in a Dynamic Perspective
Anne-Francoise Audrain-Pontevia, Associate Professor, Rouen School of Management, Bd. André Siegfried, ROUEN, 76 000, France, anne-francoise.audrain@groupe-esc-rouen.fr

This research aims at comparing two classifying methods: the often used k-means (KM) analysis and a neural network approach: Kohonen Self Organizing Maps (KSOM). To date KSOM have been under-used in marketing, in spite of their capabilities to classify data and to study longitudinal phenomena. Like KM, the KSOM classifier relies on an unsupervised competitive algorithm. A significant advantage of the KSOM is that, the resulting clusters are related to each other in a very valuable typology diagram (typological maps). Our research compares KSOM to KM (SPSS algorithm) on a longitudinal database. Precisely, our aims are threefold : a) to compare KSOM and KM in their ability to identify attributes - overall satisfaction links (A/OSL) prototypes (centroïds); b) to compare their classification results as well as c) their ability to provide information to understand and analyse a dynamic phenomenon (in our example, the A/OSL dynamic over time). We use a longitudinal data-base, measuring consumers satisfaction for a service. The KSOM and KM results both show the existence of linear and non linear A/OSL. The prototypes they define are relatively similar, though KM proves to be more sensitive to outliers. The obtained classifications differ between the two methods. Regarding the study of the AS/OSL over time dimension, KSOM clearly performs better than KM, in view of its ability to relate each prototype one to another and to provide maps which can be interpreted as typologies graphs.
This research provides information on the analogy and differences between KM and KSOM approaches. It also shows the interest of KSOM to study marketing longitudinal phenomena.

SA10
Room 331
Bayesian Applications
Chair: S. Cem Bahadir
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1 - Optimizing Marketing M Decisions Given Uncertain and Incomplete Competitive Information
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Sharan Jagpal, Ying Xie, Shibo Li, Patrali Chatterjee

When choosing its marketing m, the firm faces three fundamental problems. First, it must make decisions given uncertain and incomplete information about competitors' policies. Second, it must choose policy after explicitly allowing for the effects of retaliation by each competitor. Third, it must optimally pool aggregate and micro-level data for customizing marketing m policies. This paper develops and tests a theoretical model to address these crucial issues. The model structure is as follows. Partition the players in the market into two subsets: the firm of interest ("focal" brand) and all other players ("competitors"). To capture reality, assume that the focal firm has aggregate and micro-level (i.e., consumer-specific)

data about its own brand; however, it only has imprecise aggregate-level data about its competitors' policies (e.g., advertising budgets).
Since the focal firm has incomplete data on competitors' marketing policies, the first step is to compute the implicit best reaction function for each competitor, conditional on its anticipated unit margin and marketing costs. The second step is to determine the optimal policy for the focal brand, conditional on these estimates. Our empirical model estimates demand functions in a hierarchical Bayesian framework in which individual demand for any given brand is assumed to follow a negative binomial distribution. Simulation results to date show that our statistical methodology recovers the true marketing m parameters more accurately than two benchmark models. We are presently testing the model using physician-level prescription data from a large study performed by the market leader of a multibillion-dollar pharmaceutical product category.

2 - Targeting New Costumers using Aggregated Household Characteristics at the Zip-code Level
Bram Van Dijk, Erasmus University, PO Box 1738, Rotterdam, ZH, 3000 DR, Netherlands, avandijk@few.eur.nl
Richard Paap

To obtain new customers companies may send out direct mailings. Although these mailings can be sent out randomly, it is wishful to select households who are likely to respond. Selection of these household may be based on their characteristics, like income, family size, age, and so forth. Usually these characteristics are not known on the individual level. We often only know the address of the new potential customer. It is however generally possible to obtain aggregated data of household characteristics at the zip-code level, for example, income distribution in the zip-code area, average family size, average age, and so forth. In this paper we propose a new approach to explain individual response behavior of households using aggregated zip-code data. The new model can be used to predict the response behavior to direct mailings of new potential customers. Simulations show that the new model approach leads to more efficient parameter estimates than currently available approaches in the literature and hence better predictions. To illustrate the new approach we show that our approach outperforms standard methods in selecting new potential donors for a large Dutch charity.

3 - Solution Selling and its Impact on Key Business Variables: A Longitudinal Customer-level Analysis
Neeraj Bharadwaj, Visiting Assistant Professor, University of Texas at Austin, CBA 7.256, Mailcode: B6700, Austin, TX, 78712, United States, neeraj.bharadwaj@mccombs.utexas.edu
Frenkel Ter Hofstede

Although solution selling, the provision of supplementary services in addition to goods, has been commonplace in industry for several decades, the topic has been largely neglected in the theoretical literature. The minimal empirical attention devoted to solution selling coupled with the possibility that the practice may assist firms to more optimally manage their customer portfolio provides the impetus for this research. In this study, we seek to better understand the phenomena by investigating the impact of solution selling on key performance drivers. In the context of business-to-business relationships, a statistical model is developed that explains customers' spending on solutions over standard products. The expenditures are viewed as a function of previous service experiences as well as customer characteristics (receptivity to promotions, firm size, and satisfaction measures) and marketing decision variables (salesperson quality and markup on sales of products and services). These customer characteristics can be used to develop segmentation strategies or direct targeting efforts, while the decision variables can be used to tailor offerings to manage profits.
We take a hierarchical Bayes approach, allowing us to obtain account-level parameter estimates and thus explain the impact of solution selling on future purchases and outcomes as well as differences among customers. We use Bayesian computation to estimate the model and derive optimal strategies in a Bayesian decision-theoretic framework. This will provide insights into not only the effects of previous service experiences and key business variables on solution selling, but also which strategies manage the value proposition more optimally over time (i.e., bundling products and services).

4 - Meta-Analysis of Determinants of Sales: Fed, Random And Bayesian Approaches
S. Cem Bahadir, Doctoral Student, Emory University, 1300 Clifton Road, Atlanta, 30322, United States, cem_bahadir@bus.emory.edu
Sundar Bharadwaj
Michael Parzen

The authors integrate findings on the determinants of sales by conducting a meta-analysis. We contribute to the marketing literature in the following ways. First, we use a comprehensive dataset that covers the period 1970-2004. Prior reviews have had a limited focus by examining a small set of determinants or a narrow set of research contexts . Over the last decade, there have been numerous studies with new methodologies and data sets examining the impact of marketing actions on sales. Yet, we do not know the impact of the new study characteristics on the drivers of sales. Second, we introduce a set of new approaches to marketing meta-analysis. A widely prevalent practice in marketing meta-analyses is the creation of elasticity estimates from different models based on the same data set. While, the statistical implication of such a practice is obvious, prior studies rarely acknowledge this limitation. We address the hierarchical structure in the data (multiple elasticity estimates from different models based on the same dataset) by utilizing random effects, GLS and hierarchical Bayesian estimation techniques. Third, we compute posterior distributions of correlations between determinants of sales and sales by fed and random effects approach. Although conceptualization of research progress as a Bayesian process has been encouraged in marketing literature, empirical work has been limited. Our results suggest that conceptualization of uncertainty in the updating process may lead to different posterior distributions of bivariate relationships.

SA11
Room 301
New Product Performance

Chair: Deepak Sirdeshmukh
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1 - Location, Location, Location:How Structural Embeddedness Affects Project Success in Open Source System
Girish Mallapragada, Penn State University, 701 C, BAB, University Park, PA, 16802, United States, gzm108@psu.edu
Rajdeep Grewal, Gary Lilien

With the community-based model for software development followed in open source environments becoming a viable alternative to traditional firm-based models, we examine the effects of structural embeddedness—or the nature of the relationship among projects and developers—on the success of open source projects. We collected network data on open source software projects and corresponding developers associated with the projects from sourceforge.net, one of the largest open source software consortia (www.sourceforge.net). We find that considerable heterogeneity exists in the embeddedness of open source projects and developers. We use a visual representation of the affiliation network of projects and developers to demonstrate this heterogeneity and to develop insights about how these structures differ across projects and developers. Our main results surround the effect of this differential structural embeddedness on project success. We find that structural embeddedness has strong and significant effects on both technical and market success, but that those effects are quite complex. We use latent class regression analysis models to show that multiple regimes exist, and that some of the effects of structural embeddedness are positive under some regimes and negative in others. These findings show that different aspects of structural embeddedness have powerful but subtle effects on project success and suggest that this is a rich environment for further study.

2 - The Moderating Influence of Innovation, Product Superiority and Entry Order on NPD Screening Model Success Factors
John B. Green, Associate Professor of Marketing, Ketner School of Business, Catawba College, 2300 W. Innes St., Salisbury, NC, 28144, jgreenphd@carolina.rr.com
Dustin S. Cox, Allan C. Rohrbaugh

As early as 1975 Lilien suggested that models perceived to be irrelevant to practitioner situations or lacking intuitively obvious variables would go underutilized. Shortly thereafter, NewProd and Stanford became the literature's most established prescriptive NPD screening models. Unfortunately, they remained underutilized as failure rates grew from 37% to 41%. And though Green and Wong recently demonstrated underutilization to be related to perceived variable change over time, several important issues remain unanswered. This work posits that different states of product innovation, superiority and entry order have moderating influences on success factors. Thus, they argue against current ìone size fits allî approaches and suggest models be chosen based on different levels of these moderating variables.

3 - The Chance Criterion as a Predictor for the Market Success of New Product Introductions

Sascha Fabian, Marketing Departement University of Mainz, Jakob-Weler-Weg 9, Mainz, D-55099, Germany, sascha.fabian@web.de
Oliver Heil

Unfortunately, up to 90% of all new product introductions fail. In our study we propose a new criterion to reduce new product failure. In a nutshell, we argue that a new product has a chance for market success if it equals an incumbent's product on all subjectively relevant criteria and is better than the present product on at least on relevant criteria. Obviously, our conceptualization questions, to a degree, approaches that are based on trade-off analyses, i.e. we suggest somewhat implicitly that it is not really possible to compensate minor important deficits by the use of one strong attribute. We label our approach the CHANCE CITERION. To test our hypothesis we conducted an empirical survey for a product called Thermal S1 manufactured by Vichy. Based on our assumption we calculated the proportion of test persons of our sample for which the new product doesn't have any deficits on any subjective relevant criteria and used the results to predict the sales volume after the launch of the product. Initial results are rather promising. While predicting a sales volume of 600000 units actual sales were 625000 which means that actual sales are just 4.2 percent above projection. We believe that this is a quite good approximation for a real worl-market research project. An other advantage of our approach is its ability to be conducted with small sample sizes by using sequential analysis. This is important for market research studies of firms which often use group discussions with six to twelve participants.

4 - Effects of Organizational Slack and Environmental Appraisal on Product Exploration and Exploitation

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Zannie Voss, Glenn Voss

Organizations enact long-term strategy by allocating scarce and valuable resources across alternative activities intended to align performance with long-term goals. Exploration creates novel organizational competencies and provides the organization with the ability to adapt. Exploitation refers to the process of appropriating value from existing products through incremental modification of competencies. In this research, we examine the influence of resource slack and competitive intensity on organizational exploitation and exploitation. Slack is conceptualized as the cushion of excess resources available to the firm during a given planning cycle (Kraatz & Zajac, 2001; March & Shapira, 1992). We classify slack based on its availability for redeployment and embeddedness. We also examine direct and moderating effects of environmental appraisal. We conducted the study in the nonprofit professional theatre industry, collecting objective data for independent measures and subjective measures for dependent measures. To test hypotheses, we estimated a structural model specifying direct, quadratic and interaction effects for the independent variables. The results of this study are generally consistent with theories of risky decision making and provide a complex picture of the effects of organizational slack on exploration and exploitation. Product exploration is positively influenced by environmental factors and internal financial resources with operational slack acting as an inhibitor. Product exploitation is dampened by financial slack and enhanced by operational slack. Emphases on product exploitation and exploration were negatively correlated. Relational slack and environmental appraisal exhibit complex effects, contingent on the nature of the relational resource.

SA12
Room 304
Diffusion I

Chair: Portia Isaacson Bass
CEO, Bass Economics, 4 Glenmoor Court, Frisco, TX, 75034, United States, portia@basseconomics.com

1 - Segmental New-Product Diffusion

Alastair Robertson, Lancaster University Management School, Management Science, Bailrigg, LA1 4YX, United Kingdom, a.w.robertson@lancaster.ac.uk
Didier Soopramanien, Robert Fildes

Most new-product diffusion models hide vital patterns in consumer behaviour, patterns that marketers may capitalise on. Our paper describes ongoing research on ICT diffusion that embeds two types of consumer characteristic into broadband diffusion forecasts. The first characteristic is behavioural and is used to segment consumers into distinct ICT utility cohorts. Our research indicates that each segment has a unique socio-demographic profile. Socio-demography is the second consumer characteristic and is used to estimate consumer broadband adoption propensities using a discrete choice model. Both types of consumer information are then incorporated into a single generation diffusion model by assuming that the social system size can vary over time. The application of consumer characteristics in this way provides a method for estimating product diffusion curves both aggregately and at the consumer segment level.

2 - Diffusion of Services

Renana Peres, Phd candidate, Faculty of management, Tel Aviv University, Tel Aviv, 69978, Israel, peresren@post.tau.ac.il
Eitan Muller, Barak Libai

In recent decades, services are occupying a growing percentage of the global economic activity. An important difference between durable goods and services is the fact that in many services customers and providers are involved in continuous relationships. The large body of CRM literature, developed in recent years, deals with means of defining, measuring, and managing various aspects of these relationships. New types of services are frequently introduced to the market: Cellular telephony, direct banking, and Web services were not known to customers before 1980. However, the diffusion literature has dedicated only sparse efforts to define and model the penetration process of services into the market. Theoretical and empirical research usually treated services as if they were durable goods. In this study we combine diffusion modeling with a CRM approach to investigate the evolution of markets for services. Hence, we explicitly model customer defection through the growth process and show the bias created when estimating services growth data with the traditional durable approach. We further discuss the difference in the evolution of markets of durables and services, and the consequent managerial implications.

3 - The Role of Expectations about the Future Diffusion for the Adoption of Network Effects Products

Christina Rabe, University of Hohenheim, Institute of Business Administration, Chair of Marketing (510D), Stuttgart, 70593, Germany, rabe@uni-hohenheim.de
Markus Voeth

Due to the fact that the consumer's benefits of use of network effects products not only depend on the quality, but also on the diffusion of the product in the market, consumers postpone their adoption decision until a critical mass of consumers they can interact with is achieved. Thus, to secure innovation success, companies have to develop marketing strategies to accelerate the rate of diffusion of the innovation to reach critical mass rapidly which encourages other consumers to adopt. In the marketing literature, it is stressed that consumer's expectations about the future installed base and the resultant benefits of a network effects product play a major role regarding the speed of the adoption process. Consequently, marketing strategies designed to influence consumer's expectations are viewed to be crucial for the innovation success. However, this proposition originates

from a theoretical point of view and lacks substantial empirical validation. Therefore, the current study focuses on the question of how a consumer's expectations about the future installed base of the network effects product actually affect his adoption decision. For this purpose first, we examine the nature of positive expectations and the adoption of network effects products in the context of Principal-Agent-Theory. Based on these theoretical considerations, a structural equation model is developed and tested empirically via LISREL analyses of data provided by 468 respondents on the basis of UMTS-based videophoning. Finally, the results and main implications for future research in the field of network effects products are reported.

4 - A Mathematics for Multigenerational Diffusion Models
Portia Isaacson Bass, CEO, Bass Economics, 4 Glenmoor Court, Frisco, TX, 75034, United States, portia@basseconomics.com

This research develops a type-theoretic mathematics called "TG-Matr Algebra" with the purpose of enhancing the understanding of multigenerational diffusion (MGD) models. MGD models are important in exploring and forecasting the dynamics of IT products (including services). Such models are complex with multiple subscripts and recursive relationships. TG-Matr Algebra may simplify the development, specification, modification, classification, theoretical as well as empirical comparison, software imple-mentation, testing and publication of MGD models. The TG-Matr type for a T-time-periods and G-generations model has data structures: (1) scalars and (2) scalar arrays of dimension: T by G, 1 by G and T by 1. The TG-Matr type includes functions (operators) such as arithmetic operators, difference, cumulative, complement, extension, lead-lag, take, total, limit and fold. Operator properties (e.g., associative) define the rules for equation manipulation in TG-Matr Algebra. After specifying the algebra including sketching proofs of operator properties, this paper expresses as equation in TG-Matr Algebra all previously published MGD models including Norton and Bass (1987), Mahajan and Muller (1996), Danaher, Hardie and Putsis (2001) and Bass and Bass (2004). A further compelling example is the multi-category model in Kim, Chang and Shocker (2000), which reduces to an amazingly simple equation. The TG-Matr type is directly implementable as a class in object-oriented programming languages (e.g., VB, C≠), which is being done as a part of this research and provided as free, open-source software with the goal of facilitating the empirical testing and application of MGD models and other (e.g., multi-category) models that are based on them.

SA13
Room 421
Choice; Continuous Services

Chair: Agnieszka Prokopowicz
Johann Wolfgang Goethe-University, Mertonstra¾e 17, D-60054, Frankfurt am Main, DE, Germany, prokopow@wiwi.uni-frankfurt.de

1 - Product Adoption Dynamics: A Regime Switching Approach
Seymour Douglas, Seymour.Douglas@cox.com

The product adoption and diffusion literature in marketing has documented the consumer decision stages in determining acceptance or rejection of a product. In this paper we examine the adoption of broadband across the markets served by telecommunications entity. We formulate a switching regime where switching is governed by a Markov process and use an empirical test of the number of regimes to determine the characteristic of each the broadband adoption cycle.

2 - Model for Dual Consumer Learning in Service Contexts
Raghuram Iyengar, PhD Student, Columbia Business School, New York, New York, United States, ri75@columbia.edu
Asim Ansari, Sunil Gupta

We develop structural models to capture consumer learning within service contexts. We contribute by building models that capture all three consumer decisions namely, consumers' choice of service options, their consumption decisions as well as customer defection while accounting for nonlinear pricing schemes typically employed in these settings. The developed modeling framework is general and can be applied to many different service contexts. We apply the model to wireless services. Within the wireless industry, pricing schemes are typically characterized by a combination of access fees, included free minutes and a per-minute marginal price for use that exceeds the free minutes. While making decisions about choice of calling plans, consumers make a plan choice at the beginning of a month based on an anticipated level of usage, whereas, the actual consumption of minutes, which occurs during the month, can differ from the expected usage. In such contexts, there can be two forms of consumer learning. First, consumers can be uncertain about the benefits associated with different service options and they can learn more about these benefits after choosing a plan. This aspect of learning is very similar to that captured in previous literature in marketing. A second form of learning can occur since consumers also observe their actual usage. Thus, since consumers observe their actual usage, they might find that they had either an underage (used less minutes in a month than the allotted free minutes) or an overage (used more minutes in a month than the free minutes). Such "mistakes" can help consumers learn about the distribution of their actual usage. We develop a model to capture this dual learning component in the presence of nonlinear pricing schemes.

3 - Bagging and Boosting Classification Trees to Predict Churn. Insights from the U.S. Telecom Industry
AurÈlie Lemmens, Ph.D. student, K.U. Leuven, Naamsestraat 69, Leuven, 3000, Belgium, aurelie.lemmens@econ.kuleuven.ac.be
Christophe Croux

We bring to the attention of marketers bagging and boosting, two recent classification techniques originating from the statistical machine learning literature. Bagging (Breiman, 1996) and stochastic gradient boosting (Friedman, 2002) consist in sequentially estimating a binary choice model from resampled versions of a given calibration sample. The obtained classifiers are ultimately aggregated into a final choice model. While bagging is conceptually very simple and easy-to-use, boosting is based on a more sophisticated weighted resampling procedure. Bagging and boosting can successfully be used for consumer choice modeling. The present study focuses on a binary choice problem, i.e. predicting customers' churn behavior in an anonymous U.S. wireless telecom company. Using a cross-sectional database of more than 250,000 customers provided by the Teradata Center for Customer Relationship Management at Duke University, bagging and boosting - based on decision trees - significantly outperform classical classification methods, such as the binary logit model, especially regarding the predictive accuracy criterion. If the telecom company starts using bagging and/or boosting, it could expect to see the gains (as computed in Neslin et al., 2004) of its future retention campaign to increase to an additional $3,000,000, compared to traditional models. We also show that churn prediction requires the use of a balanced sampling scheme. However, it usually overestimates the number of churners in real life, and therefore requires an appropriate bias correction. We discuss two easy correction methods for bagging and boosting, from which marketers may take profit to predict churn.

4 - Consumer Behavior under Self-selecting Tariffs
Agnieszka Prokopowicz, Johann Wolfgang Goethe-University, Mertonstra¾e 17, D-60054, Frankfurt am Main, DE, Germany, prokopow@wiwi.uni-frankfurt.de
Anja Lambrecht, Bernd Skiera

For many services and utilities such as telecommunications or digital goods providers offer a broad range of pricing schemes, including flat rates and pay-per-use tariffs. Customers consequently have a wide choice of optional tariffs. So far little research explains consumer's tariff choice behavior. Train, McFadden and Ben-Akiva (1987) specify a nested logit model for the choice of a usage portfolio and tariff and find a general preference for the flat rate. Yet, even though this model takes into account consumer's decisions on both usage volume and tariff choice it ignores consumer heterogeneity with regard to tariff choice. In particular, it assumes that there is only one customer segment that has on average a preference for a flat rate but does not allow for tariff-specific preferences to vary across customers. Additionally, the preference for flat-rate captured by a tariff specific constant is argued to caused by an insurance effect while recent work shows additional explanations. Therefore, our objective is to develop a nested logit model for choice between usage portfolios and tariffs while accounting

for customer heterogeneity with regard to tariff preferences. This approach will allow identifying customer segments with different tariff preferences as opposite to one segment with flat-rate preference. Additionally including explanation for tariff preferences will allow capturing tariff-choice preferences in a more systematic way than in current research. Consequently, our model will overcome the shortcomings of the existing approach and explain consumer behavior in a more appropriate way.

SA14
Room 453
Services Marketing I

Chair: Devon Johnson
Assistant Professor, Northeastern University, 202 Hayden Hall, Boston, MA, 02115, United States, d.johnson@neu.edu

1 - Managing Customer Experiences: An Integrative Review of the Temporal Aspects of Service Encounters
Paulo Oliveira, Assistant Professor, University of Miami, School of Business Administration, PO Box 248147, Coral Gables, FL, 33124-6554, United States, paulo@miami.edu
Juan Carlos Ferrer, Gabriel Bitran

A service encounter is an experience that extends over time. Therefore, its effective management includes control of the timing of the delivery of each of the services' elements and the enhancement of the customer's experience between and during the delivery of the various elements. This paper describes two complementary conceptual frameworks for understanding the short-term and long-term effects of the temporal aspects of service encounters on profitability. A review of relevant findings from a number of fields provides the theoretical underpinnings for the frameworks and serves as the base for the formulation of several testable propositions. The paper concludes with an examination of the effectiveness of possible managerial actions and with the recommendation of directions for further research.

2 - Dynamic Service Capabilities: The Conceptuaization and Longitudinal Investigation
Xing Pan, Indiana University, 1309 E 10th St, BU328E, Bloomington, IN, 47401, United States, xpan@indiana.edu
Xueming Luo

The evolution of marketing over the past century has advanced into a service-centered era (Rust 2001). However, extant literature has not distinguished between levels of service provision and capabilities of service provision. Extending this service paradigm in the context of RBV and dynamic capabilities theory, we introduce a new conceptualization of service capabilities and a process-based operationalization using Data Envelopment Analysis. Specifically, we define service capabilities as marketing organization's abilities to efficiently deploy knowledge and skills in the customer-firm service interactions to achieve desired organizational outcomes such as price premium and superior customer base (service-price capability and service-customer base capability). We then develop a theoretical framework of the longitudinal evolution of service capabilities, along with the critical impacts from cross-channel transference, market entry, and consumer trust. Our empirical investigation of a large number of e-tailers during the period of 2000 and 2003 suggests that service-price capability and service-customer base capability are interdependent, with the former's dominance. Service-price capability is a more sustainable marketing skill than service-customer base capability as it is does not diminish over time. It is also a more embedded marketing skill as it is more difficult to transfer from offline to online operation. Furthermore, our results show that building up consumer trust not only enhances both service capabilities, but also reinforces the sustainability of service-price capability and mitigates the late mover advantage effect on service-price capability. Our framework and results provide some new and important insights for service marketing and Internet marketing.

3 - Service Convenience: Scale Development and An Empirical Test
Alison Holden, University of Guelph, Dept of Marketing and Consumer Studies, Guelph, ON, N1G2W1, Canada, aholden@uoguelph.ca
May Aung, Scott Colwell, Vinay Kanetkar

Convenience is an important concern for managers and has been studied in both product and services marketing contexts. To date, this research stream has investigated convenience in situational settings (Brown 1990; Berry et. al 2002). Recent literature has suggested the need to understand service convenience from an activity based approach where convenience may influence the consumer buying process (Berry et al. 2002). This study had three purposes: 1) to develop measurement scales for access, transaction, and benefit convenience, 2) to assess the psychometric properties of these scales, and 3) to investigate the relationship between these three dimensions and overall satisfaction. Utilizing Berry et al.'s (2002) framework, interviews were employed to generate scale items. Overall satisfaction was measured using Winsted's 1997 scale. Survey data was collected from 188 respondents regarding personal cellular phone usage. Confirmatory factor analysis (NFI=.90 IFI=. 94 TLI=.92 CFI=.94) and Cronbach alpha values (0.93, 0.88, and 0. 88) validated the reliability and validity constructs. Higher levels of access and benefit convenience were significantly associated with increased overall satisfaction. The transaction convenience and overall satisfaction association was not significant. The three factors accounted for 83% of the variance in overall satisfaction. This research contributes three psychometrically valid scales measuring access, transaction, and benefit convenience. It extends Berry et al.'s (2002) propositions by testing how stated convenience of obtaining the service influences overall satisfaction with the service provider. This study provides evidence that consumers may value some conveniences more than others, indicating the need for careful investment.

