



AMERICAN MARKETING ASSOCIATION

# ARTforum

ADVANCED » RESEARCH » TECHNIQUES

20TH ANNIVERSARY

## REGISTER BY MAY 14 AND SAVE!

*MarketingPower.com/artforum*

This unique conference