4 - Consumer Trust Norms in Self-Service Technology Firms
Devon Johnson, Assistant Professor, Northeastern University, 202 Hayden Hall, Boston, MA, 02115, United States, d.johnson@neu.edu

Although self-service technology delivers convenience benefits to customers and transaction cost savings to firms, it also heightens consumers' security, privacy, and technological efficacy concerns. Despite the salience of these concerns, studies have not examined whether consumers develop trust in specific aspects of a technology-based channel rather than make a single gestalt evaluation. This study addresses this gap in the literature. It makes three noteworthy contributions to the emerging literature on relational exchange between consumers and technology-based service firms. It proposes two facets of trust in a firm with technology-based channels, namely trust in technology and firm commitment to privacy protection. It integrates two theoretical streams, namely identity theory and attitude theory-based models of trust, to demonstrate the development of consumer trust norms in technology-based firms. It tests a nomological model that proposes a hierarchical relationship between consumer trust in specific aspects of the firm and trust in the overall firm. A conceptual framework is evaluated using combined survey and transaction data from 834 personal computer banking customers of a credit union. The results confirm that consumers' identity commitment is a significant motivator of technology use. The findings also indicate that perceptions of a technology-based channel are influenced by cross-channel experiences. Finally, the study demonstrates that specific or micro trust may influence consumer purchase behavior independent of the influence of overall trust in the firm. This is managerially significant, since it indicates that relationship marketing investments may yield benefits at a more micro level than previously recognized.

Saturday, 10:30am - noon (Session B)

SB01
Room 130- Auditorium
Special Session: Adaptive Preference Measurement and Estimation

Chair: Theodoros Evgeniou
Technology Management, INSEAD, Bd de Constance, Fontainebleau 77300, France, theodoros.evgeniou@insead.edu
Co-Chair: Olivier Toubia
Columbia Business School, New York, NY, United States, ot2107@columbia.edu
Co-Chair: John Hauser
MIT Sloan School of Management, United States, jhauser@sloan.mit.edu

1 - Adaptive Self-Explication of Multi-Attribute Preferences
V. Seenu Srinivasan, Stanford University, United States, seenu@stanford.edu
Oded Netzer

In this study we propose a computer-based adaptive self-explicated approach for multi-attribute preference measurement. This approach overcomes some of the limitations of common self-explicated applications. Two methods are commonly used to estimate the attribute importances in self-explicated studies: ratings and constant sum allocation. A common problem with the ratings approach is that it does not explicitly capture the tradeoff between the attributes; it is easy for respondents to say that every attribute is important. The constant sum approach overcomes this limitation, but when the number of product attributes becomes large (e.g. 10 or more), it becomes difficult for the respondent to divide a constant sum among all the attributes. We developed a computer-based self-explicated approach that breaks down the attribute importance question into a rank-order task plus a sequence of constant sum, paired comparison questions. The sequence of questions is chosen adaptively for each respondent to maximize the information elicited from each paired comparison. Unlike the traditional self-explicated approach, the proposed approach provides standard errors for attribute importance. In a study involving digital cameras described on 12 attributes, we find that the predictive validity of the proposed approach is 50% higher than that of the Adaptive Conjoint Analysis and the traditional self-explicated approach. Additionally, the proposed approach allows for mitigation of the respondents' burden by reducing the number of pair-comparison questions without significant loss of predictive validity. Hierarchical Bayes extensions of the method and comparison to the Fast Polyhedral approach are being studied.

2 - Generalized Hierarchical Bayes Estimation for Polyhedral Conjoint Analysis
Srikant Vadali, FA 207A, College of Management, University of Massachusetts, Lowell, One University Avenue, MA, 01854, United States, Srikant_Vadali@uml.edu
John Liechty, Arvind Rangaswamy

Toubia et al. (2003, 2004) have proposed FASTPACE, a polyhedral optimization method for adaptive conjoint analysis of individual-level data. Their method includes both adaptive question design and estimation of individual-level partworth utilities. Even though the method has been shown to have good empirical performance compared to competing methods, it has the important limitation of treating response errors in an ad-hoc manner. Specifically, as long as the responses provided by consumers are consistent with their previous answers, FASTPACE assumes there are no response errors. If there are inconsistent responses, it uses a min-max criterion to optimize the amount of error included within the estimation process. We extend FASTPACE by incorporating a formal model of response errors within a Hierarchical Bayesian (HB) framework. Our model, called GENPACE (Generalized Polyhedral Adaptive Conjoint Estimation) offers a theoretically more appealing way to account for response errors within the polyhedral model. GENPACE nests both FASTPACE and the unrestricted HB model tested by Toubia et al. (2003). We assess the estimation performance of GENPACE by conducting a Monte Carlo simulation and also using experimental data on laptop computers. We show that GENPACE offers significantly improved performance over FASTPACE on criteria such as MSE and Hold-out Prediction error, especially as the number of questions asked increases.

3 - Non-Deterministic Polyhedral Methods for Adaptive Choice-Based Conjoint Analysis: Application to the Diffusion of Stelvin Wine Closures
Rosanna Garcia, Northeastern University, United States, r.garcia@neu.edu
Olivier Toubia, John R. Hauser

Polyhedral methods for adaptive choice-based conjoint analysis appear promising in simulation tests as well as in field experiments. However, the applications to date have accepted a deterministic algorithm. Questions are designed as if respondents never made errors and the estimates systematically underestimate response error. Early response errors can affect question design throughout the questioning sequence. Moreover, current polyhedral estimates assume a uniform prior distribution on the parameters. In this paper we generalize adaptive polyhedral choice-based methods to incorporate response error in the design of the choice-based questions and in the estimation of the partworths. In addition, we introduce a practical method for enhancing accuracy by incorporating non-uniform prior distributions on the parameters. We test and apply the method to study the diffusion of Stelvin wine closures (and other bottle closures) in the US, Australia, and New Zealand. Our data come from over 2,500 respondents who answered a web-based questionnaire. One notable characteristic of our experimental design is that each respondent answered two sets of choice-based conjoint questions, enabling within-subject tests.

4 - Optimization Conjoint Models for Adaptive Questionnaire Design with Aggregate Customization and Estimation
Theodoros Evgeniou, Technology Management, INSEAD, Bd de Constance, Fontainebleau 77300, France, theodoros.evgeniou@insead.edu

A general optimization based approach to conjoint analysis will be presented. Novel methods for two particular problems will be discussed: First, a novel optimization based approach for aggregate conjoint estimation and modeling consumer heterogeneity will be presented. Experiments with simulated as well as real data show that the proposed method often significantly outperforms Hierarchical Bayes in terms of model accuracy. Moreover estimation is computationally very efficient. Second, a novel method for adaptively designing questionnaires for conjoint analysis customized at the individual level will be presented. At each step the next question presented to an individual is designed on the fly and computationally fast based on the responses the individual has given to all previous choice questions. Simulation experiments show the benefits of such an individually customized adaptive conjoint questionnaire design approach. We finally show that further significant improvements for conjoint analysis are achieved when we combine these two methods. In particular, we show that when we follow a hybrid individual-specific and aggregate customization method for adaptively designing conjoint questionnaires for each individual performance improves significantly.

SB02
Room 238
E-Commerce / E-Marketing IV; Shopping

Chair: Rajeev Kamineni
Lecturer, University of Western Sydney, School of Marketing and IB, Bldg U2, Blacktown, UWS, Locked Bag 1797, Penrith South DC, NS, 1797, Australia, r.kamineni@uws.edu.au

1 - Good and Bad Times in Goal-oriented Intrastore Web Visits: When do Consumers Abort a Website Visit?
Maria Kratcholova, PhD Student, HEC, 5780, Chemin de la Cote St-Luc, ap.6, Montreal, H3X 2G1, Canada, maria.kratcholova@gmail.com
Ulf Bockenholt

This talk reports the results of a large-scale online experiment on shopping task abortion and its impact on the evaluation of a website. The data were gathered by four complementary methods - protocols, interviews, log data and questionnaires - which allow us to trace the time-dependent nature of the shopping task, the reasons for a possible abortion and the sequences of productive and counterproductive search steps. By modeling the duration, sequence and effectiveness of the search steps, we can predict the navigation behavior of consumers in a much more detailed way than possible on click-stream records alone. We find that both the sequence and durations of the productive and counterproductive steps are predictive of the success or abortion of the shopping task. We also provide strong evidence that navigation and subsequent shopping completion or abortion is systematically related to the overall evaluation of the site. The final part of the paper discusses avenues for diagnosing whether a person got "lost" in a navigational process which may prove useful in improving website effectiveness and conversion rates.

2 - Perceived Shopping Channel Risks and Product Specific Risks for Browsers and Internet Shoppers

Didier Soopramanien, Lecturer, Management School, Lancaster University, Lancaster University, Lancaster, ga, LA1 1RB, United Kingdom, d.soopramanien@lancaster.ac.uk

Research on online consumer shopping behaviour demonstrates that consumers consider both shopping channel specific risks and product specific risks when they decide whether or not to buy products online. Some Internet users choose not to use the Internet as part of their shopping decision making process but derive high levels of satisfaction from using the Internet for other purposes. Other consumers prefer to use the Internet only to browse and search for product information but choose to buy in-store whilst others both browse and buy online. These three groups of consumers are obviously at different stages and levels of adoption of Internet shopping. This research empirically studies the relationship between the socio-economic and Internet shopping specific factors that segment consumers into "online shoppers", "browsers" and 'non-Internet shoppers" using sample survey data collected in the UK. We also provide a typological profile of these groups of consumers and suggest how marketers and retailers can address the specific needs and expectations of these consumers.

3 - Shopping Cart Abandonment at Retail Websites & Multi-Stage Model of Online Shopping Behavior

Shibo Li, Assistant Professor of Marketing, Rutgers University, Rm.228, Janice Levin Building, 94 Rockafeller Road, Piscataway, NJ, 08854, United States, shibo_li@rbsmail.rutgers.edu
Patrali Chatterjee

The online retail sector has been growing steadily. One of the major hurdles to profitability is online shopping cart abandonment. While many commercial reports have proposed reasons why online shoppers abandon their carts, predicting shopping cart abandonment based on website navigation behavior is an under-researched aspect of the online shopping experience. In this research we examine at the level of each click by individual consumers the extent to which session navigation behavior and dynamics of product items placed in shopping carts by online users represent a conversion potential. We posit a natural four stage online purchase model starting with shopping page view where users can add items to their shopping carts conditional on decision to visit the site, followed by decision to place or remove the item in the virtual shopping cart, decision to view shopping cart prior to site exit and finally decision to purchase item(s) in shopping cart. Consumer heterogeneity is accounted for within a hierarchical Bayesian framework. Additionally, our model incorporates a mixture process whose multiple states are governed by a hidden Markov switching chain, to capture time varying, within user heterogeneity. Our results show that simple aggregate statistics have little predictive value, and web page contents and consumer's navigation behavior have different impacts on consumer's attrition at the four different stages, which is also affected by consumer's unobserved purchase intention captured by the hidden Markov process. Managerial implications on how to reduce the attrition at each stage and hence reduce the shopping cart abandonment are discussed.

4 - Is there a Difference between Web-Based Shoppers from the Developing and Developed Countries?

Rajeev Kamineni, Lecturer, University of Western Sydney, School of Marketing and IB, Bldg U2, Blacktown, UWS, Locked Bag 1797, Penrith South DC, NS, 1797, Australia, r.kamineni@uws.edu.au

The World Wide Web can change human behaviour and human interactions to a very large extent. Web based shopping behaviour is one major example to point out the trends in this direction. This study intends to establish the differences between several web-based shoppers from a developed and a developing country. Several critical factors associated with online shopping behaviour were explored. A cross cultural data set was created and an illustrative description of the shoppers was provided. As a final step the cross cultural differences between shoppers from the two countries were explored. One question which will run as a theme through out the course of this paper is, "Is there a common segment of web-based consumers that transcends the boundaries of developed and developing world?"

SB03
Room 234
Topics in Consumer Behavior

Chair: Dipankar Chakravarti
The Ortloff Professor of Business, University of Colorado, Leeds School of Business, UCB 419, Boulder, CO, 80309, United States, dipankar.chakravarti@colorado.edu

1 - A Probabilistic Model for Analysis of Consumers? Hypermarket Choices: Strategic Implications for Leading Hypermarket Operators

Dr. Bo-chiuan Su, Assistant Professor, National Central University, Taiwan, Department of Information Management, 300 Jung-Da Road, Chung-Li, 320, Taiwan, bsu@mgt.ncu.edu.tw
Dr. Eric T.G. Wang
Chun-Der Chen, Sheng-Pao Shih. Hsiu-Hua Chang

Hypermarkets are facing increasingly intensive competitions that call for the adoption of a strategic approach to compete. This paper develops a probabilistic model that evaluates the effectiveness of the competitive strategies presented to increase market share for 4 leading hypermarkets: Carrefour, Tesco, Geant, and RT Mart. We formulate 20 competitive strategies, and then the split plot design is used to generate a combination of these strategies for each of these hypermarkets. Based on data collected from 257 shoppers who buy at least once a month at these hypermarkets, the results of analysis indicate that Carrefour has the greatest increase in market share if no competitors' retaliating. Free gas strategy appears to have the relatively greatest positive impact, followed by click-and-mortar ventures, launch of private-label products, and free lottery ticket strategies. Findings show that each hypermarket has its unique characteristics for attracting customers. Further analysis reveals that sensitivity to changes in competitive strategies varies among customer segments. The model presented can be easily incorporated into a spreadsheet as a decision-support system (DSS). Hypermarket operators can use this DSS to evaluate the expected change in market share if one or more competitive strategies are changed by them or their competitors.

2 - Individual Differences in Sensory Modality Dominance and its Influence on Choice Behavior

Leo Paas, Assistent Professor, Free University of Amsterdam / Marketing Department, De Boelelaan 1105, Room 3A-15, Amsterdam, 1081 HV, Netherlands, lpaas@feweb.vu.nl
Jaap Boter, Michel Wedel, Jeffrey Inman

Humans have generally been considered to be visually dominant, relying more strongly on visual input than on other senses. Recent findings in neurophysiology, however, suggest that sensory modality dominance may range from highly visual to highly auditory dominant. We argue that sensory modality dominance should influence choice behavior of hedonic goods, where sensory stimulation is the primary goal. An analysis of over 300,000 transactions of theater and concert tickets indicates that these individual differences in dominant sensory modality are reflected in consumers' choice behavior. Particularly for complex performing arts products (e.g., modern dance), choice patterns are consistent with an auditory-visual dimension. These findings have major implication for marketing cultural goods.

3 - Emotion in Trust: A New Paradigm for Evaluating Trust in Human-computer Interactions

Ulf Bockenholt, McGill University, 1001 Sherbrooke Street West, Montreal, QC, Canada, ulf.bockenholt@mcgill.ca
Remi Desmeules

We report the results of several studies on the influence of emotions and emotions-based learning on trust in a human-computer interaction. The studies are based on a variant of the Iowa gambling task (Bechara, Damasio, Damasio, & Anderson, 1994) and require subjects to choose repeatedly among four brokers for online investment purposes. Two of the brokers provide high immediate gains but larger future losses and the other two provide low immediate gains and smaller future losses. After 30 and 60 trials, subjects play trust games with each of the brokers. Heart rate and skin conductance measures are recorded continuously prior to and during the investment task to assess initial reactions to the brokers and emotional

responses to gains and losses. Our results show that both initial trust and emotion-based learning affect subjects' perception of the brokers' performance in systematic ways. In particular, the behavior in the trust games is only weakly related to actual performance of the brokers but can be predicted well when accounting for the emotional responses of the subjects. Implications of the results for computer-mediated interactions are discussed.

4 - Interpreting Strategic Delay in Marketing Negotiations: Trustworthy Behaviors and Trustworthy Faces

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Rajesh Bagchi

Delayed responses to counteroffers are often used strategically in marketing negotiations. However, the impact of such strategic delays may depend on how bargaining opponents interpret such delays (inherently ambiguous cues). The delay may signal an opponent in conflict, such that the acceptance of the offer reflects a good deal. Alternatively the delay may simply reflect an attempt to bluff or pressurize by feigned lack of interest or an effort to explore outside options. Prior negotiations research suggests that trust reputations often influence interpretation of ambiguous communications. Such interpretations then influence bargaining. Prior behavior may provide one set of cues to trustworthiness. Also, the recent literature in social neuroscience suggests that people are influenced (often fallibly)even by facial features. Thus, mere facial features may influence trustworthiness inferences. These interpretations may then influence the future course of the bargaining and the eventual outcomes. The present research examines how the interpretation of strategic delays in marketing negotiations is affected by cues involving (un)trustworthy behaviors and (un)trustworthy faces. The studies are set in a common automobile purchase negotiation context. The behavioral cues are manipulated via a scenario describing behaviors that may be construed as trustworthy, neutral or untrustworthy. The facial cues are manipulated using pictures of the purported salesperson, calibrated for perception as honest or dishonest. The length of the strategic delay is manipulated to be short, intermediate or long. We examine how these manipulations influence the bargaining process and bargaining outcomes.

SB04
Room 231
Pricing II

Chair: Ashwin Aravindakshan
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1 - Minimum Price Guarantees with Endogenous Search: Theory and Market Experiments

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Aradhna Krishna

Minimum price guarantees (MPGs) are commonly used by sellers as promises to match the lowest price for an item that a customer can find elsewhere. Implicit Collusion Theory argues that symmetric sellers can use MPGs as devices for collusion. Price Discrimination Theory, on the other hand, explains how MPGs can be used by symmetric sellers to discriminate between informed and uninformed buyers. Both theories indicate that MPGs lead to reduced price competition. Anti-trust cases have used these arguments to justify calls for actions against stores adopting MPGs (Edlin 1997). The purpose of this paper is to study the effect of MPGs on buyer search behavior and seller pricing behavior in an interactive setting. We first discuss the theoretical perspectives of market equilibrium models in two scenarios: markets that allow MPGs as a policy decision for sellers and markets that do not. Then we conduct experiments with buyers and sellers trading with each other. We conclude from our market experiments that price matching sellers are more likely to price discriminate than to collude. Moreover, we show theoretically and experimentally that when sellers price discriminate, buyers search more, prices are lower, and price dispersion is wider in the presence versus absence of MPGs. This means that MPGs do not necessary lead to higher prices and reduced price competition. More interestingly, when we compare our experimental results with theoretical predictions, we find that buyers search too much when MPGs are not offered and too little when they are offered. This paper should yield many insightful implications for both marketing managers and researchers.

2 - Pricing Internet Access with Three-Part Tariffs Anja Lambrecht, J. W. Goethe-University Frankfurt,

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Katja Seim, Bernd Skiera

In recent years, firms in many industries such as cell phone service, Internet access, car rental, or even museums and amusement parks have introduced wide menus of pricing plans that grant access to a virtually identical product under different pricing schemes. They include pure pay-per-use tariffs, flat rates as well as three-part tariffs where the provider charges an access fee that includes a usage allowance and a per-unit price for usage in excess of the allowance. Among different pricing schemes, three-part tariffs are becoming increasingly popular. However, casual evidence suggests that a large number of providers experiment with the various components of their three-part tariffs primarily based on competitive assessments and market intuition, but less based on real insights into consumers' tariff choices and usage behavior. Our objective is to estimate access and usage price elasticities, to evaluate the profit implications of pricing each component of a three-part tariff and to derive recommendations for pricing Internet access. We develop a model of consumer tariff choice and demand for Internet access under three-part tariff pricing. The discrete/continuous choice model takes into account tariff-specific characteristics, consumers' heterogeneous preferences over usage, and consumers' uncertainty about their future usage. We estimate the model based on an extensive set of usage data from a European Internet Service Provider. In counterfactuals we vary access and marginal prices, allowance, and number of tariffs to derive implications for pricing of Internet access from the provider's perspective and to analyze the welfare implications of the non-linear pricing structure.

3 - Performance-Contingent Pricing: A Competitive Pricing Strategy for IT Goods and Services

Hemant Bhargava, Professor, UC Davis, Graduate School of Management, University of California, Davis, Davis, CA, 95616-6376, United States, hemantb@ucdavis.edu
Shankar Sundaresan

Many information technology goods and services are characterized by uncertainty regarding key quality metrics, for example trade execution time in online trading, packet loss in an online network, and call response time in call center services. Quality uncertainty creates a downward pressure on consumer valuations and prices. Mechanisms such as warranties and money-back guarantees do not work well since IT goods and services cannot be repaired or returned. We propose and analyze the use of performance-contingent pricing to address quality uncertainty. Instead of a single price, the seller announces multiple quality-price pairs, and the buyers agree to pay the price corresponding to the received quality. Popular examples include the "30 minutes or free" delivery guarantee from Domino's Pizza, the "5 seconds or free" execution time guarantee from AmeriTrade, and Sprint's multi-part pricing for Internet connectivity, with a sliding scale of rebates for network downtime. We compare and contrast contingency pricing with other mechanisms such as warranties, money-back guarantees, and second-degree price discrimination. Contingency pricing improves profits and expands markets when buyers and sellers have differences in belief about performance. Employing mathematical models that combine consumer behavior under quality uncertainty with a profit-maximizing firm's pricing strategy, we develop the optimal design of contingency pricing, and examine whether contingency pricing can improve efficiency and long-term quality. We investigate the use of contingency pricing as a competitive strategy for new firms and new IT products. We also discuss the framework necessary to implement this form of pricing.

4 - A Solution to the Endogeneity Problem in Discrete Choice Models

Ashwin Aravindakshan, University of Maryland - College Park, Box #8, 1308 Van Munching Hall, University of Maryland, College Park, MD, 20742, United States, aaravind@rhsmith.umd.edu
Brian Ratchford

The paper derives an analytical solution to the endogeneity problem prevalent in discrete choice models using the 'Lambert W' function. The model is then validated by comparing the results obtained through the analytical solution with the standard estimation procedure. Finally, the paper applies the analytical solution to the case of pure component pricing in a competitive setting. We first develop an optimal pricing scheme for a firm that has two products sold as pure components. We then illustrate that the optimal price increases monotonically with respect to the contingent valuation of both the Firm's and its competitor's products.

SB05
Room 201
Multiple Channels of Distribution II

Chair: Rajiv Lal
Stanley Roth Sr. Professor of Retailing, Harvard Business School, Soldiers Field, Boston, MA, 02163, United States, rlal@hbs.edu

1 - Surplus Distribution for a Conventional Retailer and an Internet Entrant

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Subrata K. Sen

The internet's capability to offer large assortments (compared to the traditional channel) enables firms to satisfy consumers' mass customization needs. In this research we model competition between an incumbent traditional retailer and an internet entrant using price and retail assortment as strategic variables. We investigate the redistribution of surplus among producers and consumers from the simultaneous use of the standard channel and the internet. The paper concludes by discussing the links between our theoretical analysis and the empirical results reported by Brynjolfsson, Smith, and Hu for surplus gains in the book industry resulting from increased product variety.

2 - Assessing the Economic Value of Multi-Channel, Multi-Product Strategies of Firms: An Application to the PC Industry

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Pradeep Chintagunta, Naufel Vilcassim

Evaluating proposed changes in channels of distribution and matching products to channels in multi-channel product markets is a hard task for the management of any company. Such policy-oriented issues cannot be addressed by methods such as controlled experiments in test markets that are feasible for pricing and advertising decisions. In this paper, we measure the economic value of distribution channels in a multi-channel setting by estimating a structural model of demand across channels. We then use this model to simulate changes in distribution and product m strategies and measure their consequences for economic value. We provide an application of this policy simulation approach to the PC industry which is characterized by multiple firms competing via a variety of channels. Using this approach we are able to assess the economic value of each channel to each firm and to its customers. Further, our analysis provides an economic rationale for the various channel actions observed in this marketplace. We also simulate the effects of the HP-Compaq merger but go beyond a standard merger analysis by evaluating the effects of various potential channel actions co-incident with the merger.

3 - Integrating a Direct Channel without Upsetting your Channel Partners

Rajiv Lal, Stanley Roth Sr. Professor of Retailing, Harvard Business School, Soldiers Field, Boston, MA, 02163, United States, rlal@hbs.edu

The Internet has offered new opportunities for manufacturers to reach their customers directly, without hindrance from their channel partners. However this opportunity for manufacturers often comes with great peril and unhappiness from channel partners. Many companies have approached this opportunity with unsuccessful results. Compaq is probably one of the most celebrated examples where the company had to make an about turn on its direct channel, despite good sales results, because of the reaction of channel partners. At the same time, HP approached the direct channel with more care and circumspection with significantly better results. In this paper, we use a game theoretic model to analyze the interaction between competing manufacturers and retailers to determine the impact of the Internet and its appropriate use as a direct channel to consumers. Our analysis shows that there are conditions under which the traditional concerns of the retailers with decreasing sales and profitability due to the Internet can be addressed to the mutual satisfaction of both the manufacturers and the retailers. We demonstrate that this is feasible only if the manufacturers are willing to offer lower wholesale costs and higher margins to the retailer. This result is in contrast to the general belief that retail margins should go down as manufacturers shift their demand on to the Internet. Our model also shows how the Internet can help resolve the challenges of traditional bait-and-switch tactics of the retailer. Of course, these results hold under certain market conditions and therefore help us identify when and where it is feasible to use a direct channel of distribution with mutually beneficial results.

SB06
Room 204
Customer Relationship Marketing II

Chair: Edward Malthouse
Associate Professor, Northwestern University, 1870 Campus Drive, Evanston, IL, 60208, United States, ecm@northwestern.edu

1 - Modeling Multiple Acquisition & Defection Spells: CRM at Online Subscription Websites

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Web-based paid self-help services (education, health, home improvement) as a business model are increasingly becoming popular. For customers, an advantage of most online subscription services is the relative ease with which consumers can enroll, terminate and re-subscribe to a service. For the web-site publisher this represents a significant challenge in retaining a stable subscription base. First, many consumers exhibit multiple spells of paid subscription and defection while remaining registered for free features (e.g., email newsletters). Second, most firms offer limited free trial periods to non-paying consumers in response to similar offers from competitors. The effectiveness of these offers on conversion is expected to differ across new (never enrolled) or lost (past subscribers) customers, and may be a factor in encouraging defections. I address the following questions. Once subscribed, how long will a subscriber remain a paying user of the service? How important are multiple episodes of subscription for the same individual in measuring site loyalty? What individual usage characteristics and promotional offers explain and predict the subscription dynamics? Defection and re-subscription rates are estimated simultaneously both in single and in multiple-spells frameworks controlling for observed and unobserved heterogeneity. Unobserved individual-specific factors leading to defection and re-subscription are correlated. Site loyalty (stickiness) predictions are produced for subgroups of consumers that differ in usage characteristics and response to free trial promotions. I show that it is essential to model multiple spells of subscriptions, and that the most commonly used models - based on single subscription spells - are inadequate.

2 - Customer Profitability: A Function of the Pattern of Transactions that Characterize Relationships?

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Kersi Antia, Niraj Dawar, Rakesh Niraj

A central premise of relationship marketing theory is that economic benefits flow from retaining customers. However, recent research suggests that a

more nuanced perspective on the effects of customer lifetime on profitability is called for. In a non-contractual setting, for example, research has demonstrated that profitable segments are to be found among both short- and long-term customers. This recent line of inquiry suggests that the early research focus on the duration of the relationship with the customer may obscure other important aspects of the relationship that drive profitability. Borrowing from the branding literature, where different types of customer relationships have been described (but not empirically examined), we propose that differences in profitability may be best explained by the pattern of transactions that characterize the relationship over time. We propose to examine customer heterogeneity using the purchasing history of 6,000 customers over the period ranging from 2000 to 2003. We will first determine individual level customer profitability after allocating company-wide costs appropriately across customers, using activity based costing. We will then ascertain customer profitability using customer and order related characteristics. Our ability to model individual level profitability across customers, instead of assuming a constant contribution margin, enables us to discern classes of customer relationships and the key factors of profitable relationships. The combination of our unique database and methodology contribute to a better understand of the evolution of customer relationships over time.

3 - Identifying Four Types of Consumer Groups: A New Taxonomy and Empirical Evidence

Kanghyun Yoon, Assistant Professor, University of Central Florida, College of Business Administration, Department of Marketing, Orlando, FL, 32816, United States, kyoon@bus.ucf.edu

For the last several decades, companies have primarily focused on two marketing strategies, e.g., attraction and retention strategy, to enhance profitability. Given the use of each strategy in individual form or both in combined form, an important question for research is: have we identified the right customers to implement both strategies? This is the issue that we focus on this research paper. It has been generally known that different underlying motivations of customers generate their switching behaviors as well as repeat purchases. For instance, switching customers who are characterized with a low repeat purchase rate (e.g., low market share of a specific brand) tend to purchase different brands due to either price promotions or satiation/boredom with the current brand. Therefore, switchers need to be divided into two groups: deal-prone switchers or variety seekers. Contrary to this group are the customers who exhibit frequent repeat purchase behaviors and tend to purchase the same brand because of either attractive price incentives offered by loyalty programs or a brand's particular values or features. Thus, two groups of repeat customers also need to be identified: deal-prone loyals and true (value-conscious) loyals. In this regard, the goal of this study is to develop a new taxonomy that enables us to identify four different types of customer groups and to propose a modeling framework that empirically tests the existence of these groups in frequently purchased product categories. Our results suggest that there are four distinct customer groups in our datasets, each of which has different motivation for purchase.

4 - Customization with Crossed-Basis Subsegmentation Edward Malthouse, Associate Professor, Northwestern

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Ralf Elsner

This paper proposes and illustrates crossed-basis subsegmentation, a cost-effective method of customizing marketing contacts using information about a customer's behavior. We discuss how different types of customer-level data can be useful - and complementary - to the firm, including information about recency, frequency and monetary value, previous purchase categories, and from service bureaus. Firms should segment customers with different bases. Customized marketing contacts can be constructed as with a "mail-merge," where different content elements are inserted depending on segment membership. This enables the firm to generate a large number of unique, customized contacts, which should produce higher response rates, without incurring the costs of creating so many unique versions. Using transaction data from a catalog company, we illustrate a two-step approach using factor analysis and cluster analysis to identify subsegments based on previous purchase history. We cross RFM and previous purchase category (product interests) segmentations and develop customized marketing contacts. The customized contacts evaluated with a large randomized-controlled field experiment, which demonstrates the customized versions produce higher response rates. We also investigate how much a firm should attempt to customize offers for new customers, who have little transaction history.

SB07
Room 207/208
Market / Brand Dynamics

Chair: Tulin Erdem
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1 - The Moderating Effect of Short-term versus Long-term Tactics on the Marketing Mix

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Sundar Bharadwaj, Sriram Venkataraman

Market response models use field data to examine the effect of a brand's marketing mix on market share, but historically have ignored ad copy, treating all advertising expenditures the same. Experimental studies in consumer behavior have examined ad copy, but only in the confines of a controlled experiment, almost always on a convenience sample of consumers. The objective of this research is to examine how ad copy (brand building versus call-to-action) moderates the response to a brand's pricing, promotion, and communications efforts. Data for this study include account-level data for the water and carbonated beverage categories merged with ad copy data. Key Hypotheses tested relate to the impact of brand building advertising versus call-to-action advertising on price and promotion sensitivity.

2 - Building Brands

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Harald van Heerde, Carl Mela

Firms spend hundreds of billions of dollars annually on marketing, and much headway has been made regarding the role these expenditures play in enhancing brand performance. However, analyses of marketing strategies typically consider elements of the marketing m in isolation and over a small number of categories. For instance, recent research has advanced our understanding of the long-term effects of price promotions and advertising on brands. Yet such research does not typically consider the long-term effects of product and distribution strategies. Accordingly, a critical question remains: Which elements of the marketing m are most critical in building brands? This question has endured for decades because its resolution requires extensive data and advanced modeling techniques. In this paper, we aim to obtain a more complete view of what drives brand strength by considering all four elements of marketing m in unison. We construct a Hierarchical Dynamic Linear Model that allows us to understand how category, chain and brand level characteristics moderate the efficacy of these strategies. The model is calibrated by combining detailed advertising data from TNS Secodip with weekly store-level scanner data from Information Resources, covering a time horizon of 265 weeks, 25 product categories, and 450 stores from a French national sample.

3 - Segmenting the Long-Run Dynamics of Marketing Activity: An Application to Pharmaceutical Panel Data

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Natalie Mizik, Catarina Sismeiro

Using panel data, we investigate segmentation in the dynamic response to marketing activity within a product-market. Segmentation in dynamics may stem from different customers being at different stages of product adoption and/or firms escalating marketing activity only to certain cus-

tomer segments or parts of the market. Our approach is designed to relax the usual assumption of uniform individual-level long-run dynamics in time-series panel data by allowing for potential heterogeneity. We conduct individual-level unit-root tests on the outcome and marketing variables for each panelist and cluster the panelists into four segments based on the stationary or evolving nature of outcome and marketing variables. Next, we study segment dynamics by estimating panel-data VAR models appropriate for each group. We apply our approach to monthly data for a large panel of physicians who are making drug prescribing decisions and are the targets of direct-to-physician (DTP) marketing promotions (detailing and sampling). We find that multiple dynamic scenarios - evolution, hysteresis, escalation, and business as usual (Dekimpe and Hanssens, 1999) ñ coexist in the same product-market at the same time. We also find markedly different elasticities and response dynamics across segments and show that our approach produces better in-sample and holdout fit compared to benchmark models. Lastly, differences in dynamic response did not align with traditional targeting variables used in the industry (e.g., physician demographics and decile rankings). Thus, the segmentation of dynamic effects should provide a useful new tool for targeting and efficient marketing resource allocation in many settings.

4 - A Dynamic Model of Brand Choice when Price and Advertising Signal Product Quality

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Michael Keane, Baohong Sun

In this paper, we develop a structural model of household behavior in an environment in which there is uncertainty about brand attributes, and both prices and advertising signal brand quality. Besides the indirect signal that advertising frequency provides about quality, we also allow for advertising content to provide direct but noisy quality signals. Similarly, use experience provides direct but noisy quality information as well. We estimate our proposed model using scanner panel data on ketchup. If price is important as a signal of brand quality, then frequent price promotion may have the unintended consequence of reducing brand equity. We use our estimated model to measure the importance of such effects.

SB08
Room 338
Media Planning

Chair: Anand Krishnamoorthy
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1 - Does Your Optimizer Make REAL Optimal Media Plan? A New Formulation of Media Optimization Problem

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Media optimizers are a necessity for modern ad campaign planning. Many planners believe that these optimizers produce REAL optimal budget allocation, but they in fact produce only approximate or near optimum solutions generated from heuristics such as greedy algorithms and genetic algorithms. Media optimization problems are in general very complex and seem to be intractable to attack with exact algorism. In this presentation, we demonstrate with a newspaper example in Japan that a large class of problems can be solves exactly by decomposing the objective function of the original problem into separable objective functions, and reformulate the problem into a multiobjective nonlinear knapsack problem, which is solved by a special algorithm called HOPE (Hybrid Optimization Process Equipment) within a practical time. The exact algorithm achieves improvement of the efficiency of media plan and provides many practical implications for media planners / advertisers as well as for media companies. For instance, the optimal combination of newspaper vehicles sometimes changes dramatically against a small change of budget. For media companies, this implies a chance of wining a majority of budget by offering a package of vehicles with an appropriate pricing.

2 - Optimal Media Budget Allocation: Target Markets and the Effects of Response Bias

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Frenkel Ter Hofstede, Macro Vriens

An important decision for brand managers is how to allocate their media budget among different media outlets. The decision is generally based on which media portfolio derives the optimal ad exposure to their target customers, given a fed budget. Previous research has focused on either estimating the distribution of media exposure or optimizing the budget allocation for a given exposure distribution, using media survey data. However, no attempt has been made to obtain the optimal decision by simultaneously estimating the distribution and optimizing the media portfolio considering their target market. In addition, previous research has not taken into account the possible biases that could result from extensive media surveys which typically involve evaluations of a large number of publications. In this study, we propose a new approach to media selection which integrates the estimation of the exposure distribution and the optimization of portfolios in a Bayesian decision-theoretic framework. A model is developed that captures possible order biases in evaluations of media outlets and estimates the ad exposure distribution of target customers using a multivariate probit formulation. The model also incorporates the segmentation uncertainty which can occur in process to decide target market. The optimal portfolio is then obtained through a genetic algorithm which maximizes the expected ad exposure of target customers. The method is applied to data collected through a standard print media questionnaire using a randomized design.

3 - A DEA Approach to Media Selection

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Kaori Setoguchi

This paper addresses an application of DEA to media selection based on an empirical data. We present a simple non-parametric approach to an optimization problem in the stochastic frontier model with unknown functional form of the frontier based on DEA. Though much effort has been done on determining advertising-response curves to employ the parametric approach to media selection, there is little conclusive evidence so as to the shape of these curves. For an optimization problem in the stochastic frontier model with implicitly a Cobb-Douglas or non-Cobb-Douglas form, we shall show by a Monte Carlo simulation that, in either case, an optimum solution to the data envelopment approximation model(DEAM) is sufficiently close to that of the original problem. It is also shown that, in the problem with an implicitly non-Cobb-Douglas form DEAM outperforms the parametric approach in which it is required to specify the functional form. We shall provide an illustrative example of DEAM to the problem of finding the "best practice" combination of media within each media type(TV, daily newspapers, magazines and radio) in which an advertising campaign is scheduled so as to maximize some criterion(awareness value, knowledge level and so on) on the basis of advertising budget. When it come to using this model, it is critical that a large size of empirical data is available.

4 - Dynamically Optimal Advertising Sharing Rules in Franchising

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Ramarao Desiraju

Profit sharing agreements in franchising sometimes include a fee that franchisors charge to cover their advertising expenditures. This fee can be collected from the franchisees either via a fed payment ("fed fee rule"), or via a royalty based on the franchisee's sales ("royalty rate rule"). The trade press reports that while some franchisors use the fed fee rule, others use the royalty rate rule to cover their advertising outlays. Academic literature, however, argues that with homogeneous franchisees, the fed fee rule should always be preferred. So, it is somewhat of a puzzle why, in practice, franchisors may employ the royalty rate rule. Our goal here is to build on

extant research by reevaluating the conditions favoring the use of the above two rules. We develop a dynamic model of the interaction between a franchisor and two identical franchisees; this model accommodates advertising spending both at the franchisor and franchisee levels. The franchisor selects the fed franchise fee, the royalty rate, and the "rule" to share advertising expenditures. If the franchisees decide to participate in the game, they make the necessary payments, and the franchisor spends an appropriate amount on advertising. Subsequently, the two franchisees simultaneously and non-collusively select their brand and category advertising levels. Sales are then realized. Using differential game theory, we identify the conditions favoring the use of the two rules. We find that even with identical franchisees, the royalty rate rule can sometimes be preferred over the fed fee rule.

SB09
Room 334
Product Quality

Chair: Tolga Akcura
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1 - Consumer Feelings and Product Quality

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Dmitri Kuksov

Firms often conduct costly affect inducing activities to market their products. These activities are aimed at inducing positive feelings, which in turn, affect consumers' perception and evaluation of the firm's product quality. While the consumer psychology literature established the existence of this link between product evaluation/decision process and feelings (affect), we present a theory of the effect of consumer feelings in a market equilibrium and show that if consumers cannot completely separate the affect from true product quality, firms will invest in both product quality and affect inducement, even though rational consumers can fully solve back for the true product quality. We show that a firm producing higher quality products will also find it optimal to invest more both in the true quality and in the affect inducement, even if the firm does not have a lower cost of inducing affect. An implication of this result is that consumers can rationally associate an up-lifting store atmosphere or affect-inducing merchandising or advertising with high quality products even if signaling motives are absent.

2 - Product Information and Infomediary Marketing

Yubo Chen, Assistant Professor of Marketing, Eller College of Management, University of Arizona, 320 McClelland, University of Arizona, Tucson, AZ, 85721, United States, yubochen@eller.arizona.edu
Jinhong Xie

The explosion of product information from various infomediaries (e.g., Consumer Reports, CNET.com, Epinions.com) has become very important in consumer purchase decisions and firms' marketing landscape. Infomediaries who produce, collect, and/or distribute various product information have become a fast growing industry. In this paper, we propose a theoretical model to study some unique characteristics of this industry. Our results provide insight into how infomedaries approach marketing and competitive strategy.

3 - Competition of Experts and Internet

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Zafer Ozdemir, Kemal Altinkemer

Online experts increasingly compete against traditional, face-to-face experts. For example, online experts already offer many consulting (e.g., business, information technology, software, accounting, medicine, law) and customer services that capture the market's attention. In turn, some traditional high-quality experts consider offering online services to defend their markets. In this research, we study an online expert's strategy when competing against traditional face-to-face experts. We investigate how a traditional high-quality expert's strategy should change in the presence of the Internet and when it should introduce its online channel. In the model, consumers can obtain multiple services and incur heterogeneous transportation costs to physically visit traditional experts. Experts are also differentiated based on quality; there are high- and low-quality traditional experts. The online expert's entry changes the traditional experts' strategies. Customers may incur transaction costs to get online expert services. We find that emerging competition from the Internet impacts high quality traditional expert more than the low quality traditional expert. As a result of an online expert's entry with intermediate quality, the traditional high-quality expert focuses more on the customers who visited other experts before. If the online transaction costs are low, the online expert with an intermediate quality charges a lower price and obtains a higher profit compared to the traditional high-quality expert. With low online transaction cost, the high quality traditional expert finds it beneficial to offer online services when it has a significant quality advantage over other online experts.

SB10
Room 331
Market Structure; Competitive Set

Chair: Andrea Godfrey
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1 - Incorporating Functionality on Market Structure Analysis

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María Jesús Yagüe

This study develops a tool to conduct market structure analyses, which is based on the concept of functionality. In this paper functionality is considered a key element both at the identification of market boundaries and at the analysis of competition within these limits. A two-stage methodology is proposed, which combines perceptual and behavioural information. First. Functional substitutability between pairs of products and the fit between products and its main usage situations are measured. In order to perform this task, the most relevant products and usage situations of a very broadly-defined market are identified through qualitative methods (in-depth interviews). Subsequently, information regarding the employment of each product in each situation is collected by survey. This information is used to build up indicators of functional substitutability and fit. Market boundaries are identified using functional substitutability. As a consequence competition analysis is not necessarily restricted to a group of highly homogeneous products, thus allowing to perform intra- and inter-category analyses. Second. Competition is studied within market boundaries through the multinomial logit formulation. Given the potential existence of functional heterogeneity within a market, competition is not only explained by brands and prices but also through functional attributes. Therefore, brand values, functional values, price levels, clout and vulnerability are studied. An application to several categories of home cleaners is presented. Our first findings show that the more market specialization increases, the more generic offers are penalised, while offers aimed at specific usage situations become better valued and focus their competition on their brands.
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2 - Dynamic Market Structure in a Durable Goods Market: The Effect of a New Product Form

Jackie Y. Luan, Yale University, 135 Prospect Street, New Haven, CT, 06520-8200, United States, ye.luan@yale.edu
Norris Bruce, K. Sudhir

We develop an approach to infer dynamic market structure in a durable goods category, where a new product form gradually gains acceptance. We illustrate this approach for the U.S. light vehicle market in the 1990s when the SUV gradually gained market share at the expense of sedans and minivans. Methodologically, our approach combines easily collectible household- level survey data with readily available aggregate market-level data in a unifying GMM framework. This approach not only enables us to identify how market structure evolves in the aggregate but also differentially across different segments of consumers. Substantively, we find significant evidence of market structure

dynamics in the 1990s. For instance, SUVs became increasingly competitive to cars (especially for higher-income households) and to vans (especially for smaller households); however, intra-group competitive within the SUV category intensified and became the major source of competition by the late 90s. On the other hand, vans became a more isolated, and more perceptually differentiated, competitive group. Although facing competition from SUV brands, such a threat is relatively low for higher-income households and larger households. Managerial implications for positioning and pricing are discussed.

3 - Calculating Product Differentiation Across Markets

Vera Magin, Doctoral Student, University of Mainz, Jakob Welder-Weg 9, Marketing Department, Mainz, D-55099, Germany, magin@marketing-science.de
Oliver Heil

A market's product differentiation is reflective of the similarity or dissimilarity of products marketed and their spatial locations. Classic and recent research investigated equilibria due to differentiation (e.g., Hotelling 1929; Eaton & Lipsey 1975). Assessing product differentiation is often limited to measuring the number of "variants' (brands, forms) within a product group while the similarity of the variants is largely ignored (Chamberlin 1933; Lancaster 1990). The substitutability of products appears to be an appropriate measure of product differentiation. However, its operationalization proves rather complex, esp. when it comes to the comparison across markets. Starting from a Hotelling-type market, we investigate a number of avenues to measure product differentiation. To do so, we focus on a one or two-dimensional attribute space. For reasons of parsimonious modelling, we compare basic and intuitively appealing product locations in spatial markets in terms of their degree of product differentiation. Interestingly, we are able to show that popular distance measurement functions such as the sum of Euclidean distances or the sum of city block distances contradict basic notions of product differentiation. Next, we aim to develop a measure of the degree of product differentiation. The measure will allow calculation of a maximum differentiation depending on the number of products marketed but also permits to assess the actual product differentiation in a given market.

4 - A Mixture Model Approach to Market Structure Analysis: Identifying Brand Associative Sets

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Maytal Saar-Tsechansky, Leigh McAlister

We extend the literature on market structure analysis by adapting the mixture model approach frequently used for customer segmentation to an analogous method for inferring market structure. In customer segmentation, latent class analysis is combined with brand choice models to identify groups of customers who have similar preferences across brands. By combining latent class analysis with customer-mix models, we identify brand associative sets, such that brands within an associative set exhibit similar relative attractiveness across the different customer types. We apply our approach to data describing MBA students' choices of elective courses and job placement. In this context, our "customers" are "students" and "brands" are "courses". When we compare the results to a model of student segmentation, our methodology reveals richer information about the attraction between courses and students than the student segmentation approach. Specifically, we are able to identify a latent associative set of courses that attracts an unusual m of students which could not be identified from observable characteristics. The methodology is useful for retailers who wish to tailor their product assortment to target certain types of customers. For example, our method could help catalog retailers customize catalogs to include products that are most attractive to certain types of customers and help brick-and-mortar retailers design store formats to display groups of products that appeal to the same customer types.

SB11
Room 301
Payoffs from New Product Development

Chair: Dmitri Markovitch
HEC School of Management, Marketing Department, Jouy en Josas, France, markovitch@hec.fr

1 - What Are the Financial Payoffs for Introducing New Products?

Barry Bayus, Professor, University of North Carolina, Kenan-Flagler Business School, Chapel Hill, NC, 27599, United States, barry_bayus@unc.edu
Wooseong Kang, Neil Morgan

The number of new consumer packaged goods introductions continues to grow each year (e.g., according to Productscan there were over 11,000 new products introduced in North America in 2004). At the same time, only a fraction of these introductions were considered to be innovative (e.g., according to Productscan, more than 93% of these introductions were not innovative at all). And, the failure rate of new product introductions has not improved over time, continuing to exceed 80%. In light of these statistics, it is critical to understand the actual financial payoffs associated with new product introductions (e.g., increase ROI/shareholder value and decrease business risks). Do companies obtain financial rewards from introducing new products? Are greater rewards always associated with more innovative products? How do the financial rewards from new product introductions differ across industries? To address these questions, we empirically analyze the effects of new consumer packaged goods introductions on the drivers of firm financial performance. As part of our analyses, we also consider the differential financial effects of more innovative introductions (e.g., due to new formulations, merchandising, customer segments, packaging benefits, positioning, technology). Further, our analyses allow us to explore differences across industries (e.g., food, beverage, health & beauty, household products).

2 - The Financial and Market Impact of Prescription Drug Withdrawals

Jason Zhang, Doctoral Student, University of Georgia, Terry College of Business, 148 Brooks Hall, Athens, GA, 30602, United States, qiyu@uga.edu
Srinivas Reddy, Chandrashekhar Sattiraju

The withdrawal of Vioxx, a multi-billion dollar drug by Merck, is surely a recent and spectacular example of a product withdrawal, but by no means unique. Over 20 prescription drugs have been withdrawn from the market since 1980, although the immediate financial impact is obvious with the loss of revenue and market value (Merck lost 27% of its value on September 30, 2004, the day of the announcement of the Vioxx withdrawal), the impact of such catastrophic product failure and withdrawal on other brands of the firm, and competing brands is not clear. In this research, we develop a framework for analyzing the financial and market impact of product withdrawal on firm's brands and its competitors. We empirically investigate the effects using a comprehensive database of 12 prescription drug withdrawals which includes monthly data on sales and marketing expenditures since 1996 of 1835 brands. In addition to investigating the impact on financial performance of the withdrawing firm, we look at the impact on marketing effectiveness of the firm and its competitors. Preliminary results indicate 1) a significant financial impact on the withdrawing firm, 2) a significant negative spillover effect on the sales of other brands of the firm 3) a significant positive impact on the sales of the competing brands, and 4) significant differences in marketing effectiveness after the product withdrawal.

3 - New Product Forecasting: The Stock Market as Crystal Ball

Dmitri Markovitch, HEC School of Management, Marketing Department, Jouy en Josas, France, markovitch@hec.fr
Joel Steckel

In this research, we examined the stock market's ability to evaluate the sales potential of a range of new products from different categories upon their announcement. We find that the stock market reacts incorrectly more often than one would expect from a market that is assumed to be highly efficient. We also examine some of the factors that might allow the market to make better predictions of new products' future potential. We find some evidence that firm size has a positive effect on the stock market's ability to react correctly to low-tech products and a negative effect on the market's ability to react correctly to high-tech products. Additionally, we find tentative evidence that the stock market displays better predictive ability with respect to new industrial products than new consumer products. We conclude by discussing our results and their implications.

SB12
Room 304
Diffusion II

Chair: Christophe Van den Bulte
The Wharton School, University of Pennsylvania, 3730 Walnut St. Philadelphia, PA, 19104, United States, vdbulte@wharton.upenn.edu

1 - Diffusion of New Labor Saving Industrial Products

Dan Horsky, Benjamin L. Forman Professor of Marketing and Area Coordinator, University of Rochester, CS-3210
Carol Simon Hall, University of Rochester, Rochester, NY, 14627, United States, Horsky@simon.rochester.edu
Sanjib Mohanty

In the marketing literature on the product life cycle, much emphasis has been placed on the roles of the innovation and imitation behavior of consumers but almost none on the role of the benefit that the product provides to the end users. While the innovation and imitation effect explain, to some extent, why consumers delay their purchase, they do not answer the basic question of why consumers would consider purchasing the new product in the first place. Moreover, in spite of over three decades of research on new product diffusion, little attention has been devoted towards the diffusion of new industrial products. In this paper, the diffusion of industrial products is modeled based on the evolution of the net benefits of the new products and the waiting behavior (resulting from unawareness and uncertainty) of the firms (consumers of industrial products). We focus on a particular class of industrial products - labor saving industrial products, and explicitly derive the benefit that the industrial consumers obtain from this class of products. Based on the profit maximizing behavior of the firms, a threshold for adoption is derived and an aggregate diffusion model is specified. The model is calibrated against at wide range of industrial and commercial products such as checkout scanners, ATMs, mainframe computers, robots etc. The results validate the hypothesis that the evolution of product benefits plays a key role in the diffusion process. The imitation effect turns out to be smaller than what it is usually thought to be.

2 - Modeling the Hype Curve of New Product Diffusion

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Amiya Basu

The Gartner Group, a provider of research and analysis for technology industries, observed that sales of high technology products exhibit a distinct early spike, followed by a smooth concave shape. This phenomenon, called the hype curve, represents a departure from unimodal sales curves predicted by diffusion models. Apart from the pronounced spike, the Gartner 'hype curve' is similar to diffusion curves obtained from traditional diffusion of innovation models. Traditional models of diffusion of innovation (Bass 1969; Rodgers 1962) posit that there are two types of adopters: innovators and imitators. Innovators are influenced by mass media, while imitators are influenced by word of mouth. To explain the spike observed in the hype curve, we extend the Bass (1969) framework by proposing two categories of adopters. The first category of adopters see enough value in the new product and adopt it as they become aware of it, through either mass media or word of mouth. These adopters give rise to the spike observed in the hype curve. The second category of adopters assign a value to products, depending upon the indirect network externality associated with each product. They adopt products only when the value exceeds a threshold, which varies across the adopters. Further, indirect externalities of the product increase with time as more complementary products become available. These adopters, who wait longer before adopting, represent the later, concave, portion of the hype curve. In the absence of indirect network externality, the proposed model reduces to the Bass model. We present analytical and numerical results, and discuss how to test the model empirically.

3 - The Virtual Bass Model and the Left-Hand

Data-Truncation Bias In Product Diffusion Studies Frank M. Bass, Professor of Management, Eugene C. McDermott University of Texas System, University of Texas at Dallas, School of Management, P.O. Box 830688 SM32, Richardson, TX, 75083-0688, United States, mzjb@utdallas.edu
Portia Isaacson Bass

The Bass Model (Bass, 1969) has been widely employed in forecasting early sales of new products and technologies prior to product launch using the "guessing by analogy" method. The p and q parameter estimates of the Bass Model for a (previously introduced) analogous product have been used to predict the diffusion pattern of the new product. In many cases, however, the historical data for early year sales are not available. Estimates based on left-hand truncated data will be biased. We demonstrate the prevalence of this bias in previous studies and present a method for dealing with it by exploiting previously unknown mathematical properties of the Bass model. We call this extension of the Bass Model the Virtual Bass Model. We show that for any Bass diffusion process with a given start time there is an equivalent process for any other start time. The Virtual Bass Model is of both theoretical and practical significance. In particular, we will show how to obtain the correct parameter estimates when the data are left-truncated. This permits us to develop a correct set of parameter values for guessing by analogy. We use the Virtual Bass Model to provide corrected estimates for a set of 39 products based on the true introduction date for each product. These corrected estimates will be useful for those wishing to use the "guessing by analogy" method.

4 - New Product Diffusion with Independents and Imitators

Christophe Van den Bulte, The Wharton School, University of Pennsylvania, 3730 Walnut St., Philadelphia, PA, 19104, United States, vdbulte@wharton.upenn.edu
Yogesh Joshi

We model the diffusion of innovations in markets where there is one segment that adopts independently with a constant hazard of adoption and a second segment whose adoption is driven solely by social contagion and whose hazard increases linearly with the proportion of prior adopters. This two-segment structure is consistent with several theories in sociology and diffusion research. We develop a general model that nests three specific models: one where only independents get imitated, one where only imitators get imitated, and one where all prior adopters get imitated. We present closed form solutions for all models. Two of the models can generate a dip or "chasm" between the early and later parts of the diffusion curve. Also, applying a standard med-influence or Bass model to data from a two-segment structure can generate the systematic changes in the hazard parameters documented by Van den Bulte and Lilien (1997). Empirical analysis of the classic Medical Innovation data, a set of music CDs, and a miscellaneous set of innovations indicates that the models fit better than the standard med-influence model when a two-segment structure is likely (or known) to exist.

SB13
Room 421
Bundling

Chair: Hyun Chung
ETRI, 161, Gajeong-dong, Yuseong-gu, Daejeon, Mt, South Korea, orihyun@etri.re.kr

1 - Modeling the Effects of Consumer Bundling

Renate Weissbacher, University of Hohenheim, Institue of Business Administration, Chair of Marketing (510 D), Stuttgart, BW, 70593, Germany, weissbac@uni-hohenheim.de
Markus Voeth

In the literature, group buying on the internet is only seen as a possibility for customers to gain price reductions. But consumer bundling can also be seen as a price instrument of the supplier. Then, the offered price depends on the number of customers that join for group buying. Moreover, positive effects for the supplier could be expected from this form of price discrimination which can be traced back to additional profit from new customers, decreasing costs caused by scale effects in production and lower finance costs caused by customers who buy earlier because of the consumer bundling offer. Since consumer bundling offers are not well established in practice, the disadvantages have also to be taken into account:

As the customers need to purchase the product together in groups, they have to search for other customers, coordinate the group members and have to make compromises concerning the product specification and the supplier from which they buy. We summarize these expenses as bundling costs. The supplier on his part faces the losses caused by customers who substitute their individual purchase by a group purchase.
Therefore, the contribution of this paper lies in designing a mathematical model which contains the relevant factors to evaluate the advantages and disadvantages for both parties concerning consumer bundling. In the following, we simulate the model for realistic business situations which allow positive outcomes for both parties. This is done for deriving optimal acting parameters in order to maximize the profits resulting from consumer bundling offers.

2 - The Analysis of Product Bundles: Methodology and Applications
Alberto Marcati, Professor, School of Management, LUISS Guido Carli University, Via Pola 12, Roma, 00198, Italy, amarcati@luiss.it

Bundling, i.e. the sale of two or more separate products in one package, is a common practice in many industries (Stremersch and Tellis 2002) and has been the object of continuous concern. Little attention has been paid however to the choice and the integration of products that make up the bundle itself. Such a gap need to be filled, because it has been shown that bundles are differentiated and, at times, hierarchical systems (Agarwal & Chatterjee 2003, Yadav 1994). The complex system of relations of different kind (complementarity and substitutability above all) established among components (Shocker, Bayus & Kim 2004), and the bundle architecture or configuration need to be investigated. To do so, we resort to "network analysis", that has found widespread application in the analysis of systems of relations in marketing (Iacobucci & Hopkins 1992; Henderson, Iacobucci, & Calder 1998; Iacobucci et al. 1996). By working with relations among objects in a system (i.e. products in a bundle), network analysis is able to find underlying structures and patterns within the overall system (density, core-periphery structures, components) and to analyze their individual positions (centrality, complementarity, substitutability, and the like). We provide an application to the tourism industry, where bundles (or "packages") play a very important role.

3 - Strategic Price Competition and Product Bundling
Subramanian Balachander, Purdue University, Krannert Graduate School of Management, W. Lafayette, IN, 47907, United States, sbalacha@mgmt.purdue.edu
Bikram Ghosh

Bundling, which is the practice of selling two or more products or services in a package, is a pervasive marketing practice and is often used as a strategic competitive tool. However, there has not been enough consideration of competitive bundling situations where exit of a competitor is not a concern. This paper aims to study the effect of strategic competitive considerations, other than entry or exit issues, on bundling strategies. Much of the academic literature on bundling has been devoted to studying the conditions under which bundling is an optimal selling strategy for a firm enjoying a monopoly in the bundled products. A second stream of literature has investigated the so-called leverage theory under which a firm using a bundling strategy can gain by inducing exit of the strategic competitors (Whinston, 1990). A third more recent stream of literature, which is most related to this paper, has studied the bundling strategies of oligopolistic rather than monopoly firms. In this literature, Chen (1997) shows that a firm may use bundling to reduce price competition in a market in which it faces strategic competitors. However, only one of the competing firms will bundle in equilibrium (unilateral bundling) in contrast to bundling by competing firms commonly observed in practice. Indeed, past literature suggests that multilateral bundling (bundling by more than one firm) is likely to dissipate the gains from bundling as firms tend to neutralize rival firms' bundling by engaging in bundling themselves leading to a prisoners dilemma (Tirole, 1988). We show that benefits from 'market expansion' to strategic competitors can lead to multilateral bundling.

4 - A Study on Value Evaluation of Bundled Services: In Case of Portable Internet Service (PIS) in Korea
Hyun Chung, ETRI, 161, Gajeong-dong, Yuseong-gu, Daejeon, Mt, South Korea, orihyun@etri.re.kr
Sung Soo Han, Chan Son

At the age of IT convergence, various converged telecommunication services have been emerging by bundling the new and existing services from different fields. For example, DMB (Digital Multimedia Broadcasting) and PIS (Portable Internet Service), yet to be introduced in Korea in the near future, would be the representative convergence services. A bundled service generally makes success only if it is able to provide higher consumer benefit than that from the sum of each separate service. Accordingly, what really matters here is how to design the service for taking full advantage of the synergy from bundling each stand-alone service. This research has the aim of elucidating the value of a bundled service differentiated from that of each separated service. For instance, several bundled sets like DMB and PIS, CDMA and PIS, VoIP and PIS, etc., have been evaluated against each component service respectively, from the perspective of a consumer's buying intention and the level of willingness to pay. It conclusion, by analyzing 1,000 responses surveyed from its probable users, this research points out the extent to which the value of a bundled service could be changed in accordance with the various compositions of the separate services. Such difference in value for the different bundled sets seems mainly attributed to the complementarities and the substitution effects among the component services.

SB14
Room 453
Services Marketing II

Chair: Amiya Basu
Associate Professor of Marketing, Syracuse University, Whitman School of Management, Syracuse University, Syracuse, NY, 13244-2130, United States, abasu@som.syr.edu

1 - Co-production for Mutual Benefit: Measurement and Determinants of Effective Customer Participation
Marion Buettgen, Assistent Professor, University of Cologne, Marketing-Department, Albertus-Magnus-Platz, Koeln, D-50923, Germany, buettgen@wiso.uni-koeln.de

Service production is an interactive process and its result depends to some degree on customer contributions, in terms of quality as well as efficiency. To make customers good co-producers for mutual benefit it is necessary to know 1) which kind of customer behavior characterizes beneficial customer participation, 2) which factors determine this kind of behavior, and 3) how to influence participation behavior in the desired way. Using a service setting which is characterized by a strong need for active customer participation (therapeutical weight training), a large study examines the appearance of desirable customer behavior and the way it is influenced by factors regarded to be necessary for effective customer participation (i. e. customer willingness and ability to participate, and service-related knowledge of the customer). Furthermore, the mediating role of these aspects is analyzed in relation to the service involvement and former experiences of the customer as well as the service providers' effort to qualify customers. The findings indicate that all components of relevant participation behavior (i.e. contributions to service specification, ultimate co-producing, and contributions to quality assurance) are strongly influenced by customer motivation, whereas customer ability and knowledge only have a moderate impact on one component (ultimate co-production). These effects are partially due to the service providers' activities for customer qualification, the customer involvement, and experience, again with a special emphasis on the motivational part of customer participation. Hence, managing customer participation is most promising when it focuses on customers' willingness to participate.

2 - Competing Models on Job Satisfaction, Affective Commitment & Service Quality of Frontline Employees
Avinandan Mukherjee, Associate Professor, Montclair State University, School of Business, Montclair, NJ, 07043, United States, mukherjeeav@mail.montclair.edu
Neeru Malhotra

This study examines competing models of directionality of influences between the three endogenous latent constructs of job satisfaction, affective commitment, and service quality of frontline employees in a service organization. They are modeled as concurrent perceived evaluations of a large sample of frontline customer contact employees of a banking call center. In addition, we examine the influence of two exogenous constructs - training (intrinsic motivation) and team support (extrinsic motivation). We present three competing models that explore the interrelationships between these constructs. Model 1 hypothesizes employee perceptions of service quality to positively affect job satisfaction and to increase the positive effect of affective commitment on job satisfaction. Model 2 is the more conventional competing model in which job satisfaction is seen as positively influencing service quality and affective commitment, which in turn positively influences service quality. In Model 3, affective commitment positively influences service quality and job satisfaction. Structural equation approach applied to the three competing models suggests maximum support for Model 1. There is least support for Model 2, while Model 3 receives moderate support. A non-recursive model examining reciprocal paths also suggests that service quality and affective commitment influence job satisfaction, but not vice versa. Results additionally indicate that defining customer contact employees on service quality, affective commitment, and team support may create groups that are more or less satisfied in their jobs; the most satisfied employees are those who are highly committed with high team support and who deliver high service quality.

3 - Consumers' Strategic Anticipation of Congestion in Capacity-Constrained Services

Benedict Dellaert, Maastricht University, PO Box 616, Maastricht, 6200 MD, Netherlands, b.dellaert@mw.unimaas.nl
Qi Han, Fred van Raaij, Harry Timmermans

Variation in demand may lead to congestion in capacity-constrained services. Previous research has mainly focused on different ways how firms may manage such congestion, including flexible booking and dynamic pricing. In contrast, this paper addresses the question if, and if so, how consumers anticipate strategically to such possible congestion. It develops and tests a formal game theoretical model of consumers' anticipation of congestion and the equilibrium that arises with anticipation. Empirical results from an experimental study across two different contexts, provide insight into how consumers incorporate strategic considerations regarding service congestion in their service consumption timing decisions, and the resulting distribution of demand over time.

4 - Service Quality Evaluation: An Information Economics Approach

Amiya Basu, Associate Professor of Marketing, Syracuse University, Whitman School of Management, Syracuse University, Syracuse, NY, 13244-2130, United States, abasu@som.syr.edu
Saad Andaleeb

Service quality evaluation has long been recognized as an important research area in marketing. The SERVQUAL framework (Parasuraman et al, 1988,1991) identifies five generic service attributes: tangibles, empathy, responsiveness, reliability, and assurance, that determine service quality and customer satisfaction with the service. We propose a theoretical framework to examine how the relative importance of the SERVQUAL dimensions may depend on the type of service and type of customer involved. Similar to Gronroos (1983), we model the value a customer receives from a service as the sum of two parts:
(1) The value of the core service. This depends on the technical quality of the service provider. Reliability, assurance, and tangibles relate to this value component.
(2) The value of how the service is delivered.
This is the interpersonal dimension of the service, and empathy and responsiveness relate to this value component. We propose that the customer can estimate the value of the service with an error, and evaluates service quality as the certainty equivalent of the service. We also propose that all customers can measure the quality of service delivery without error. However, the measurement of technical quality involves error, which increases if the customer is less familiar with the service involved, or if the service is more complex. We show that:
(1) If the core service is more significant to the customer, then reliability, assurance, and tangibles are more important.
(2) If the service is more complex, then assurance is more important.
(3) If the customer is less familiar with the service, then assurance is more important. Plans for empirically testing the model and preliminary results are presented.

Saturday, 1:15 - 2:45pm (Session C)

SC01
Room 130- Auditorium
Special Session: Optimizing Product Design and Customer Targeting

Chair: Theodoros Evgeniou
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Chair: Olivier Toubia
Columbia Business School, New York, NY, United States, ot2107@columbia.edu
Chair: John Hauser
MIT Sloan School of Management, United States, jhauser@sloan.mit.edu

1 - Optimal Realizable Product Line Design via Analytical Target Cascading

Fred M. Feinberg, University of Michigan, 701 Tappan St., E2422, Ann Arbor, MI, 48109-1234, United States, feinf@umich.edu
Peter Ebbes, Jeremy J. Michalek, Panos Y. Papalambros, Feray Adiguzel

A novel, turnkey solution to the Optimal Product Line Design problem is presented. Our approach formally coordinates two different types of model, performance models from Engineering design and consumer preference models from Marketing, via Analytical Target Cascading (ATC), a method new to the marketing community. ATC affords rigorous integration of formerly separate modeling disciplines - conjoint for preference elicitation, a general Hierachical Bayesian account consumer heterogeneity, and physical-geometric product design models - allowing them to efficiently intercommunicate. When combined with HB conjoint, ATC allows efficient gradient-based search of the product characteristic space to achieve both profit optimization and a line of products which are feasible to build. We use ATC to design a line of dial-readout scales, based on a full parametric representation for products in the line and web-collected conjoint choice data. Among the main results: (1) Product deemed 'optimal' by marketing may correspond to impossible engineering designs; (2) joint solutions obtained via ATC are superior to those obtained by the nearly-ubiquitous Marketing-then-Engineering approach; and (3) for product optimization, the form of heterogeneity matters, even when designing a single product. Because convergence is assured under ATC, we envision its use in a wide variety of product optimization contexts.

2 - Modeling Customer Response as Markov Decision Process to Optimize Marketing Campaigns: a Machine Learning Approach

Andre Elisseeff, Researcher, IBM Research Lab, Zurich Saumerstrasse 4, CH-8803 Rueschlikon, Rueschlikon, Switzerland, ael@zurich.ibm.com
Daniel Ramage, Giuliano Tirenni, Cesar Berrospi, bdel Labbi

Mass marketing recommender systems are usually designed in order to maximize the immediate profit. As the latter is not always aligned with long term objectives, such approach might be negative from a customer relationship perspective. In this talk, we will address the issue of modeling the dynamic of customer response over time with a Markov Decision Process. We will see how machine learning techniques can be used to handle the heterogeneous nature of customer information that is needed for such model. We will show an example of Markov Decision Process on real data and describe how it can be used for two applications: first, as an alert system by sending a signal when a marketing had a significantly negative impact in the past, and second as a campaign optimization system. The latter computes the sequence of marketing campaign to be planned in order to maximize long term profits. We will discuss under which condition such model is valid and how it links to conjoint analysis.

3 - To Discriminate between Marginal Consumers, Do Not Analyze Extreme Consumers

Ganaïl Bascoul, HEC School of Management, Paris, United States, ganael.bascoul@mailhec.net
Gilles Laurent

When segmenting a market between clients and non-clients, traditional discrimination tools such as logistic regression or Fisher discrimination give a very high influence to extreme cases (individuals with extremely high or extremely low probabilities), and a low influence to marginal ones (individuals with 50/50 probabilities). However, to increase market share, the marginal cases are those who need to be convinced, whereas extreme cases (positive or negative) may be impossible to change. As a consequence, the most valuable information necessary to increase a market share, the shortest way to obtain new clients, could well be identified by studying the individuals on the boundary, the marginal population, who are hesitating between buying and not buying. But, even if traditional tools implicitly assume it, variables differentiating extreme cases could differ from those differentiating marginal cases. For example, a message aimed at marginal cases could be greatly improved by better targeting it to the specific expectations of those marginal cases, rather than at those of extreme positive cases. Thus, before a two-party vote, while voters deeply loyal to a party may decide on the basis of traditional, grass-roots party messages, candidates may prefer to use more centrist arguments, often different from the previous ones, in order to convince the undecided voters, corresponding to the marginal cases, whose opinion is usually crucial to obtain the majority. To confirm this pragmatic intuition and propose a practical approach, the goal of our methodology is first to find and secondly to target potential marginal niches. Since they are margin-oriented and highly non linear, Support Vectors Machines significantly improve the determination of the marginal area over traditional discrimination tools such as logistic regression or Fisher discrimination. Since they are robust and particularly well-formulated, they outperform most of the artificial intelligence approaches such as neural networks. Once the marginal area is delineated, the well-defined local population can be analyzed either by running a traditional discrimination task on the basis of locally relevant variables, or, in case of a strong heterogeneity inside the area, by segmenting it. This can be done with Support Vector Clustering to preserve methodological consistency. Through some examples, we argue that too little attention has been paid to those silent minorities which could bring us new marketing segmentation insights, thanks to this fresh look on discrimination allowed by the SVM.

4 - Direct, Nonparametric Product Optimization Using Interactive Genetic Algorithms

Kamal Malek, Affinnova, Inc., United States, kmalek@affinnova.com
Kevin Karty, John R. Hauser

We present a system for optimizing products and concepts using direct, interactive search and optimization techniques, without resorting to the intermediate step of estimating a reduced parametric model of consumer choice. The methodology, Affinnova's IDEA™ system, relies on a multi-respondent interactive genetic algorithm running in real-time during the fielding period. Respondents interact directly with the genetic algorithm by making choices within choice sets generated by the algorithm. These choices provide the selection pressure that guides the search. The system is capable of finding optimal or near-optimal product solutions even within large, unbalanced attribute spaces, and in the presence of numerous interaction effects that would severely impair the accuracy of most linear utility models. The system also incorporates a real-time latent segmentation capability that makes it possible simultaneously to evolve different optimal solutions, reflecting multimodal and heterogeneous respondent preferences. We build on earlier simulation research that demonstrated the advantages of this direct approach. Specifically, we present a set of empirical findings obtained from a study for a new type of caffeinated nutrition bar. Two studies were conducted in parallel: one using the non-parametric optimization approach presented here and another using the current methods of measuring utilities with linear choice models - estimation with latent-class and hierarchical-Bayes regression, then optimizing products post-facto using commercial "market simulation" software. We test the optimized products from each approach with a discrete-choice runoff which relies on a fresh panel of respondents screened using the same criteria as the original ones.

SC02
Room 238
E-Commerce / E-Marketing V; Pricing

Chair: Hyongjae Rhee
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1 - Understanding Online Price Dispersion: Efficiency, Store Characteristics, and Longitudinal Analyses

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Pingjun Jiang

We investigate the reasons for online price dispersion. Results indicate that the observed online store heterogeneity cannot fully explain the price dispersion. Our analyses suggest that market share is more appropriately modeled as a cause, rather than the outcome, of store efficiency thereby supporting the view that unobserved store characteristics (e.g., trust and awareness) play a role in explaining price dispersion. We find no significant difference in efficiency between hybrid and purely-online stores. A positive relationship exists between the level of competition and average store efficiency within a product category. To examine the changes in the efficiency of electronic markets that resulted from the economic slow down of 2001, four comprehensive data sets of customers' perceptions on e-tailer services and prices were collected in October 2000, March 2001, June 2002, and July 2003. No significant efficiency change was found between October 2000 and March 2001, however, efficiency scores decreased significantly from March 2001 to June 2002 and from June 2002 to July 2003. This longitudinal analysis indicates that efficiency changes as consumers get more informed, suggesting a maturation of the online market over this time period. The nature of product information provided by online stores had the largest influence on store efficiency in year 2000, but the smallest influence in year 2003. Since 2001, perceptions of e-tailer services have become progressively less capable of explaining variations in price. However, differences in e-tailer efficiency do explain the bulk of the variation in customers' intention to shop again.

2 - Cross-Country Analysis of Price Levels and Dispersion Among Retailer Types

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Frank Jacob, Venkatesh Shankar, Frederic Jallat

Despite initial predictions about the "frictionless effect" of the Internet, many studies have found that price levels and dispersion are no lower online than offline and that multichannel retailers exhibit higher price levels and dispersion than pure-play or traditional retailers (e.g., Ancarani and Shankar 2004; Brynjolfsson and Smith 2000; Pan, Ratchford, and Shankar 2002, 2003, 2004). These prior studies, however, examined price levels and dispersion in a single country. Are retailer price levels and dispersion different across countries? We address this focal question. By knowing the relative levels of prices and price dispersion across retailers, we can gain insights into the nature of within- and across-retailer type competition across countries, thus adding a new dimension in price comparisons in online and offline environments. Retailer price levels and dispersion may be similar across countries because a) channel competition and the roles of channels are increasingly similar across countries; and b) the borderless feature of Internet can have a positive influence on the similarity of retailer pricing across countries. Retailer price levels and dispersion may also be different in different countries, because a) the adoption rate of Internet is different in different countries; b) consumer attitude toward the Internet may be different across countries; c) price sensitivities and competitive landscape may differ across countries. Thus, the relative levels of retailer prices and price dispersion across countries is an empirical issue. We

present an empirical analysis of retailer price levels and dispersion using data collected for different product categories (e.g., books, CDs) in different European countries, namely, France, Germany, and Italy.

3 - Price Acceptability in e-Marketplaces
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As e-marketplaces expand, some internet shopping malls are involved with severe price competitions and suffer shaky profit structures. Price dispersion is also observed among e-retailers. This implies a differentiated pricing of online goods and services in contrast to conventional off-line pricing should be necessary. One basis for solving the problem can include the knowledge of how customers accept pricing in online stores. Price acceptability is examined in the two dimensions: level of acceptable price and latitude of acceptable price range. A structural equation modeling is used to analyze relevant factors such as price consciousness and product involvement. As antecedents of the factors, customer characteristics and website characteristics are also examined. Derived managerial implications are discussed.

SC03
Room 234
Customer Satisfaction & Loyalty

Chair: Purushottam Papatla
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1 - The Effects of Service Failure and Service Recovery on Satisfaction in a Consumer Setting
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Cheryl Brown

In this study, the issues of service failure and service recovery were addressed within a consumer dry cleaning setting. Service failure was addressed at two levels. The first was an internal service failure, wherein the retail location forgot to send the items to the actual cleaning location. The second was external to the service provider in which the cleaning location forgot to send the items back to the retail/service location. Service recovery was addressed by either charging full price or offering a discount for the service. An initial sample size of 176 respondents was obtained and, after filter questions, a usable sample size of 124 respondents was used for this experimental 2x2 factorial design. Using attribution theory and research conducted by Bitner (1990), the researchers tested two hypotheses. The first was with regard to the customer's perception of firm control of the service failure leading to higher levels of dissatisfaction. The second was with regard to a firm's compensation for the service failure. The results support the hypothesis that a firm's compensation for the service failure increased levels of satisfaction, but did not support the hypothesis that an internal failure or external failure effected levels of satisfaction differently. The findings of this paper expand the knowledge of service recovery when handling different types of service failure.

2 - An Examination of the Relationship Between Awareness/Attitude and Behavioral Loyalty
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Kutlwano Ramaboa, Jeffrey Inman, Ian Durbach

Companies invest billions of dollars in marketing communications campaigns designed to improve brand awareness and attitudes. How predictive are these factors of what people actually buy? In particular, how predictive are they when consumers are subjected to in-store offers by competitor brands? Further, do factors such as market share, category involvement, and household demographics (e.g. age) moderate the potential impact of attitudes on choice behavior? To answer these questions, we test the relationship between awareness, brand attitudes, and purchase behavior under the moderating impact of category involvement and promotional offers in a field test using single source data from a shopper scanner panel. Respondents were surveyed for their attitudes to brands when they were recruited to join the panel. Brand choice was then recorded for 2.5 years.

In addition to awareness, the attitudinal variables in our analysis include consideration set (i.e., claimed use of brands in prior 3 months), brand evaluation of all considered brands, category involvement, and ambivalence. The marketing m variables include price, promotion, and type of promotion (e.g., discount, coupon, extra in pack). The stream of longitudinal choice data from the scanner data serves as our dependent variable. We estimate a hierarchical model with brand choice, price, and promotion in the first (longitudinal) level and awareness and attitudinal components in the second (cross-sectional) level. Implications for research and practice will be discussed.

3 - Reputation Management Online: The Role of Satisfaction, Expertise and Category Relevance on Consumer
Purushottam Papatla, Associate Professor, University of Wisconsin-Milwaukee, 3202 N.Maryland Avenue, Milwaukee, WI, 53211, United States, papatla@uwm.edu

The Internet has evolved into a major channel for product categories and services. One distinctive feature of this channel, relative to the traditional channels, however, is that it permits consumers to easily share their opinions regarding the products or services they purchased with others. Thus, for instance, online services such as epinions.com allow and, in fact, solicit, the opinions of consumers on a variety of products, services and brands. Similarly, new technologies such as blogging permit make it easier for consumers to discuss their product and brand experiences with others. It is, therefore, important for businesses to understand which consumers are more likely to share their opinions and why they do so. These are the issues that we investigate in this research. We assume that an individual's desire to share her opinions is affected by her personal, category and transaction related factors. Thus, consumers who are more knowledgeable about a category, or perceive themselves as being so, may be more interested in sharing that knowledge with others. This effect, however, is moderated by how involved the consumer is with the category. The more involved she is the more may be her interest in imparting her product knowledge to other potential users of the category. Additionally, whether or not a consumer wants to rank a product, service or retailer may also be affected by her experience in acquiring and consuming the category. Finally, a consumer's personal factors - for instance, how much time she has - may affect her interest and ability to engage in product-related discussions with other consumers. We propose a model based on this framework and empirically calibrate it for the search engine market.

SC04
Room 231
Pricing III

Chair: Luc Wathieu
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1 - Estimating the Compiled Value of 10+ Items with Different Prices
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Joost M.E. Pennings, Brian Wansink

How do people estimate the compiled value of a shopping basket containing ten or more items with different prices? And, how accurate are they? The information-processing literature suggests that short-term memory is capable of processing between five to nine chunks of information at a time. Consequently, when estimating the compiled value of 10+ items, it becomes too complex for people to rely on the exact recalled or estimated price levels of each individual item. If people cannot rely on the exact price levels of the individual items, how do they estimate the compiled value of the 10+ items? The purpose of this study is to gain an understanding of the value-estimation process of the compiled value of 10+ items. Two controlled lab experiments and a field study examine different estimation conditions favoring the use of a computational estimation strategy

referred to as the clustering strategy to estimate the compiled value of 10+ items. The empirical results show that people's value-estimation accuracy is driven by the difference between the reference and the actual value-per-item ratio of the items in the shopping basket. The estimation accuracy increases as the size of the difference between the reference and the actual value-per-item ratio decreases. A modeling procedure is proposed that simultaneously estimates consumers' estimation process and infers their reference value-per-item ratio. The strategies applied by consumers to estimate the value of shopping baskets influence consumer spending behavior and hence are of great interest for marketers. Facilitating the estimation process may increase consumers' shopping experience.

2 - Discovering Daily Price Rigidity and Price Adjustment Patterns on the Internet

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Robert Kauffman, Mark Bergen

We explore daily patterns of Internet pricing for the two major Internet retailers, Amazon.com and BN.com, using data on 377 books collected over a 449-day period in 2003-2004. We frame this investigation in terms of a key question: How rigid are prices on the Internet? We find evidence that daily price adjustment on the Internet is more flexible than daily price adjustment processes of traditional bricks-and-mortar retailers-every 90 days on average; price change activity varies by book category (average every 61 days for bestsellers to every 184 days on average for steadysellers); and, Amazon changes prices less frequently than BN. The former changes book prices every 222 days and the latter every 56 days on average. We argue that this daily price flexibility is consistent with the reduced physical costs of price adjustment on the Internet. Yet we also find pervasive patterns of price adjustment that cannot be explained by these reduced physical costs of price adjustment-from levels of price rigidity better described in months than in days, to variations in price rigidity across product categories and retailers. These patterns appear to be driven in part by demand considerations, as suggested by the differences in average times to change prices in different categories. As well, they may be driven by other competitive considerations, including organizational capabilities, the sophistication of the competition, a firm's chosen price/quality/service profile in the market, among other possible considerations—all of which may provide a basis for a variance theory of Internet-based price rigidity.

3 - The Perceived Fairness and the Efficiency of Used Car Markets

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This study examines the efficiency of used car markets. Two totally different sets of efficiency scores are obtained under two different consumer decision- making processes. It is found that distortions in the used car market are lower than previously thought. Cars with higher prices are perceived efficient when consumers set "price range" as he first criterion in their purchase decision process. Lower priced cars are considered efficient if "model year" is the first factor entering into purchase decision process. It is also found that the "price range" decision-makers perceive a much more efficient used car market than "model year" decision-makers do. If a decision has to be made among car models within a certain price range, European and Korean car models are better choices compared to American ones. However, when making choices among cars of the same model year, American car models are better choices than European and Japanese car models in a general sense. The segment of the secondary market with the older version car models tends to have higher average efficiency compared to the segments with newer versions. Furthermore, the correlations between the efficiency scores and customer ratings across car models from 1994-2001 are all negative. Evidently, the high-efficiency car models are not getting the high overall ratings from customers. However, the significant and positive relationships between customer ratings and car prices indicate that car models better rated by consumers are indeed charged higher price. Managerial implications for producers and advices for consumers are derived from these findings.

4 - Price-Dependent Discrepancy between Intention and Behavior

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Marco Bertini

When confronted with a brand that offers a unique benefit, consumers are often uncertain as to whether this benefit is meaningful to them. In an earlier paper, Wathieu and Bertini (2005) introduced a model of consumer behavior demonstrating that the involvement decision - whether consumers think more about the personal relevance of the offered benefit ñ critically depends on the posted price. Formalizing and extending research on categorization, the authors have shown that when price is viewed as a stimulus to think a profit maximizing firm should (a) price away from intended willingness to pay, and (b) reduce consumers' cost of thinking by setting up trial opportunities and investing in 'projective' advertising. This paper presents an empirical test of these behavioral predictions and derives new prescriptions in terms of the measurement of demand. Using experiments we first analyze the relationship between price differentials and the decision to think, demonstrating the existence and dynamics of thought-provoking prices. This effect of price on thinking is likely to be a major cause of the well-documented discrepancy between purchase intention and behavior. Additionally, it challenges existing methods of measuring willingness to pay. To address this last issue, the second part of the paper introduces and tests a descriptive measurement methodology that adjusts purchase intention data to reach a more effective prediction of purchase behavior.

SC05
Room 201
Multiple Channels of Distributions III

Chair: Ursula Sullivan
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1 - Managing Customer Channel Adoption

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V Kumar, Nalini Ravishankar

Serving customers through multiple channels is widely recognized as a profitable business model. Identifying when a customer would adopt an additional transaction channel is critical for effective execution of targeted channel migration campaigns. In this study, we propose a framework for predicting the duration for customers to adopt an additional transaction channel. We identify various drivers of the duration for adopting an additional channel that are broadly classified as customer purchase behavior, supplier specific factors, and customer heterogeneity. We also investigate whether customers exhibit learning, or inertia in their channel adoption rate. We use the customer database of an apparel manufacturer who operates through three different channels to conduct our empirical analyses. Among the customer purchase behavior factors, we find that the customer revenue, cross buying, returns and prior channel choices influence the channel adoption rate. Among the supplier specific factors, we find that the duration to adopt an additional channel decreases at a diminishing rate with an increase in the number of contacts the supplier makes with the customer. We find that customers vary widely with regards to how their adoption rate develops. A quarter of the customers exhibit learning in their adoption rate, while another quarter of the customers exhibit inertia in their adoption rate. Interestingly, a quarter of the customers who are slow but steady in their adoption rate provide the highest ROI. Our study emphasizes the need to recognize the dynamics in customer channel adoption process when designing targeted channel migration campaigns.

2 - Managing Multiple Channels Of Distribution In Industrial Markets

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William Qualls, Tianjiao Qiu

The recent proliferation of channels in industrial markets has been noteworthy for many years. Depending on the industry, the number of channels used to reach customers has doubled or even tripled! Regardless of the various modes used to reach customers, they each require a concerted effort by the company to provide all the right contact points with its customers. For the firm, knowing which contact points to maintain should be dependent on the needs of the customer and the relationship that has been established with that specific customer. Otherwise, the multiple channels that a firm establishes could in fact be too many or not enough, thereby leaving the firm with inefficient investments. The focus of this research is to first understand the motivations for offering multiple channels in the marketplace. Second, we try to determine if having multiple channels does result in a more successful company. Ideally, customers use and frequent all the different channels that companies offer. However, all customers are not alike and so we include customer orientation variables in our analysis to understand the effect of linking different types of customer relationships with multiple channel strategies. Some of the preliminary findings from our research suggest that the main benefit of multiple channels is to generate customer traffic; however, the biggest challenge is maintaining the same pricing across channels. In addition, customer orientation does matter, especially for maintaining consistent pricing and product offerings across channels. Finally, companies that have more similar marketing activities across channels tend to have above average sales performance than companies with dissimilar activities.

3 - The Impact of the Internet Channel Introduction in a Market with Competing Manufacturers

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Eunkyu Lee

This study investigates the impact of the introduction of the Internet channel to a market composed of two competing manufacturers marketing partially substitutable products using various channel structures. The situation before the Internet channel is modeled as either the exclusive channel structure (McGuire and Staelin 1983) or the common retailer channel structure (Choi 1991). The equilibrium solution for this situation is compared against that for the situation where one of the channel members has added an Internet outlet to expand the distribution channel. We conduct this "before vs. after" comparison for varying degrees of product and outlet differentiation while allowing for multiple alternative channel structures involving the Internet channel and, in the process, analyze the moderating effects of product and outlet differentiation on the impact of the Internet channel introduction on each channel member. To conduct this analysis, we develop a three dimensional spatial model that explicitly captures heterogeneous customer preference in terms of product position, physical store location and outlet type. Demand functions are derived from this spatial model for varying degrees of product and outlet differentiation, and for various channel structures. Due to the complexity of the derived demand structure, the model is analyzed numerically for equilibrium solutions. Our results generally show that channel structure and the degrees of product and store differentiation are important factors determining the impact of the Internet channel introduction. Interestingly, we find that the Internet channel added by one manufacturer might benefit the other manufacturer if either the competing brands or the competing physical stores are highly substitutable.

SC06
Room 204
Customer Relationship Marketing III

Chair: Praveen Kopalle
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1 - Timing and Targeting of Promotions

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Vincent Nijs

Mass-marketers are increasingly realizing that much of their marketing expenditures are wasted on deaf ears. An alternative approach is for manufacturers to work with retailers and utilize the value of frequent shopper databases. To understand when a consumer should be targeted for a promotion, we study three essential components of consumer's purchase decisions: purchase timing, purchase quantity and brand choice. Building on previous work by Jain & Vilcassim (1991), Chintagunta (1998), and Ailawadi & Neslin (1998), we posit that the timing of marketing actions should be based directly on an understanding of the interrelations of these elements. We develop hypotheses on the potential influence of various consumer, brand, and market characteristics on the marketing timing and targeting decision and test these hypotheses on a frequent shopper data base of over 30 categories in two stores. We argue that frequent shopper databases contain a wealth of information about consumers and provide an information resource that is currently greatly underutilized. We use extensive simulations to generate a series of recommendations to managers regarding the timing and targeting or price promotions.

2 - Imputing Customers' Share of Category Requirements

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Wagner Kamakura, Carl Mela

Most customer valuation approaches apply in contexts where customers interact with a single provider (or transaction data from competing firms are not readily available). As customer relationships develop across multiple firms, firms' internal databases provide a less complete (if not biased) view of the customer. For example, customers may exhibit greater potential value than indicated by internal records if they transact a considerable volume with other firms. Thus, in determining a customer's potential value and therefore the appropriate marketing treatment, it is desirable for a firm to have accurate estimates of the customer's category requirements fulfilled by competing firms, or, simply put, her share of category requirements with the focal firm. In the context of the consumer banking industry, we develop a Multivariate Latent Factor Model that a bank can use to impute a customer's holdings of financial products outside the bank, based solely on internally available data. We use a proprietary data file provided by a major US bank. This data file contains records of internal transactions for over 35,000 customers. The bank has supplemental information for these customers regarding their holdings of competitor financial products. From this sample, the objective is to estimate competition-fulfilled category requirements for the remaining customer base. The empirical results are encouraging as holdout-sample predictive performance is great. Our method can be readily adapted for implementation in industries such as retailing, insurance, telecommunication, etc.

3 - An Empirical Investigation of Customer Satisfaction for Out-Sourced Service Center

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Shibo Li, Rong Zhou

Early adopters of contact center outsourcing have shown that dramatic cost savings can be achieved by outsourcing contact center operations. What are the implications on customer satisfaction, retention and long-term profit? In this paper, we provide empirical evidence on customer satisfaction and retention for off-shore service centers; Second, we propose a model of optimally matching customers with service centers that incorporates adaptive learning of customer heterogeneous preference, comparative advantage of off-shore service centers and temporal trade-off between short-term cost benefit and long-term dissatisfaction consequence; Third, using the proposed framework, we analyze relationship between call allocation, service duration, satisfaction, retention and profit as well as that between short-term cost benefit and long-term customer relationship consequence. Finally, we suggest an algorithm that integrates adaptive CRM, optimization of profit with operation management.

4 - The Impact of Airline Reward Programs on Customer Purchase Behavior: A Dynamic Structural Model

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Scott A. Neslin, Baohong Sun, Vanitha Swaminathan

Reward programs often require the customer to make two decisions: (1) Should I purchase from this firm? and (2) Should I cash in the reward due to me based on my accumulated purchases? Examples include airline frequent flier programs and hotel loyalty programs. These decisions affect the sales levels in two ways (Taylor and Neslin 2005). Under the "points pressure" effect, customers are motivated to purchase more in order to earn the opportunity to cash in a reward. Under the "rewarded behavior" effect, cashing in a reward creates affect that translates into increased future purchasing. We develop and estimate a model of the customer's decisions to purchase from the firm and to cash in the rewards he or she earns. The model includes the following phenomena:

- Customers take into account the future ramifications of their decisions in deciding what to do in the current period.
- Customers are heterogeneous in their loyalty to the brand.
- Customers are heterogeneous in their valuation of rewards.
- As the customer's point total gets closer to a reward level, he or she will be more likely to choose the brand (the points pressure effect).
- Purchase and cash-in behavior create state dependence influencing future purchase levels (the rewarded behavior effect).

The model is formulated as a dynamic structural model, i.e., we assume the customer's decisions can be represented by a stochastic dynamic program. Uncertainty arises with respect to the customer's need for future flights. We apply the model to data gathered from an airline's frequent flyer program. We estimate the model and discuss the results and their implications.

SC07
Room 207/208
Branding; Consumer Behavior

Chair: Jenni Romaniuk
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1 - Antecedents of Brand Loyal Behavior: Investigating the Influences of Brand Attitude and Brand Belief

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Despite a plethora of studies on brand loyalty spanning over last three decades, the research paradigm is unique in its inability to produce generalizable results. The research suffers from a lack of agreement over the operationalization of the construct of the brand loyalty. Most researchers have defined brand loyalty only from a behavioral perspective. It is assumed that repeat purchasing can capture the loyalty of a consumer towards the brand of interest. Other researchers (e.g., Day, 1969; Jacoby, 1971; Dick and Basu, 1994; Baldinger and Rubinson, 1996), however, have cast a doubt on this practice because it fails to distinguish between "spurious loyalty" as captured by the behavioral patterns and "true loyalty" that extends beyond the regular purchasing of a brand. They have suggested that attitude should be included along with behavior to define loyalty. In particular, Dick and Basu (1994) were precise in suggesting that a favorable attitude and repeat purchase were required to define loyalty. By viewing loyalty as an attitude-behavior relationship in their framework, Dick and Basu (1994) were able to investigate the concept from a causal perspective thereby permitting the identification of the antecedents of loyalty. Their research, however, offers only a theoretical framework, and thus validation through empirical results is still awaited. Our research is an extension of the idea proposed by Dick and Basu (1994). We propose a conceptually clear, and operationally meaningful way of segmenting the market on the basis of not only the behavior patterns (i.e., single-, multiple-, and non-users) but also on the basis of the antecedent attitudes that govern this behavior. Finally, using a unique survey data that includes both behavioral (purchase) patterns and attitudes of the respondents for all major brands of tooth paste, we demonstrate a generalizable pattern of brand specific attitudinal loyalty across all brands of a consumer product category.

2 - Stretching the Bounds of Credibility: How Far can you go and How Much Does it Hurt your Brand?

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John H. Roberts, Gary Lilien

The new Honda Accord hybrid claims to be a "surprisingly fuel efficient 255 horsepower" car (Newsweek, Nov 22, 2004 p 54). This combination of high fuel economy and power is deemed surprising because the commonly-observed negative correlation between power and fuel efficiency makes this new combination unexpected. We investigate how the consumer absorbs such an unexpected combination and reacts to it. Specifically, the consumer must reconcile the brand claim of high fuel efficiency with an inference of low fuel efficiency based on its commonly-observed negative correlation with high horsepower. We call such a situation incoherence, where a consumer must integrate inconsistent or unlikely combinations of information from a number of sources. We show that it occurs frequently in the marketplace in different forms. We develop a formal model of the effect of incoherence on the consumer's perception of attribute levels, uncertainty, and preference. Our model implies that a product that combines positively valued attributes might increase some elements of preference for the brand, but if those attributes occur in unexpected combinations, incoherence will also increase uncertainty about the brand's attributes, and potentially lower other elements of preference. The net risk-adjusted evaluation of a brand in our model accommodates both the benefit of what is being offered and the uncertainty associated with incoherence. We derive implications of the model and provide an empirical test that supports them. We discuss the implications of the model for brand repositioning and for new product development.

3 - Categorization Effects on the Competitive Positioning and Elasticity Structure of a Product Category

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Lea Michaelis

Context effects can be a major influence on brand choice behavior after a new product introduction. We apply an approach of internal market structure analysis to measure context effects caused by a new product entry in scanner panel data. An empirical investigation reveals strong support for categorization effects and changes in perception, which affect customers in two out of five segments. We observe increasing own and cross-price elasticities due to the appearance of the new brand. Decreasing differentiation is beneficial for some of the brands whereas other competitors are significantly harmed by categorization.

4 - Quantifying the Pareto "Share" of Brand Knowledge

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Byron Sharp

Knowledge about the brand held by consumers in memory has long been considered to underpin at least part of brand equity. This knowledge is considered organised as an associative network, comprising of interlinking brands and associations. One aspect of this knowledge is the size or richness of the network of associations linked to the brand name. Using the common measurement method of a free choice, brand attribute association measurement (where a brand is either associated with an attribute or not), we applied the Pareto share calculation to identify the contribution of the top 20% of knowledge holders within a brand's customer base. In analysis across 160+ brands in 19 markets we identified a new empirical generalisation that the 20% of brand users with the most knowledge about a brand hold about 40% of the total knowledge about the brand (with the other 80% of brand users holding the remaining 60% knowledge). Brand knowledge was similarly distributed for each brand, irrespective of the market (packaged good, durable or service), or brand history (length of time in the market, marketing strategy etc). Larger market share brands differed from others only in that their knowledge was distributed across many more peo-

ple, not in how that knowledge was distributed. These empirically generalisable patterns complement that found in buying data and reinforce the importance of wide reaching marketing communication activities to at minimum reinforce current knowledge about the brand.

SC08
Room 338
Customer Satisfaction

Chair: Roger Betancourt
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1 - The Application of Emotional Labor to Service Development and Its Customer Satisfaction Effect

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The concept of emotional labor and their effects on service marketing area has received considerable attention in recent years, with most studies of satisfaction. Although the effects of the emotional labor for service encounters are well documented in academic field, its application to a given brand in practice has been relatively rare. So we aim to fill this gap by applying an emotional labor concept to practical service marketing area for the first time. This study involves the rigorous development of a 15 item scale, the Stock Service Emotional Labor Scale, to measure the emotional labor that service encounters perform at the truth-of-moment. The securities company of Daewoo group has conducted the customer satisfaction. We integrated the customer satisfaction data to the Stock Service Emotional Labor data. The mixture model was applied to the integrated dataset and identified four segments. Each customer segment shows the unique degree of emotional labor and customer satisfaction level. Especially, we identified three types of service-acting level that service encounters perform: surface acting, deep acting, and genuine acting. This study found that both deep acting and surface acting lead to positive customer satisfaction and work outcomes, but genuine acting leads to negative. Further, deep acting plays an important role in determining employees' work outcomes. Based on these significant findings, we can suggest that differentiated service programs should be developed to each segment. We observed that the segments respond uniquely to service education program and show different customer satisfaction index. Finally, the implementation of emotional labor concept supports that company can allocate marketing resources comprehensively and efficiently.

2 - Personalization in Mobile Commerce Technology: Antecedents of Consumer Satisfaction and Delight

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The advancement of wireless technology facilitates both consumers' activities and business transactions. One goal of mobile commerce companies is to build customer satisfaction and loyalty by integrating the technique of customer relationship management. Personalization is the use of technology and user/customer information to customize multimedia content aiming to match with individual needs and ultimately deliver customers' or users' satisfaction and/or delight. Personalization has emerged as a key strategy to unlocking the customer's loyalty in mobile service businesses. The objective of the article is to examine satisfaction and delight derived from using personalized applications and services in the context of mobile commerce. Data were obtained from the survey with 200 respondents and were analyzed using a two-step SEM approach: measurement model (internal consistency, convergent and discriminant validity) and structural model (path coefficients). Results indicate that the amount of generalized messages customers received has neither effect on customer satisfaction nor customer delight. Further, it was the preference of multimedia messages that increased only customer satisfaction but not customer delight. However, both perceived usefulness of personalized message and text messages could make customers satisfied and increase customer delight. Contributions have been made to theories of technology acceptance and media richness as well as to practitioners. Specifically, practitioners should be cautioned that most consumers might not yet be sophisticated enough to expect what is ahead of them. On the other hand, some sophisticated consumers might demand a richer media to experience a "delightful" emotion.

3 - Determinants of the Shape and Strength of the Satisfaction-Loyalty Association

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Sri Deepak, Thomas Gruca

Marketing theory and managerial practice suggests that satisfied customers remain loyal and as satisfaction increases so does loyalty. However, a decade worth of American Customer Satisfaction Index (ACSI) data questions this empirical generalization. First, most firms exhibit a non-linear association between customer satisfaction and loyalty over the period under consideration. Second, most firms exhibit loyalty levels that are below those predicted by theory. Third, significant industry and sector differences exist. Finally, these phenomena are persistent over the period analyzed. This study extends our understanding of the association between satisfaction and loyalty by analyzing the determinants of the shape and strength of the satisfaction-loyalty association. We draw extensively from the industrial organization and strategy literatures to develop a framework and set of product (e.g. inter purchase cycle, category), firm (e.g. brand portfolio size, direct to customer, services) and structural characteristics (e.g. level of competitiveness, demand patterns) faced by businesses that explain the nature of association being investigated. We estimate the model using hierarchical Bayesian regression and determine the shape and strength of the satisfaction-loyalty association. Additionally, we use a variance decomposition method to compute the percentage of variance accounted for by product-firm-structural characteristics. Based on our results, we assess potential managerial implications.

4 - The Role of the Consumer in Retailing, Distribution Services and Determinants of Customer Satisfaction

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This paper brings together two bodies of literature in retailing: one on the special role of the consumer in retailing and another on the measurement of customer satisfaction in retailing. This is done by identifying distribution services as outputs of retail firms and fed inputs into the production functions of consumers. This yields a conceptual framework for the analysis of the determinants of customer satisfaction. Implementation of this framework with supermarket data shows that at least three of the five categories of distribution services identified in the literature are economically important and statistically robust determinants of customer satisfaction. Improving the treatment by employees and the cleanliness and orderliness of the store is the most powerful mechanism for affecting customer satisfaction in these supermarkets. In terms of the main practical result, a one unit increase in an index capturing this mechanism can generate a yearly increase in sales of $3989 in a typical Pamplona supermarket.

SC09
Room 334
Conjoint Analysis

Chair: Min Ding
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1 - Using Upgrading Auctions for Eliciting Preferences for Products with Massive Attributes

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Young-Hoon Park, Min Ding

The complexity of massive number of attributes and/or levels within each attribute has been a nagging problem in implementing conjoint analysis in

realistic contexts. Such complexity imposes tremendous burden on the respondents, degrades the data quality, and leads to spurious preference structure and managerial insights. The self-explicated approach, one common solution to this problem, suffers several such limitations as likelihood of double counting and the hypothetical nature of questions. We propose an innovative approach, upgrading auctions, that will combine the advantages of self-explicated approach and decompositional approach (such as conjoint analysis), to address the challenge of uncovering preference for products with massive number of attributes/levels. This approach also ensures it is incentive compatible for the respondents to reveal their true preferences. Respondents under this new approach will be first endowed with a basic version of a product, and then go through n (n equals the number of attributes) rounds of auctions to upgrade their endowed product to a configuration they like better. In each round of auction, they will simultaneously participate in m (m is the number of levels for that particular attribute minus 1) auctions, one of the successful bids will be randomly chosen for upgrading purpose at a given round. Respondents will start with the upgraded version in the next round. We implemented this approach for the digital camera with 21 attributes, and out-of-sample predictions (selection from a twenty-camera list) are compared between the upgrading auction approach and the self-explicated approach.

2 - Self-Modeling Functional Data Analysis in Consumer Research

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Xin Ge

Marketing and consumer researchers often wish to estimate a relationship between consumer inputs and outputs. For example, how is consumer preference influenced by price and other product attributes? Much marketing research is meant to estimate such functional relationships. However, three difficulties must be overcome.
1. The proper functional form is unknown. For example, are main-effects of mix variables sufficient or are two-way interactions also required? Are the effects of variables linear or nonlinear?
2. It cannot be assumed that consumers have identical functions, even after estimating the effects of observed consumer characteristics on functional coefficients.
3. Individual-level data are not plentiful, either because the data are naturally occurring (as in scanner panel data) or else because of the risk of consumer wear-out (as with lengthy conjoint tasks).
This presentation will illustrate the use of self-modeling functional data analysis (SMFDA) to help overcome these difficulties. Given suitable data, the method can be implemented using ordinary structural equation modeling (SEM) software. The efficacy of SMFDA is demonstrated using conjoint ratings data.

3 - The No Choice Option and Dual Response Choice Designs

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Kate Karniouchina, Jeff Brazell, Pierre Uldry

Choice set designs that include a "no choice" option have increased efficiency, may better mimic consumer choice processes, and allow one to model changes in market size. However, when the no choice option is chosen no information is obtained on the relative attractiveness of the available alternatives. One potential solution to this problem is to use a dual response format in which respondents first choose among a set of available alternatives in a forced choice task and then choose among the available alternatives and a no-choice option (i.e., a free choice task). Agreement between the coefficients estimated from dual response and traditional designs is a function of the extent to which the addition of a no choice alternative violates IIA, i.e., whether the no-choice option draws proportionately from the available alternatives or not. Dhar and Simonson (2003) ran a series of experiments in which a choice is made among two or three alternatives described in terms of two attributes. They found that the addition of a no-choice alternative systematically violated IIA in most of their experiments. However, it is possible that a larger number of attributes, repeated choices, and non-dominated alternatives will make this less of an issue with choice-based conjoint analysis. This paper examines the extent of IIA violations in a dual response task and provides validation evidence of dual response versus traditional methods using experimental data. A simulation compares the efficiency of a dual response and traditional choice-based conjoint tasks when there are different levels of choosing the no-choice option

4 - Truth-Telling Mechanisms for Conjoint Analysis

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Recent literature has shown that conjoint data collected in hypothetical environment have much lower external validity than do data collected in an incentive-aligned environment. This paper proposes new mechanisms, within the framework of incomplete information games, to incentive align participants in conventional conjoint analysis under conditions easily satisfied in practice. The theoretical mechanisms are tested empirically using controlled experiments, with a realistic external validity (holdout) task.

SC10
Room 331
Choice Under Uncertainty

Chair: Edward Fox
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1 - The Effects of Effort and Intrinsic Motivation on Risky Choice

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People often need to trade off between the probability and magnitude of the rewards that they could earn for investing effort. The present paper proposes that the conjunction of two simple assumptions (relating effort-induced reward expectations to prospect theory's value function) provides a parsimonious theory that predicts that the nature of the required effort will have a systematic effect on such tradeoffs. Using the case of frequency (or loyalty) programs, a series of five studies involving both real and hypothetical choices demonstrated that (a) the presence (as opposed to absence) of effort requirements enhances the preference for sure-small rewards over large-uncertain rewards; (b) the preference for reward certainty is attenuated when the effort activity is intrinsically motivating; and (c) continuously increasing the effort level leads to an inverted-U effect on the preference for sure-small over large-uncertain rewards. The studies also employ process measures and examine the mechanisms underlying the impact of the effort stream on the tradeoff between the certainty and magnitude of rewards. The final section discusses the theoretical implications of this research as well as the practical implications with respect to frequency programs and other types of incentive systems.

2 - Temporal Effects On Preference Uncertainty: The Role Of Unobserved Stochastic Variation

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Consumers routinely purchase single or multiple items at one point in time for future consumption; for example, vacation packages and groceries. People's choices among multiple items exhibit greater variety when those items are chosen simultaneously, as a group, before consumption versus when each item is chosen, then consumed, sequentially, one at a time. Because time delay tends to increase stochastic variation and thus future preference uncertainty, it can lead to increased variety in repeated choice for future consumption. Much consumer research focuses on deterministic theories of behavior, treating stochasticity as noise, even though it may account for most of the observed variation. We examine stochastic variation in consumer choice behavior stemming from time delay between choice and consumption. In a random utility setting, we prove that

increasing unobserved stochastic variation decreases the probability of choosing one's most-favored alternative, and increases the probability of choosing one's least-favored alternative. Using a HEV choice model to account for temporal differences in stochastic variation, we find strong empirical evidence that time delay between choice and consumption increases unobserved stochastic variation in consumers' anticipated future utility. This difference in preference uncertainty leads, in turn, to greater choice variety. We also demonstrate that one would need impractically large sample sizes to observe statistically meaningful differences in choice via the traditional (regression-based) measures commonly used in consumer behavior research.

3 - Reverse Time-Inconsistency

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Dynamic or time-inconsistent preferences refer to the cases where individuals state preferences for a particular option in the future, but when an option is imminent, another alternative may be preferred. Previous experimental findings on time-inconsistency are all in the same direction: decision maker prefers a later and superior prospect over an earlier and inferior one at the outset, but prefers the earlier one as it becomes imminent. Individuals seem to overweight immediate options relative to more distant ones, and they become progressively insensitive to delays in the long-run. In this paper, we provide evidence for another type of inconsistency. Individuals may sometimes prefer a smaller-earlier future payoff to a larger-later one, but preferring the latter as they draw near to the earlier payoff. We use the term reverse time inconsistency to designate this phenomenon. This intertemporal preference pattern, to our knowledge, has not been reported before. Our findings from a number of empirical studies suggest that reverse time-inconsistency occurs in a variety of contexts. It seems that that size of the payoffs and delay times interact to generate reverse time-inconsistency. Furthermore, there are gender differences in time-inconsistent preferences.

4 - Comparing Economic and Psychological Models of Consumer Choice under Uncertainty

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John Semple, Suzanne Shu

There are many models of consumer choice under uncertainty. Some of these models assume economic rationality on the part of the decision-maker, others incorporate psychological factors which may affect the consumer's choice. In this paper, we model consumer choice in the context of a shopper visiting two grocery stores in a single day to buy a predetermined list of items, and focus on those items which are available at both stores (see Fox and Hoch 2005 for a description of this behavior). Based on the theory of search for several goods (Burdett and Malueg 1981; Carlson and McAfee 1984) we model the consumer's decision to either (1) buy products at the prices observed in the first store visited, or (2) defer purchase to the second store, where products are purchased at the prices encountered there. We develop two utility-based choice models: one a rational economic model that allows for risk aversion, and the other a comparable model which allows consumers to derive transaction utility from their purchases (Thaler 1985). Econometric specifications of these two models are estimated using syndicated panel data, and their fits are compared. A mixture model nesting the two structural specifications is also estimated, permitting the identification of households that derive transaction utility in this choice context. We find that these households pay more on average than those whose behavior is consistent with the rational economic model. Moreover, because households that derive transaction utility will forego savings in order to enjoy utility from being "smart shoppers" (Schindler 1987), these consumers also increase the social welfare.

SC11
Room 301
Strategy and Innovation

Chair: Alina Sorescu
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1 - Why Innovation Leads to Increasing Escalation of Commitment

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William Boulding, Richard Staelin

Many researchers (e.g. Boulding, et al 1997) have investigated the phenomenon of managers tending to remain committed to a losing course of action i.e. escalation of commitment. We see escalation in important marketing domains like new product development (NPD), channel additions etc. The problem of escalation is more pronounced in more innovative NPD domains (Schmidt and Calantone 2002). We investigate why, in more innovative NPD domains, escalation is more pronounced. We draw on prior work in psychology (e.g. Langer 1975) and real options (e.g. Adner and Levinthal 2004) and propose that increased escalation is due to two factors, both of which are more salient in innovative NPD contexts. Firstly, it is often unclear which market the product is best suited for. Hence if the innovative product does not succeed in its initial target market, the firm can seek out alternative markets wherein the product may be successful (the lure of boundless possibilities). Secondly, if the product does not succeed initially, the firm can invest further resources (e.g. more R&D) to increase the possibility of future success (the lure of the strength of managerial intervention). It is this impossibility of "proving failure" i.e. the very fact that we are unable to use initial negative signals to rule out the chances that the innovative new product will be successful in other markets and/or be successful after further product improvements, that leads to increased incidence of escalation. We estimate the magnitude of these two factors using two controlled experiments, simulating both a typical new product introduction scenario as well as a stylized new service introduction scenario. We include line managers as subjects so as to increase the external validity of our findings.

2 - Investigating Market Boundaries

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Kim Serota, Andrew Baker

In the seminal work on market structures, Day, Shocker and Srivastava (1979) conclude, with, "the most persistent problem is the lack of defensible criteria for recognizing boundaries" (p18). While the literature on market structure and choice models has grown, there are a limited number of papers on tackling the issues of identifying and managing boundaries. The issue of market boundaries is important given the co-integration of seemingly separate industries with separate origins but overlapping applications such as computing, communication and entertainment. The battle between Napster.com and the well entrenched companies in the music industry illustrates new problems in conducting a strategic analysis. Similar Competitive actions are being formulated and financed for a variety of other industries such as publishing, travel services, mortgage and apparel illustrating how widespread the problem has become. The battle in today's markets is no longer only for market share. Increasingly, it involves adapting to and creating new markets. The recent literature on being market driven versus driving markets (Jaworski, Kohli and Sahay, 2000), and creating marketing spaces (Kim and Mauborgne, 1999) provide support. While the direct research on examining boundaries is limited, there is related literature from disciplines such as Economics and other social sciences. In the marketing literature the work on classification, cross category choice and the evolution of markets provide a good foundation for studying the role and nature of market boundaries. We summarize the existing analytic themes and investigate the boundary structures for three categories: beverages, holiday planning and the car rental market.

3 - Pioneer, Early Mover or Late Mover: Who Gets the Biggest Share?
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Sonke Albers, Alexander Himme

This study investigates the impact of order of entry on long-term market share. Empirical evidence from many studies shows that pioneers achieve greater long-term market shares than their followers. The literature provides many arguments for the existence of an overall advantage for pioneers. However, pioneering is not only associated with chances but also with risks. Particularly early movers might capitalize on the risks of pioneering. As an example, they may benefit from free ride effects or avoid mistakes made by the pioneer. While these benefits have been widely discussed in the literature on market entry timing strategy empirical research generally failed to demonstrate potential early mover advantages. This situation is mainly due to three shortcomings: (1) the quality of data, (2) the definition of early mover, and (3) the specification of the market share model. Our study addresses the aforementioned issues and contributes to the literature in several ways. First, we make clear what type of data should be used to investigate differences in the effects of pioneers, early movers and late movers. Second, we suggest a rule to classify entrants as early mover opposed to late mover. Third, we propose and discuss different parametric and semi-parametric model specifications of the order of entry effect. Such a specification enables the researcher to detect a possible overall early mover advantage in contrast to an overall pioneer advantage. We apply the proposed early mover definition and flexible model specifications to an international dataset from the pharmaceutical industry.

4 - Do Product Preannouncements Increase Shareholder Value?
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Tarun Kushwaha, Venky Shankar

Preannouncements of new products are strategic signals that firms direct at their competitors, customers and distributors. They have been touted in the literature as effective means of deterring competitor entry, informing potential customers, and even tipping the balance in favor of a technological standard. However, preannouncements also carry the risk of unwanted competitive reaction or undelivered promises. Indeed, delays in the introduction of previously preannounced products have been shown to have significant negative financial consequences. Do the benefits from preannouncing outweigh the risks? Using a sample of software and hardware preannouncements we investigate the magnitude of financial returns from preannouncements, as well as the determinants and the timing of the financial gains. We find that the financial consequences of preannouncements extend beyond the announcement window. We also find that preannouncement content and firm reputation are significant determinants of the financial returns associated with preannouncements, as measured by the calendar-time portfolio long-term abnormal returns following these events.

SC12
Room 304
Diffusion III; Adoption

Chair: Anita Elberse
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1 - Modeling the Effects of Marketing on the Components of a Diffusion Model for New Prescription Drugs
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Enar Ruiz Conde, Peter Leeflang, Dick Wittink

For the pharmaceutical industry, innovations are vital. As a result, expenditures on both Research and Development and Marketing are very high. One perspective on marketing is that it serves to accelerate the adoption of newly developed products. In this study we focus on estimating the effects of the different marketing instruments on the diffusion process of new prescription drugs. We estimate a trial-repeat diffusion model that allows us to decompose the sales variable into three components: trial sales due to external influence, trial sales due to internal influence, and repeat sales. Subsequently, we determine the effects of the marketing instruments on each of these components. We apply this approach to new pharmaceuticals in the 'rhinitis' category. We model the diffusion processes of 14 new brands introduced within the observational period. Using 8 years of monthly US data we find support for the hypotheses that both changes in the trial rate and in the repeat rate are affected by direct-to-physician marketing expenditures. Direct-to-consumer advertising expenditures have a (small) effect on the repeat rate. We also find that the sooner a new drug enters the market, the higher the propensity to try and the higher the parameter value related to internal influence. The decomposition of sales demonstrates that this approach provides useful insights into the development of the three components over time. The absolute magnitudes of the effects are the largest for the repeat sales component, consistent with the idea that marketing to physicians has an especially strong persuasive role.

2 - Firm Level Adoption of a New Industrial Product: The Case of Checkout Scanners
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Dan Horsky

In this paper, we model the adoption process of a new industrial product - checkout scanners, based on the profit maximizing behavior of supermarkets (buyers of scanners). Checkout scanners enable the supermarkets to cut labor costs as well as provide 'indirect benefits' that are unrelated to labor cost savings (e. g. better inventory management, tracking of sales data etc.). Our analysis is at the firm level and we assume that in the initial periods, the firm is uncertain about the product benefits and learns (in a Bayesian fashion) about them from adoptions within the same firm as well as from adoptions in other firms. Using a unique data set on the store level adoption of checkout scanners, we examine the roles of product benefit and the learning process on the adoption probability of a new industrial product. We find that, compared to the learning process, evolution of product benefits plays a greater role in the adoption process of checkout scanners. We also find that a supermarket learns more about product benefits from first hand experience (i.e. from its own past adoptions), than from the words-of-mouth information from other adopters. Our study also throws light on the impact of some of the firm specific characteristics on the adoption probability.

3 - Forecasting Sales and Advertising Responsiveness for DVD Movies
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Jackie Y. Luan

Entertainment products such as movies and music are considered unique by nature and therefore it is generally believed to be difficult to forecast sales. Further one needs forecasts of advertising responsiveness in order to decide on the optimal advertising strategy for these products. Since a significant percentage of sales for these products occur in the initial couple of weeks, it is managerially useless to generate the sales and advertising responsiveness forecasts based on sales data from an initial period as with many other consumer products. The forecasts are needed before the launch of the product. This study proposes that one can obtain reasonable sales and advertising responsiveness forecasts for a DVD movie before the product launch by using information about the pattern of sales for the corresponding movie at the box office. Given that revenues from DVDs now are currently greater than revenues at the box office, the use of box office revenues as a leading indicator of DVD revenues is managerially appealing. We find that DVD revenues are not related to just the aggregate level of box office revenues, but the pattern by which sales evolved that we relate to word of mouth effects for the movie. Further we find that the time lag between movie and DVD release affects sales, but to obtain a true measure of the effect of time lag on sales, one should correct for the fact the time lags are endogenous. We also show that our forecasts are superior to other benchmark models.

4 - Written In The Stars: Does Star Power Drive The Success of Entertainment Products?

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Conventional wisdom dictates that the involvement of "star" talent is critical to the success of creative products. That belief is particularly apparent in the motion picture industry, where some actors and actresses command fees of millions of dollars per movie and can trigger commitments from investors, distributors, and exhibitors. However, evidence on the impact of creative talent on the performance of creative goods is inconclusive. In this study, we attempt to shed light on the relationship between star power and the demand for entertainment products. Our empirical analysis, which focuses on the motion picture industry, consists of two stages. First, using data on box-office grosses for more than 650 movies that together feature over 1,000 stars, we empirically investigate the relationship between star power and market performance in a cross-sectional framework. Second, using unique time-series data obtained from a popular stock market simulation revolving around motion pictures, the Hollywood Stock Exchange (HSX), we examine how star power impacts a movie's likely success as it moves through its production and distribution stages. We discuss findings as well as implications for managers in entertainment industries.

SC13
Room 421
Product Assortments

Chair: Thomas Reutterer
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1 - A Multi-category Approach to Modeling Consumer Preference Evolution: The Case of Sporting Goods

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Inseong Song, Douglas MacLachlan

In a number of sporting goods categories, customers' purchase decisions are influenced by their extent of experience or knowledge of the sports. Some products are better suited for beginners and some for more advanced customers. Customers' initial fitness and knowledge levels vary when they try out a sport for the first time. Customers learn over time about the products available and also about the sport itself at different rates. We examine how customers' brand preferences and price sensitivity evolve as their levels of experience increase in outdoor sports gear categories. Using a Hidden Markov modeling framework, we investigate how consumers evolve along discrete latent states that represent consumers' experience and knowledge levels and how preference parameters change as consumers evolve over time. However, existing single category Hidden Markov approaches that require a rich purchase history would not work well for these types of durable product categories because typical customers have only a few purchases in a category even over a relatively long period. Thus we use a multi-category framework in which unobservable experience levels are inferred by leveraging information from multiple categories. We model customer heterogeneity in initial conditions and also in transition probabilities in order to allow customers to begin from various levels and cumulate experience and knowledge at different speeds. We identify typical brand(s) or market baskets purchased at different stages of customer experience. As a byproduct, the multi-category approach allows us to determine which product category is the most indicative of consumers' evolution stage.

2 - The Impact of Context Effects on Optimal Assortments

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Harald van Heerde, Tammo Bijmolt

Context effects imply that consumer preferences depend on choice sets in a way that deviates systematically from the classical utility model. While context effects have been demonstrated in the literature, it remains unclear how retailers can use context effects for more profitable assortments. This study aims to fill this gap. We propose a choice model that decomposes a productís utility into a context-free and context-dependent part. The latter part captures: the substitution effect (allowing for non-IIA choices), the attraction effect (accommodating the disproportionate gain of one item dominating another), and the compromise effect (capturing preferences for middle options). To capture both primary and secondary demand effects, we model choice among a set of items and the no-choice option. We calibrate our model on choice-based conjoint data concerning digital cameras. Model estimation results provide convincing statistical evidence that context effects exist in a repeated choice environment. Moreover, accommodating context effects leads to better predictions in hold-out choice sets, including choice sets that are larger than the estimation choice sets. Subsequently, we use the model to provide insights into the impact of context effects on optimal assortments. We show that accommodating context effects leads to assortments that are systematically different from assortments that ignore context effects. Moreover, our results suggest that context-based assortments may increase primary demand and retailer profits.

3 - Profiling the Health-Conscious Segment of Grocery Shoppers Using a Multi-Category Brand Choice Model

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Ashutosh Prasad

Manufacturers and retailers have recently been positioning themselves as health friendly, due to the growing trend of health consciousness among consumers. However, there has been little research on the characteristics (e.g. demographics, shopping patterns etc.) or the size of the health-conscious segment, derived from actual consumer purchase data. We attempt to fill this gap by answering the following questions: (i) Is the health-conscious segment big enough to justify all the marketing efforts? (ii) What are the distinct demographic characteristics of the health-conscious segment? (iii) What are the distinct shopping behaviors of the health-conscious segment? (iv)How do they respond to price and non-price marketing mix? We propose a multi-category brand choice model in which we assume that a consumer's response to healthy products is determined by the characteristics of the consumer as well as those of a category. For our empirical analysis, we use IRI basket dataset.

4 - Utilizing Consumer Typologies Based on Shopping Basket Histories in Target Marketing

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Andreas Mild, Martin Natter, Alfred Taudes

Parallel to the adoption of various cross- and/or up-selling initiatives within customer loyalty programs direct marketers are confronted with the need for a more thorough understanding of demand interrelationship structures among items or product categories offered to their customers. Depending on the intended customization levels of promotional activities, the information about cross-item (or category) purchase dependencies is required at a suitably disaggregated level. This paper presents a generalized vector quantization framework, which maps sequences of personally identifiable shopping basket data accruing from retail checkout systems to a set of prototype vectors. The prototype system represents a purchase incidence driven generic (i.e., time-invariant) customer typology and generates a partition of internally more homogeneous subsets of market baskets reflecting distinctive demand interrelationships patterns between product categories. Since disaggregate class membership information for individual shopping baskets is still available after the quantization step, chronological tracking of both active and (temporarily) inactive customers with respect to their stability and/or switching proneness across the positions in the prototype system becomes possible. From a managerial perspective, the latter can provide valuable insights with respect to designing targeted direct marketing and defection prevention initiatives. We provide some simple measures that facilitate managers to assign customers to respectively adjusted marketing actions. The proposed methodology is illustrated in an empirical demonstration study using purchase transaction histories collected from the loyalty program members of a major Austrian do-it-yourself retailer.

Saturday, 3:00 - 4:30pm (Session D)

SD01
Room 130- Auditorium
Special Session: Obtaining Insights from and About Consumers

Chair: Theodoros Evgeniou
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Co-Chair: Olivier Toubia
Columbia Business School, New York, NY, United States, ot2107@columbia.edu
Co-Chair: John Hauser
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1 - Inferring Competitive Measures on the Web from Aggregate Data

Balaji Padmanabhan, The Wharton School, University of Pennsylvania, United States, balaji@wharton.upenn.edu
Peter Fader, Zhiqiang Zheng

Knowledge of competitive measures, such as the market share of various brands, is important in any industry. This is as true for online merchants as it is in the offline world, but due to specific idiosyncrasies of electronic commerce, such measures are quoted and used on a surprisingly infrequent basis. (For instance, what is Amazon's share of the online book market?) We present methods for inferring various competitive measures using the limited data sources that most firms would have available to them. Instead of requiring detailed data about customer-level Web browsing across multiple sites, the methods presented here derive the competitive measures from a m of disaggregate data (from only one site) and simple aggregate data that is widely available from commonly used syndicated reports. Based on data obtained from ComScore Networks we show empirically that our methods perform well in inferring two key diagnostic competitive measures - the market share of site visits and the share of category requirements - for the online apparel industry. Specifically, we describe two approaches to determining various measures about the competitive landscape in electronic commerce. The first method is the classic "NBD-Dirichlet" model, which has a long successful history (among academics and practitioners) as a mechanism for making competitive inferences in a variety of domains. We first show that this model works well in its ability to capture specific competitive measures when we use complete "user-centric" information across a set of five leading online apparel sites. The second method presented here is a new approach that uses less information than the complete NBD-Dirichlet model. Specifically we replace the detailed data about customer behavior at competing sites with a simple summary statistic, namely the "reach" (i.e. penetration) of every competitor's site. Based on this limited input we show how it is still possible to derive the same set of competitive measures as the "full information" NBD-Dirichlet model. The main result in this paper is that this limited-information model is able to perform almost as well as its full-information counterpart.

2 - Automatic Induction of Conjoint Features Using Customer Reviews

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Thomas Y. Lee

In this paper, we develop a systematic, data-driven approach to the identification of features and levels for building conjoint models. Traditional conjoint studies typically rely upon an iterative combination of subjective expert assessment and preliminary open-ended survey results. Instead, we propose to learn product features and their corresponding levels through automated processing of on-line customer product reviews. Using shallow natural language processing (NLP) and machine learning heuristics, we induce an ontology of candidate features and levels; information extraction techniques are used to represent each customer review as a vector of candidate terms. This paper presents several contributions to both the information extraction and conjoint literature. First, we present novel NLP-based heuristics for extracting not only features but also nominal and ordinal levels. In particular, traditional ontology induction techniques proved to be too coarsely grained. Second, the paper extends constraint-based extraction techniques to infer feature levels when a review vector includes a feature but no corresponding level. Finally, the paper presents an analytical approach to the selection of features and levels. We evaluate the approach by analyzing customer reviews in two different product categories that are the subject of prior conjoint studies and compare our suggested features and levels to those used in the field.

3 - Optimal Sequence of Questions for Recommendation Agents

John Liechty, Penn State University, United States, jcl12@psu.edu
Arvind Rangaswamy, Arnaud De Bruyn

With the growth of the Internet, it is increasingly becoming feasible to create and deploy recommendation agents (decision support systems) targeted at helping individual consumers make product choices. In online contexts, the set and sequence of questions that are used to elicit and estimate an individual's utility function should be fast and efficient, because of the need to provide recommendations as quickly as possible. Therefore, the question set and sequence are likely to be very different from those used in assessing empirical demand functions (e.g., through conjoint analysis) in the context of managerial decision support systems. This presentation summarizes one of several ongoing research projects we have initiated to develop methods for determining the 'best' sequence of product profiles to be rated by consumers for the purpose of determining "optimal" product recommendations. Our approach is based on a Bayesian decision theoretic framework where the objective is to minimize a loss function representing expected predicted error. The priors for the recommendation agent are determined through a separate study (e.g., from a sample of visitors to a web site). Our model and implementation techniques are designed to rapidly combine the prior distribution with ratings provided by online consumers to a sequence of dynamically generated individual-specific profiles. We will describe our theoretical framework, our computer implementation, and the results of experiments designed to assess the performance of our model with those of competing models (e.g., adaptive conjoint).

4 - Involving Consumers in the Screening Stage of the Idea Generation Process

Olivier Toubia, Columbia Business School, New York, NY, United States, ot2107@columbia.edu
Laurent Flores

Following a successful idea generation process, a company might easily be left with hundreds of ideas, generated by experts, employees, or consumers. The next stage is to screen these ideas, and identify those with a high enough potential to justify further investment. One traditional approach is to ask one or a few experts to go over the transcripts of ideas and evaluate them. However, this procedure can be costly, and experts' judgments might not always reflect consumers' needs and preferences. In this paper we investigate an alternative approach to idea screening. Instead of having a small the ideas, we explore the possibility of having a large set of judges (e.g., 100 to 1000 or more) each evaluate a small (e.g., 10) set of ideas. These judges could be consumers of the company. This approach raises the following two questions:

1. Is it possible to increase the quality of idea screening by involving consumers into the process? In other words, will the selected ideas have a higher chance of being successful in the market, and of reflecting consumers' preferences?

2. If each judge evaluates only a small set of ideas, how should we select the set of ideas to be presented to each judge? Will an adaptive selection of the ideas improve the final evaluation? We propose and test several heuristics to adaptively select the set of ideas to be presented to each judge. In our framework, each idea has an unknown probability of leading to a successful new product. Our estimate of this probability follows a beta distribution with parameters depending on the judges' previous evaluations. We investigate two types of objectives: identifying the top m ideas, and identifying all the ideas above a probability threshold. Both of these objectives can be interpreted as a classification problem. One very promising heuristic presents to the next judge the set of ideas most likely to have been misclassified based on the previous evaluations. We first use simulations to compare our heuristics to a random selection of the ideas and to investigate the evolu-

tion of performance with the number of judges. Second, a set of experiments is scheduled for the Spring of 2005. Beyond the comparison of different idea selection heuristics, these experiments will attempt to compare consumer evaluation to expert evaluation. Finally, we show how our framework can be applied within an innovative approach to idea generation (brandDelphi™), which has already lead to successful new product concepts.

SD03
Room 234
Branding; Brand Extensions

Chair: Chris Shao
Midwestern State University, 3410 Taft Blvd, Wichita Falls, TX, United States, chris.shao@mwsu.edu

1 - Antecedents of Brand Globalization and Hierarchical Structure
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Ravi Parameswaran, Sengun Yeniyurt

Global branding has been postulated as becoming more predominant as firms focus on core brands, and increasingly implement unambiguous international brand architectures as a strategic means of facilitating brand consistency across international markets. Yet, the existing research related to global brands has been mostly descriptive in nature; definitions what constitutes a global brand and drivers of brand dispersion have not been clearly delineated. In order for these concepts to be meaningful for strategic and tactical planning, models need to be empirically tested. This includes developing an understanding of both corporate and environmental drivers of brand globalization and emergent brand structures. Thus, the purpose of this study is to begin the exploration of the drivers of global brand hierarchies. By global brand hierarchies, we refer to the dispersion of brands across geographies, conceptualized as a continuum based on geographic scope. Brands are classified on this scale as local, international, and global. It is believed that the motivations influencing the dynamics of global branding reflect and parallel those of globalization, and are concomitant with firm level drivers. This initial exploration links the firm's brand hierarchy to brand origin, corporate brand width, pertinent country demographics and cultural traits, and other meaningful measures. We achieve this goal through an in-depth longitudinal study of the global diffusion of brands in the automotive sector around the millennium, assessing the proliferation of 270 makes of automobiles across fifty countries between 1996 and 2003. Geographic Information Systems (GIS) is deployed as a statistical analysis tool in this exploration of the drivers of global brand hierarchies.

2 - Influence of Income, Motivation to Conform, and Brand Differential on Store Brand Product Purchase I
Ellie Tran, Midwestern State University, 1717 Midwestern Pkwy, #217, Wichita Falls, TX, 76302, United States, ellie_msu@yahoo.com
Chris Shao

The introduction and growing market share of private label brands has brought more product brand choices to consumers, more strategic opportunities for grocery retailers, and the threat of increased competition for manufacturers of national brand grocery products. The process by which consumers choose to purchase one of these two brand offerings has lead to many questions and much research which attempts to further understand how to influence the choice from a management perspective. This study is an attempt to understand more about the factors that influence consumers' store brand purchase decision. In accordance with findings of previous research, a conceptual model is developed to integrate the qualitative expectation of the importance social influence, measured herein as a consumer's motivation to conform to the purchase of store brand, in this purchase decision. Further examined are consumer's perceptions of the existence of brand differential between the store brand and manufacturer brand product offerings. A conceptual model is and tested by means of a survey instrument developed for purposes of this study and administered to a convenience sample of 200 participants. Our findings supported the relationship between the social influence of motivation to conform to the purchase of store brand as a mediating influence on the relationship between brand differential and store brand purchase intent. In regards to managerial implications, our findings highlight the importance of social cues and perceptions of brand differential in the store brand versus manufacturer purchase intention decision.

3 - Using the Assimilation and Contrast Framework to Explain the Brand Extension at Attribute Level
Xin Liu, Kent State University, Marketing Department, Kent State University, Kent, OH, 44240, United States, xliu4@kent.edu

A framework of assimilation and contrast explains three scenarios of brand extensions: success in close category extensions, failure in close category extensions and success in far extensions. The more features overlap two product categories, the more likely that the assimilation effect will occur and that consumers will favor the extension products. If a brand is exclusively associated with a single product category, it is difficult for consumers to accept the brand in another category. Additionally, assimilation and contrast framework explains brand extension at attribute level. Non-product attributes play an important role when a brand extends to a far product category.

4 - Customer Evaluation of Brand Counter-Extensions
Piyush Kumar, Asstt. Professor of Management, Vanderbilt University, 401, 21st Avenue South, Nashville, TN, 37203, United States, piyush.kumar@owen.vanderbilt.edu

One of the consequences of the popularity of an extensions-led growth strategy is that brand-extension activity between product categories is now increasingly bi-directional. Often, a brand that successfully extends from its parent category into a new extension category faces a counter-extension by a brand from the extension category back into its own parent category. In this research, we use a series of investigations to examine the factors that influence how customers evaluate brand counter-extensions. The results from these investigations provide a novel perspective on the reciprocal effects of brand extensions and show that the outcome of a brand's own extension strategy influences the evaluation of counter-extensions into its parent category. Based on these findings, we suggest that, much like the contribution of line extensions to a brand portfolio is assessed after accounting for cannibalization, the contribution of brand extensions should be assessed after accounting for the impact on the acceptability of counter-extensions.

SD04
Room 231
Pricing IV

Chair: Marcel Weverbergh
Professor, Antwerp University, Prinsstraat 13, Antwerp, 2000, Belgium, marcel.weverbergh@ua.ac.be

1 - Pricing of 32/64-bit Video Game Consoles in the US Market
Hongju Liu, University of Chicago, 1649 E 50th St, Apt 13B, Chicago, United States, hliu5@gsb.uchicago.edu

Recent empirical work using actual industry data from technology markets has found the presence of network effects in such markets. This paper extends the literature by studying the impact of network effects on firms' pricing decisions. We develop a model of dynamic oligopoly competition to analyze the pricing of Sony PlayStation and Nintendo 64 in the US market. The data from this market suggest that although console prices are declining over time, costs decline at a faster rate. In effect firms are charging an increasing wholesale markup over time. We first estimate a logit demand system on the console data. Then, we numerically solve for firms' equilibrium pricing policies using the Markov perfect equilibrium concept. The predicted prices follow similar patterns to the observed ones while in contrast, static pricing schemes cannot generate the observed pattern. This finding indicates that a console maker may be willing to set lower prices in the early stages of new model introduction to build up a network. However, incentives for such penetration pricing vary according to one's market situation. In particular, both firms keep prices low when fighting for dominance. When the lead of one firm becomes established, there is no more incentive to cut prices. Furthermore, explicitly modeling firms' pricing decisions allow us to incorporate price changes under counterfactual policy experiments. Our results indicate that Nintendo would

end up as a clear market leader if it could deliver N64 a little earlier. However, this hinges on the assumption that the quality of N64 would not be any inferior as the result of an earlier launch. Attracting more games to be developed for N64 is an effective strategy since it can improve the competitive position of N64 significantly.

2 - Second-degree Price Discrimination: A Case Study of Opera Ticket Pricing

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Price discrimination is a common practice that allows firms to capture a higher fraction of consumer surplus than under uniform prices. While there is no doubt that firms can increase profit by nonlinear pricing, the welfare analysis on the consumer side is somewhat ambiguous. The objective of this paper is to investigate the welfare implications of second-degree price discrimination in the case of opera ticket pricing, using real data from an opera theater in a major city. Specifically, we focus on the price discrimination of setting different prices for different seating regions. A random coefficient choice model is presented to describe consumers' choice behavior over the set of 9 seating-region options. Using the estimated demand system combined with monopoly pricing assumption on the firm side, we are able to simulate the results from uniform pricing, which are not observed. We find that uniform pricing would not only decrease firm's revenue, but also significantly lower aggregate consumer welfare. The results indicate that in this opera case, price discrimination actually improves consumer welfare.

3 - Preseason Promotions and Postseason Markdowns

Yan Dong, Assistand Professor, Carlson School of Management, University of Minnesota, Minneapolis, MN, 55455, United States, ydong@csom.umn.edu
Jing Wang

For a seasonal product with unpredictable demand, promoting the product before the season unfolds can be particularly risky—the channel may loose its loyal customers due to over-promotion, or incur a high cost in unsold products because of under-promotion. Channel promotion strategies need to be designed to incorporate such risks because the costs from the risks can be different to channel members, leading to potential conflicts in the channel. This study focuses on the unpredictable nature of a seasonal product and investigates corresponding promotion strategies by discussing the following questions: 1. What is the impact of channel promotion strategies of a seasonal product on channel behavior and channel performance when the demand is uncertain? 2. How does the postseason markdown affect preseason promotion decisions? The first question extends directly the research by Gerstner and Hess (1991, 1995) and others, to include demand uncertainty that is common in highly seasonal markets and fashion products. The second question provides a dynamic view in promoting seasonal products by incorporating the products' post-season values. Our main findings indicate that the retailer may prefer pull promotions to push promotions when the redemption cost is sufficiently small. The manufacturer, however, may prefer push under certain conditions. The channel and channel members respond to markdown values in different ways: while the retailer profits are decreasing in the product residual value after markdown, the manufacturer and channel profits are increasing in this value. The optimal wholesale price under push promotions is increasing in the product residual value, while the optimal rebate under pull promotions is decreasing in this value.

4 - The Golden Rule in Transfer Pricing

Marcel Weverbergh, Professor, Antwerp University, Prinsstraat 13, Antwerp, 2000, Belgium, marcel.weverbergh@ua.ac.be
Wilfried Pauwels

In this note we analyze the optimal regulation of an internationally integrated monopolist, producing in one country and selling in another country. The monopolist's pricing policy is constrained by transfer pricing regulations, and subject to different profit tax rates in the two countries. We show that, for a given transfer price, an increase of the tax rate on profits in the importing country, relative to the one in the exporting country, leads to decrease in the consumer price and to higher levels of world welfare. This is true until, at a critical relative tax rate, profits in the importing country are forced down to zero. Conversely, for a given tax structure in which the importing country again has the higher tax rate, increases in the transfer price lead to a lower consumer price and to higher levels of world welfare. This is true until, at a critical transfer price, profits in the importing country are again forced down to zero. When mutually consistent a regulatory policy is obtained, which leads to a higher welfare level than the monopoly outcome. We label transfer price and tax strategies which lead to zero profits in the importing country as 'the golden rule'. The results indicate that the 'comparable profits method' for determining the transfer price in the context of highly divergent profit tax rates in the countries involved, is not applicable.

SD05
Room 201
Multiple Channels of Distribution IV

Chair: Stephen Kim
Associate Professor, Oregon State University, 200 Bexell Hall, College of Business, Corvallis, OR, 97331-2603, United States, kim@bus.oregonstate.edu

1 - A Model of Multichannel Retailing

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This paper examines retailers' incentives to adopt multichannel retailing strategies. In this research, multichannel retailers are those that have both a conventional channel and a delivery channel. In a conventional channel, the retailer posts prices at its store, and consumers go to the store to pick up the product; in a delivery channel, the retailer posts delivered prices, and consumers shop from home via online, telephone, fax, or mail. In contrast to common wisdom that multichannel retailing is the "best practice," I show that no retailer will want to open a delivery channel in a standard Hotelling model. While adding a delivery channel responds to the needs of consumers who resent the inconvenience of traveling to the store, it mitigates retailers' differentiation on location, intensifies price competition, and cannibalizes the conventional channel. Multichannel retailing can however arise in equilibrium in a model in which consumers differ in their desire for shopping convenience. Now adding a delivery option has a segmentation effect that induces retailers' differentiation on targeting and pricing strategies. Finally, distinguishing between quality differentiation and service differentiation, I find that under different conditions, high-quality retailers and low-service retailers have more incentives to go multichannel. This research contributes to a better understanding of the strategic pros and cons of multichannel retailing. It underlines the importance of market heterogeneity to the success of a multichannel strategy. Different types of retailers have different reasons to go multichannel, and thus multichannel retailing can affect the competition structure of the market in different ways.

2 - Stock Market Reaction to Bricks-and-Mortar Retailers? Internet Channel Additions

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Paul Messinger

With the emergence of the Internet and development of e-commerce techniques, many bricks-and-mortar retailers have added online stores to their channel portfolio. This form of dual distribution may improve retailers? sales and reach more market niches; it may also cannibalize retailers? offline business and hurt their profits. The influence of online channel additions could be evaluated from the point of view of consumers, competitors, or investors. In the current study, we use event-study methodology to assess the reaction of investors to channel additions. In particular, we assess the impact of announcements of retailers? Online channel additions on their stock price returns. We first find online channel addition announcements by 80 publicly traded bricks-and-mortar retailers in three US stock markets. We then look at the retailers? Daily stock prices before and after the announcements. Overall, we find that the announcements have a positive initial effect on stock price returns. We also examine

effects of firm and market characteristics on which types of firms have larger above normal stock market returns.

3 - An Examination of Brand Sales Volume Variation Across Retail Chains

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Jeffrey Inman, Vanitha Swaminathan

In response to the growth in the power of retailers such as Wal-mart, manufacturers have followed a multi-channel strategy. Tide can be purchased from different channels including grocery stores, mass merchandisers, club stores, and dollar stores. Consumers vary in their propensity to shop one channel versus another (Inman, Shankar, and Ferraro 2004) and strong geodemographic effects are common at the brand level. This suggests that there are significant cross-retailer variations in brand sales volume, leading to brands enjoying greater share in certain retail chains. Assessing the brand-chain 'fit' may be critical to developing sound category management practices. Further, analyzing the reasons for cross-chain variations in brand sales volume may provide a deeper understanding of how retailers and brand managers can work together. We examine variations in brand sales volume across retail chains using Nielsen wand panel data across four product categories: facial tissue, soap, laundry detergent and toilet tissue. Using a hierarchical analysis, the variation in brand sales volume across retail chains is modeled in the first level as a function of price and promotion via a multiplicative sales model. The heterogeneity in price and promotional sensitivities is then explained by retailer and brand effects in the second level. The retailer and brand interactions are further modeled using geodemographic profiles of customers. Implications of the findings for theory and practice will be discussed.

4 - Governance in Hybrid Marketing Channels

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One of the major changes in marketing channels involve a shift from single to hybrid channel structure in which multiple channels are used to perform different channel functions. Using hybrid channel affords the benefits of achieving control through the direct channel and achieving flexibility through the indirect channel. However, using a hybrid channel also poses special challenges to a manufacturer, including the problem of managing multiple channel members with disparate goals and priorities. Consider marketing channels for upscale fashion apparel. Marketing channels for upscale fashion apparel in many countries show those characteristics of a hybrid channel. Manufacturers employ sales consultants and deploy them to resellers' premises. However, makers have greater difficulty in monitoring, evaluating, and controlling performance of those sales consultants because they work at the reseller's premises. In addition, manufacturers and resellers of fashion apparels are facing faster and abrupt changes in customers' taste and preference. Therefore, downstream market uncertainty is a paramount concern to apparel manufacturers and resellers. The purpose of this study is to enhance our understanding on the management of hybrid channel. We have two objectives to fulfill that purpose. First, we aim to tie two largely separate research streams of salesforce management and marketing channel management together by examining both intrafirm governance and interfirm governance issues under one conceptual framework. Second, we aim to lay a ground work for rigorous further research on this topic by tying two major theoretical approaches of governance together under one conceptual framework.

SD06
Room 204
Customer Relationship Marketing IV: Impact on Performance

Chair: Shantanu Dutta
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1 - The Strategic Role of Marketing in Managing Firm Risk: The Case for Customer Relationship Management

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Raj Srivastava, Sundar Bharadwaj

Literature in finance, economics and business practice indicates that in evaluating performance of a firm, analysts and investors focus not only on the returns (i.e., profitability) of a firm, but also the risk associated with a firm. However, extant literature in marketing predominantly focuses on firm profit returns associated with marketing strategy, with scant examination of the risk implications of these strategies. In this study, we draw on literature on relationship marketing, finance, and economics, and examine the impact of a customer retention strategy on four dimensions of risk (income stream, marketing costs, operating expenditure, and strategic risk). Utilizing a paired comparison methodology on secondary data from publicly traded firms, we find strong support for the theoretical assertion that adopting a customer retention strategy reduces the income stream, marketing costs, and strategic risk. However, only limited support is found for the impact on operating expenditures risk.

2 - Customer Relationship Management and its Impact on Innovation Performance

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In an effort to create long-term and sustainable competitive advantages, the capability of companies to successfully develop and launch innovative products is more important than ever before. The effective integration of the 'right' customers into innovation development processes is a critical success factor for these innovations. However, this poses a difficult management challenge for many firms. To aid this effort, companies have increasingly employed customer relationship management (CRM) as a tool for collecting important and relevant information from their customers to serve as input for innovation development. Despite its immediate relevance, however, little empirical research has been conducted on the impact of CRM on development of innovations. Thus, the current paper develops a theoretical framework that identifies important elements of CRM - strategy, structure, processes, and technology - and relates these elements to innovation performance. We subsequently test our hypotheses based on a sample of 183 German firms from multiple industries. We use findings from multiple informant data from 115 R&D and 122 marketing managers to show that CRM substantially impacts the performance of innovations. Companies that have established effective CRM processes to support a customer-centric innovation process via the application of customer knowledge management processes (to gain the relevant information for the innovation project) and segment management processes (to develop innovations with and for the most valuable customers) show a significantly higher innovation performance. The results have important managerial implications for using CRM as an effective way to improve innovation performance in firms.

3 - Impact of CRM Systems: The Perspective of the User and of the Organization

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Gerrit Van Bruggen

The Customer Relationship Management (CRM) approach has become very popular and companies make large investments in the installation and implementation of CRM systems. A lot of attention has been paid to the strategic and organizational implications of adopting a CRM approach, but it looks as if the information system aspects of a CRM system are taken for granted. However, CRM systems are offered in large varieties, and there is no guarantee that a company gets the CRM system that fits best with its needs. In our paper we examine the impact of a CRM system at two levels, the level of the individual user and the level of the organization. Data were obtained from an international sample of 107 companies that all had a

CRM system in place. We studied the effect of the characteristics of the user, the system implementation, system use, and of organizational and market characteristics on the impact of the CRM system. Our results show that impact at the level of the individual drives the impact of the CRM system at the organization level. Fit-wit-Task appears to be a key factor in achieving user satisfaction with a CRM system. CRM system characteristics (e.g., system flexibility, ease of use, system sophistication) are important drivers of Fit-with-Task and of individual impact. The impact of CRM systems is larger in companies with customer-centric policies in place and in companies with a more analytical decision style. Based on the study, several recommendations can be made to improve the impact of CRM systems.

4 - Sustained Competitive Advantage Through Customer Retention:The Roles of Learning and Governance

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Kyle Mayer, Ramkumar Janakiraman

With increasing competition and high costs of acquiring new customers in demand driven markets, firms are realizing the importance of sustaining a loyal customer base. While extant research in customer relationship management helps us understand the factors that influence customer retention, it is mostly confined to business to consumer (B2C) settings. Important vendor-customer transaction characteristics render managing customer retention in a business to business (B2B) setting challenging. This study focuses on the drivers of customer retention that are idiosyncratic to B2B contexts. Drawing on the resource based view of a firm, and the theories of learning and governance, the study develops a framework to assess the role of knowledge and learning, firm's capabilities, task observability and governance on the firm's ability to sustain its customer base. Exploiting a unique data set of customer-supplier relationships, we develop and test a dynamic model of customer retention that focuses on learning and governance. Based on our results, we offer insights as to how managers can manage their relationships with their customers so as to sustain their firm's competitive advantage through customer retention.

SD07
Room 207/208
Brand Equity

Chair: Dierk Luetje
Doctoral Student, University of Mainz, Jakob Welder-Weg 9, Marketing Department, Mainz, D-55099, Germany, luetje@marketing-science.de

1 - A Critical Analysis of Methods of Valuing Brands and Brand Equity

Rajesh Srivastava, Emeritus Professor, Simsr, Simsr, Vidyavihar, Ghatkopar-e, Mumbai, 400059, India, srivastava@vsnl.net

While there has been much research on Branding and Brand Equity in recent years, relatively little has been published on Brand Equity Measurement, despite it being a key managerial issue. This paper reviews the Brand Valuation literature. It highlights Brand Valuation research, the obstacles to Brand Valuation and valuation approaches. The various approaches available for Brand Equity Measurement are discussed. The study intends to see the effect of three brand equity measurement methods viz., Interbrand Method, Multiple Earnings Method & RKS Model. Our findings suggest that there is no significant difference between the brand values measured by the multiple earnings method and the RKS Model followed closely by the Interbrand Method. But, this holds true only for the non IT Brands. The brand values of 'Satyam' & 'Infosys' which are IT companies; are different from all the three methods. It is possible that they are overvalued as happened in the past. Therefore, valuation of IT companies should be rationalized to reality level.

2 - The Role of Mass Media in Determining Corporate Reputation

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Craig Carroll, Sivaramakrishan Siddarth

In recent years, several business scandals have brought the issue of corporate reputation to the fore and reports in the business press indicate that top executives consider it a critical determinant of firm value and performance. Though previous research in marketing has examined the related construct of brand equity, there has been relatively little research on corporate reputation, per se. In this paper, we investigate the role of mass media in the formation and maintenance of corporate reputation. Agenda Setting theory, which comes from the literature on mass communication, posits that mass media influences the issues that people choose to talk and think about. This suggests that the reputation of a firm depends to a significant extent on the stories that the media report on it. In this research, we examine the relationship between corporate reputation, as measured by an annual poll conducted by the Wall Street Journal and Harris Interactive, and the newspaper coverage that a firm received in newspaper media. We measure newspaper coverage in terms of its visibility (e.g., front page versus business section), volume, and content (what the story is about) and also measure the volume and content of press releases of a firm. We examine the effect of these media variables on both the positive and negative aspects of reputation.

3 - Issues Pertaining to Brand Equity—An Attempted Synthesis

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Oliver Heil

Brand equity and its management have become an important topic, both, for researchers and managers. The literature pertaining to brand equity is growing at a rapid pace as contributions have been made in the areas of building, measuring, and managing a brand's equity. However, neither the scope and depth nor the potential of this literature has been assessed. Thus, we review related disciplines and scan these areas of extant knowledge as to their potential to enrich the field of brand equity. More precisely, we review fields such as economics, anthropology, psychology, law, and sociology. We condense these bodies of knowledge into several categories of suggested research, each being comprised of a number of propositions. For example, competitive brand equity and long-term management of brand equity amount to such categories. The paper concludes with a number of methodological suggestions for future research on brand equity.

SD09
Room 334
Marketing Research; Multiple Responses

Chair: Gerrit Van Bruggen
RSM Erasmus University, P.O Box 1738, Rotterdam, ZH, 3000DR, Netherlands, gbruggen@rsm.nl

1 - Is Silence Golden? An Inquiry into the Meaning of Silence in Professional Product Evaluations

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Suman Basuroy, Peter Boatright

The world today is rife with product recommendations from professional critics and experts that are available from numerous sources - television, magazines, radio, internet, etc. Very often these recommendations shape our decisions and choices. In this study, we investigate two main issues regarding expert opinions. First, we present an approach that uses information available from every expert, including those who are silent about the product, to obtain a consensus measure of expert opinion. Our model also allows us to obtain a measure of how informative each expert is and how their information content may vary by type of review. More importantly, our overall measure of expert opinion weights the opinion of each expert based on how informative they are at the particular quality level of the product being evaluated. In other words, we provide consumers with a method that reconciles conflicting expert opinions into a summary measure. The second issue we investigate in this paper is the meaning of "silence" in expert opinions. Our model demonstrates that, the fact that an expert is silent about a product may imply a positive or a negative review, depending on the expert. We use data from the motion pictures industry to illustrate our approach.

2 - Pseudo-Experimental Control Groups to Control for the Selection Bias

Michel Clement, University of Kiel, Westring 425, Kiel, 24098, Germany, michel@michelclement.com
Sonke Albers, Björn Christensen

In order to control for the selection bias, researchers can apply two techniques to estimate the causal effect of the variable of interest: First, they can avoid selectivity a priori by selecting an appropriate experimental control group. However, this experimental approach is often not applicable in empirical studies - especially in marketing research -s because many variables can not be influenced by the researcher in real settings (e.g. the review of the book critic of the New York Times). Second, if no experimental data is available, researchers can use a biased sample and try to correct the selection bias ex post by applying statistical techniques. We focus on these "pseudo experimental settings" which are typical for many data constellations in marketing research. We propose the "propensity score matching" - a procedure which controls the selection bias in empirical research. By applying this procedure on a sample (n=407) from the motion picture industry, we generate a pseudo-experimental control group ex post. Without controlling for the selection bias, we find that a nomination for the academy award leads to a significant positive influence on box office of a movie. However, if the selection bias is controlled for by applying the propensity score matching procedure, we do not find a significant influence of the nomination on box office.

3 - Harvesting the Value of Election Results for Political Marketing Analysis

Arnaud De Bruyn, Assistant Professor of Marketing, ESSEC Business School, Avenue Bernard Hirsch, Cergy-Pontoise Cedex, 95021, France, debruyn@essec.fr

The field of political marketing has gained considerable attention in the last decade, and a lot of efforts have been dedicated to the study of political segmentation and voting behavior. Most research in this domain is based on surveys, however, which have well-known limitations such as potential sampling issues, or discrepancies between stated intentions and actual voting behavior. In this presentation, we show how actual election results (i.e., voting data aggregated at the precinct level), a surprisingly underexploited source of data, can enlighten our understanding of the political marketplace. We illustrate the value of analyzing this data more in-depth through three applications: voters segmentation (geomarketing segmentation), political candidate perceptions (perceptual mapping), and voting behavior forecasting (choice modeling).

4 - The Relative Accuracy of Managerial Forecasting Integration Approaches

Gerrit Van Bruggen, RSM Erasmus University, P.O Box 1738, Rotterdam, ZH, 3000DR, Netherlands, gbruggen@rsm.nl
Gary Lilien, Bernd Skiera, Martin Spann

Forecasting is a key managerial task supporting many marketing activities. Many model-based approaches have been developed for making marketing and sales forecasts using quantitative data. When such data are not available, many organizations rely on forecasts based on managerial judgments. The research literature suggests that combining inputs from multiple judgmental forecasters will produce more accurate forecasts than using inputs from a single forecaster. When multiple forecasting sources are used, a key question is how these forecasts should best be integrated or combined. In this research we report on the results of an experiment to compare the accuracy of two different mechanisms to elicit and combine the results from multiple forecasters: a standard, mechanical survey-based approach using various knowledge-based weighting schemes and an approach using a virtual stock market Our preliminary results show that neither approach dominates: some forecasting environments favor mechanical aggregation while others favor virtual stock markets. We also find that knowledge-based weighting of individual opinions is effective for survey-based data while it does not improve virtual stock market outcomes. The latter result supports the idea (Spann and Skiera 2003) that exogenous weighting of virtual stock market results does not improve on the results of the endogenous weighting that does already take place in these markets.

SD10
Room 331
Choice Models; Heterogeneity

Chair: Rick Andrews
Professor, Louisiana State University, Department of Marketing, College of Business Administration, Baton Rouge, LA, 70803, United States, randrews@lsu.edu

1 - Measuring Customer Heterogeneity with Loyalty Variables: Theory and Evidence

Gary Russell, Professor, University of Iowa, Department of Marketing, Henry B. Tippie College of Business, Iowa City, IA, 52242, United States, gary-j-russell@uiowa.edu
Fred M. Feinberg, Kyuseop Kwak

Since the pioneering work of Guadagni and Little (1983), the most common method of accounting for household-level preference heterogeneity in the multinomial logit model has been the loyalty variable, an exponentially-weighted average of a household's past purchases. Although this approach has considerable intuitive appeal, it has not been provided with a rigorous statistical foundation. The present paper argues that loyalty variables, construed purely as cross-sectional measures of preference heterogeneity, should be constructed with reference to a particular model of choice behavior and assumptions regarding how marketing activity evolves over time. Beginning with a generalized form of the logit model consistent with both Jeuland's (1979) inertial choice framework and the Lightning Bolt model of Roy, Chintagunta and Haldar (1996), a loyalty measure is derived which is a consistent estimate of the household's underlying brand preferences. The framework also implies that loyalty variables do not exist for certain types of dynamic choice models. We study the theory by estimating our loyalty model specification using supermarket scanner data. Empirical results show that brand intercepts are related to marketing m activity. Moreover, results show that forecast accuracy compares favorably with a more sophisticated Hierarchical Bayes specification. Both findings are consistent our loyalty variable theory. The central message of our work is that loyalty variables cannot be justified without making strong assumptions about the choice process and marketing m activity. We offer specific recommendations about conditions under which loyalty variables can and cannot be used in marketing science applications.

2 - Latent Segments or Scale Variations: A Simple Choice Model to incorporate Heterogeneity

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Towhidul Islam

Kamakura and Russell (1989) presented a choice model to capture consumer heterogeneity in choice models. The latent segment model not only allows one to estimate brand specific parameters to vary by segment but also provide flexibility to estimate marketing variables' responsiveness across segments. There have been number of refinements (Dillon and Gupta, 1996), extensions (DeSarbo, Ramaswamy and Cohen, 1995) and re-interpretation (Jain, Vilcassim and Chintangunta, , 1994) of original model. It is well known that residuals of choice model, follow the Gumbel distribution which has two parameters, a location and a scale factor. When there are two or more segments in data, it is possible to estimate scale factor in choice model (Swait and Louviere, 1993) and estimated scale parameter can be interpreted as variance in choices. We propose latent segment model, where brand specific parameters vary by segment and constraint marketing variables' responsiveness according to scale parameters. Our model, generally contain fewer parameters than the usual latent segment model. Empirically we compared our model with that of Kamakura and Russell We found that for discrete choice data, our parameterization is simpler, parsimonious and statistically preferred to latent segment model. For scanner panel data, our model outperformed latent segment parameterization. These results suggest that latent segment model may be capturing consumer response variability.

3 - Observed and Unobserved Preference Heterogeneity
Paul Nelson, Simon School, University of Rochester, Rochester, NY, 14627, United States, nelson@simon.rochester.edu
Dan Horsky, Sanjog Misra

In deciding what brand to buy consumers trade off between how valuable each brand is to them and its price. We extend standard scanner based choice models by incorporating brand preferences rather than just utilizing brand specific constants and past purchase behavior to proxy for them. We illustrate our model using a dataset that combines survey and scanner data collected from the same individuals. The addition of individual specific brand preference information to a standard scanner choice model that incorporates brand specific constants, loyalty, promotion and price significantly improves how well choices are explained and predicted. Moreover, this "observed" heterogeneity via inclusion of individual specific brand preferences better explains choice than does "unobserved" heterogeneity in the standard scanner model parameters. More importantly, we find that a model without individual level preference information overestimates both brand loyalties and price sensitivities. The brand loyalty coefficient is overestimated because models without preference information confound state dependence, heterogeneity and preference effects. Price sensitivities are reduced in the more complete model because the "real" preference based consumer is less ready to switch from his most preferred brand than is the "average" preference based consumer implicitly used in standard models. Furthermore, we find standard models to overestimate the heterogeneity in price and loyalty sensitivities. Critically, this also results in these models to commonly misidentify both high and low price and loyalty sensitive consumers. Our more accurate individual specific loyalty and price sensitivity estimates should help managers better target promotional activities.

4 - Heterogeneity in Multi-Stage Models of Purchase Behavior
Rick Andrews, Professor, Louisiana State University, Department of Marketing, College of Business Administration, Baton Rouge, LA, 70803, United States, randrews@lsu.edu
Haren Ghosh, Imran Currim

The most comprehensive models of purchase behavior for frequently purchased supermarket items explain households' purchase incidence decisions (whether to buy), brand choice decisions (what to buy), and purchase quantity decisions (how much to buy). Though researchers have given much attention to the question of how to model heterogeneity in households' brand choice decisions, much less attention has been given to how heterogeneity should be modeled in multi-stage models of purchase behavior. This study considers the relative effectiveness of three approaches for modeling heterogeneity in these purchase behaviors: covariates such as marketing m variables and household purchase histories, random distributions for coefficients relating covariates to purchase behaviors, and stochastic, unexplained variations in purchase behaviors described by compound distributions. The results show compelling improvements in fit, forecasting accuracy, and diagnostic information, compared to the current state of the art, when purchase behaviors are modeled with compound distributions, covariates, and random coefficients specifications in combination.

SD11
Room 301
Integrated Marketing Communications

Chair: Timothy Smith
Assistant Professor, University of Minnesota, 2004 Folwell Ave., St. Paul, MN, 55108, United States, timsmith@umn.edu

1 - Confirmatory Bias Induced Pattern of Advertising: A Strategic Analysis with Experimental Support
Rajesh Bagchi, Doctoral Student, Leeds School of Business, UCB 419, University of Colorado at Boulder, Boulder, Co, 80309-0419, United States, rajesh. bagchi@colorado.edu
Chuan He

It has been established in the extant literature that when evidence is ambiguous, exposure to advertisement encourages consumers to assimilate product experiences in a direction that is consistent with the expectations set up by the advertisement thereby leading to confirmation bias. When product attributes are difficult to evaluate, this bias can either remain invariant or become stronger with product experience. We use the Hotelling framework to model a multi-period game between two firms that offer differentiated but substitutable products. In particular, the attributes of the product categories in question are difficult to evaluate even after extensive experience with the product. A large number of consumer products, such as laundry detergent, soap, shampoo, fall into such categories. We assume that advertising generates confirmatory bias and that consumers are willing to pay a price premium for their preferred brand. Moreover, repeat experience with the preferred product increases the premium that these consumers are willing to pay. Firms face limited advertising budget and a portion of consumers leave the market at the end of each period. We examine the optimal advertising strategy for firms and provide some empirical support for our analytical results.

2 - Internet Media Planning: An Optimization Model
Janghyuk Lee, Assistant Professor, HEC School of Management, Paris, 1 rue de la Liberation, Jouy-en-Josas, 78351, France, lee@hec.fr
Lacouine Kerbache

Of the various media vehicles available for advertising, the Internet is the latest and the most rapidly growing, emerging as the ideal medium to promote products and services in the global market. In this article, the authors propose an Internet media planning model whose main objective is to help advertisers determine the return they obtain from spending on Internet advertising. Using available data such as Internet page view and advertising performance data, the model contributes to attempts not only to optimize the Internet advertising schedule but also to f the right price for Internet advertisements on the basis of the characteristics of the exposure distribution of sites. The authors test the model with data provided by KoreanClick, a Korean market research company that specializes in Internet audience measurement. The optimal durations for the subject sites provide some useful insights. The findings contrast with current Web media planning practices, and the authors demonstrate the potential savings that could be achieved if their approach were applied.

3 - Dynamic Effectiveness Control and Optimization of Integrated Communication Budgets
Kay Peters, Institute for Marketing, Am Stadtgraben 13-15, Muenster, 48143, Germany, kay.peters@uni-muenster.de
Kalyan Raman, Manfred Krafft, Prasad Naik

Based on the original research of Naik/Raman (2003) and the subsequent work of Naik/Raman/Winer (2004) we re-examine the use of the Kalman Filter to the optimization of integrated media communication budgeting with interaction effects. First, we present some insights from a simulation study based on the originally proposed optimization rules. Second, based on the insights gained, we change the underlying response function for the Kalman Filter approach, so that the parameters derived can be interpreted as common media budget elasticities. We also adapt the optimization rules accordingly. We apply this approach to two data sets and show, that (a) the Kalman Filter approach can be additionally used to study media budget effectiveness over time and (b) how the changed optimization rule improves the media budget allocation.

4 - A Three-stage Response Model of Integrated Marketing Communications
Timothy Smith, Assistant Professor, University of Minnesota, 2004 Folwell Ave., St. Paul, MN, 55108, United States, timsmith@umn.edu
Rabikar Chatterjee, Srinath Gopalakrishna

Corporations spend millions of dollars communicating with their customers and prospects; yet there is little definitive knowledge on practical issues such as the right mix of communications to employ, the appropriate levels of expenditure on those elements, and the timing of subsequent communications. While the typical m of communications includes some combination of advertising, direct mail, exhibition, and personal selling, these efforts frequently culminate with a personal interaction between buyers and sales people. On the surface, this relationship between marketing and sales appears symbiotic and complementary. However, the coordination of these two functions is often sporadic in practice, limited to information "hand offs." There are lingering tensions over resources, their role in enhancing

customer experiences, and their impact on the bottom line. The authors develop a multistage model to examine the effects of sequential marketing communications - and the time delay between communications and personal selling activities - on lead generation, appointment conversion, and sales closure, at the weekly level. The parameters of the model are estimated from data from a large company in the home improvement industry. Results from the three stages are combined into an optimization model where the model predicts different amounts of delay in the system for different levels and/or m of marketing expenditures for a fed (or adjustable) sales force capacity. Implications for improving the coordination of marketing and sales activities, specifically addressing multi-media communications spending and its influence on subsequent sales force timing and effectiveness are addressed.

SD12
Room 304
Innovations IV; International

Chair: Srinivas Reddy
Robert O. Arnold Professor of Business, University of Georgia, 149 Brooks Hall, Terry College of Business, Athens, GA, 30602, United States, sreddy@terry.uga.edu

1 - The Innovation of Nations

Rajesh Chandy, Associate Professor, University of Minnesota, 3-150 Carlson School, 321 19th Ave S, Minneapolis, MN, 55455, United States, rchandy@csom.umn.edu
Gerard Tellis, Jaideep Prabhu

We present results from the Global Innovation Index, which studies innovation in 16 countries: USA, Canada, UK, Germany, France, Italy, Switzerland, Netherlands, Sweden, Australia, Japan, China, Taiwan, India, Korea and Singapore. We combine firm level survey and patent data with country level economic data to address a number of previously unexplored research topics. Specifically: 1) we focus on national differences in innovation outputs: on innovations versus patents, R&D, or infrastructure; radical versus incremental innovations; product versus process innovations, and the conversion of inputs to innovations; 2) we explore the financial impact of innovation across nations; and 3) we examine five drivers of innovation: country economics, country culture, firms' attitude, firms' structure, industry environment.

2 - Global Takeoff of New Products: Role of Country, Product Type, and Time

Deepa Chandrasekaran, Doctoral Candidate, University of Southern California, The Marshall School of Business at USC, 3660 Trousdale Parkway, Acc 306, Los Angeles, CA, 90036, United States, dchandra@usc.edu
Gerard Tellis

Markets are becoming global with increasing number of new product introductions and intense global competition. In this environment, firms need to know how new products diffuse across countries, which markets are most innovative, and in which they should first introduce new products. Past studies have used mean time-to-takeoff of consumer durables as an indicator of the innovativeness of consumer markets in adopting new products. These studies have focused exclusively on the US and Western European markets. We plan to expand the study of takeoff to some of the largest economies of the World (e.g., Japan, China, India) and many of the fastest growing economies (e.g. China, India, S.Korea, Brazil). Based on prior research, we use the heuristic that the year of takeoff is the first year the market penetration of a product in a country crosses a 2% threshold. Our preliminary results show that: 1) Takeoff is an universal phenomenon, 2) Time-to-takeoff varies dramatically across countries, 3) Time-to-takeoff differs across functional and cultural products, 4) Time-to-takeoff is decreasing steadily over calendar time, 5) There is increasing convergence across countries over time for functional products, 6) Time-to-takeoff can be explained primarily by economics for functional products and by culture for cultural products, 7) Scandinavian countries, US, Canada, and Japan are the most innovative countries. Australasian countries and newly developed economies of Asia (e.g., Korea) are more innovative than established economies of Mediterranean Europe.

3 - A Spatio-Temporal Analysis of the Global Diffusion of ISO 9000 and ISO 14000 Certification

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Charles Corbett, Bart Bronnenberg

We use the global spread of ISO 9000 and ISO 14000 certification as a context to develop and test a model to examine the spatial and temporal characteristics of cross-country diffusion processes in a unified framework. The central questions in our analysis are whether diffusion of certification is subject to cross-country influences and if so what the nature of that influence is. To answer these questions, we propose a diffusion model which includes several candidate cross-country contagion effects and then use Bayesian methods for estimation and model selection. Using country by year data for 56 countries for 9 years, we find that accounting for cross-country influences improves both the fit and the prediction accuracy for our models of the global diffusion of ISO 9000 and ISO 14000. Interestingly, however, the exact contagion mechanism is different across the two standards. In the case of the ISO 9000 quality standard, geographic distance and bilateral trade flows are the strongest drivers of cross-country effects, while cultural similarity between countries plays less or no role in global diffusion. In contrast, cross-country contagion of the ISO 14000 environmental standard includes a cultural component in addition to the geographical and trade-related ones. We discuss the implications of cross-country influences in the context of the future diffusion of various international management standards that are currently under development.

4 - Diffusion of Art: An Investigation of the Evolution of Modern Indian Art

Srinivas Reddy, Robert O. Arnold Professor of Business, University of Georgia, 149 Brooks Hall, Terry College of Business, Athens, GA, 30602, United States, sreddy@terry.uga.edu
Umesh Gaur, Mayukh Dass

Value of art and artists follow a familiar life cycle patterns not too dissimilar to product and brand life cycles. Investments made at the appropriate time could yield handsome returns. Recent work by Mei and Moses (2002) show that long-term returns of art investment outperformed the S&P. We investigate how the value of art (such as Modern Indian Art, Latin American Art, South Asian Art) and individual artists (such as M.F. Husain, F. N. Souza, Diego Rivera, Fernando Botero, Kusuma Affandi, Hendra Gunawan) evolves in the market place. We will present our findings based initially on a comprehensive database of auction prices of Modern Indian Art realized during the last 10 years. Modern Indian Art considered to be one of the emerging markets (with several of the Indian artists making it to the world's top 200 list in 2004) is compared with the more evolved Latin American Art market to provide interesting insights of how art markets and individual artists evolve. Interesting parallels and differences of art markets and artists with product markets and brands are explored.

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TD06 Consumer Learning
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FA02 Advertising Effectiveness
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FA06 Learning and Uncertainty
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FD01 Game Theory IV
FD02 Choice
FD03 E-Commerce / E-Marketing II; E-Agents
FD04 Pricing Psychology
FD05 Relationships and Alliances
FD06 Customer Lifetime Value II
FD07 Special Session: Brand Metrics Linking Marketing to Financial Performance
FD08 Satisfaction; Consumer Heterogeneity Patterns
FD09 Marketing Research Applications
FD10 Bayesian Models II
FD11 Market Entry and Exits II
FD12 Not for Profit; Public Policy
FD13 Customer Loyalty Management
FD14 Durable Goods Pricing

Saturday, 8:30 -10:00am (Session A)

SA01 Special Session: Non Traditional Models of Consumer Preferences and Consumer Choices
SA02 Game Theory V
SA03 E-Commerce / E-Marketing III
SA04 Pricing I
SA05 Special Sesssion: Multiple Channels of Distribution I
SA06 Customer Relationship Marketing I; Product Portfolios
SA07 Marketing Metrics
SA08 Market Orientation
SA09 Marketing Research
SA10 Bayesian Applications
SA11 New Product Performance
SA12 Diffusion I
SA13 Choice; Continuous Services
SA14 Service Marketing I

Saturday, 10:30am -noon (Session B)

SB01 Special Session: Adaptive Preference Measurement and Estimation
SB02 E-Commerce / E-Marketing IV; Shopping
SB03 Topics in Consumer Behavior
SB04 Pricing II
SB05 Multiple Channels of Distribution II
SB06 Customer Relationship Marketing II
SB07 Market / Brand Dynamics
SB08 Media Planning
SB09 Product Quality
SB10 Market Structure; Competitive Set
SB11 Payoffs from New Product Development
SB12 Diffusion II
SB13 Bundling
SB14 Service Marketing II

Saturday, 1:15 -2:45pm (Session C)

SC01 Special Session: Optimizing Product Design and Customer Targeting
SC02 E-Commerce / E-Marketing V; Pricing
SC03 Customer Satisfaction & Loyalty
SC04 Pricing III
SC05 Multiple Channels of Distributions III
SC06 Customer Relationship Marketing III
SC07 Branding; Consumer Behavior
SC08 Customer Satisfaction
SC09 Conjoint Analysis
SC10 Choice Under Uncertainty
SC11 Strategy and Innovation
SC12 Diffusion III; Adoption
SC13 Product Assortments

Saturday, 3:00 -4:30pm (Session D)

SD01 Special Session: Obtaining Insights from and About Consumers
SD03 Branding; Brand Extensions
SD04 Pricing IV
SD05 Multiple Channels of Distribution IV
SD06 Customer Relationship Marketing IV: Impact on Performance
SD07 Brand Equity
SD09 Marketing Research; Multiple Responses
SD10 Choice Models; Heterogeneity
SD11 Integrated Marketing Communications
SD12 Innovation IV; International

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ROOM TRACK	130 01	238 02	234 03	231 04	201 05	204 06	207/208 07	338 08	334 09	331 10	301 11	304 12	421 13	453 14
THURSDAY														
TD 3:30-5:00		Advert.; Word-of-Mouth	Game Theory I	Product Line Mgmt	Channel Pricing; Coord.	Cons. Learning	Price Promotion	Innov'ns I; Channels	Auctions I	Spatial Models	NPD; Market Research	Retailing I; Comp'n	Response Functions	Sales-force Mgmt I
5:00-8:00	Reception – Courtyard													
FRIDAY														
7:30-8:30	Continental Breakfast													
FA 8:30 - 10:00	Practice Prize-I	Advert. Effective-ness	Click-stream Data	Game Theory II	Topics in Pharma Mktg	Learning & Uncertain	Sales-force Mgmt II	Innov'ns II; Adoption	Auctions II	Market Research Methods	Evol'n of Techn-ology	Retailing II; Pricing	Response Models	Topics in Channels
10:00 - 10:30	Break													
FB 10:30 – Noon	Practice Prize-II	Social Welfare	Online / Offline	Pricing Dynamics	Info. & Uncert. in Distrib'n	Decision Research	Detailing; Physician Behavior	Innov'ns III; Partners	Auctions III	Survey Research Methods	Foreign Entry & Exit	Retailing III; Perform.	Stochastic Models	Info Pres'n & Framing
Noon - 1:30	Lunch													
FC 1:30 - 3:00	Mktg Strat. in Practice	Game Theory III	E-Comm. / E-Mktg I	Pricing Assym.	Channel Govern.	CLV I	Special: Store Brands	Loyalty & Satisf.	Mkt Res; Generaliz-ations	Bayesian Models I	Market Entry & Exit I	Retailing IV; Assort.	Topics in Int'l Mkt'g	
3:00 - 3:30	Break													
FD 3:30 - 5:00	Game Theory IV	Choice	E-Comm. / E-Mktg II	Pricing Psych	Relation-ships & Alliances	CLV II	Special: Brand Metrics	Satisf; Hetero.	Market Research App's	Bayesian Models II	Market Entry & Exit II	Not for Profit; Public	Cust. Loyalty Mgmt	Durable Goods Pricing
5:30 - 7:00	Reception – Emory Conference Center Hotel													
7:00 - 9:30	Awards Dinner – Emory Conference Center Hotel													
SATURDAY														
7:30-8:30	Continental Breakfast													
SA 8:30 - 10:00	Special: Prefs & Choice	Game Theory V	E-Comm. / E-Mktg III	Pricing I	Special: Multi-channel	CRM I	Marketing Metrics	Market Orient'n	Market Research	Bayesian App's	New Product Perf	Diffusion I	Choice; Continu. Services	Services Marketing I
10:00 - 10:30	Break													
SB 10:30 – noon	Special: Adaptive Prefs	E-Comm. / E-Mktg IV	Topics in Consumer Behavior	Pricing II	Multiple Channels II	CRM II	Market / Brand Dynamics	Media Planning	Product Quality	Market Structure	Payoffs From NPD	Diffusion II	Bundling	Services Marketing II
Noon - 1:15	Lunch													
12:15 - 1:00	Practice Track – Special Session (Room 130)													
SC 1:15 - 2:45	Special: Product Design	E-Comm. / E-Mktg V	Customer Satisf. & Loyalty	Pricing III	Multiple Channel III	CRM III	Branding; Cons. Behavior	Customer Satisf. Break	Conjoint Analysis	Choice Under Uncert.	Strategy & Innov	Diffusion III; Adoption	Product Assort.	
2:45 - 3:00	Break													
SD 3:00 - 4:30	Special: Customer Insights		Branding; Brand Ext'ns	Pricing IV	Multiple Channel IV	CRM IV	Brand Equity		Mkt Res; Multiple Response	Choice Models; Hetero.	IMC	Innov'ns IV; Int'l		
4:30 - 5:00	Reception – Courtyard													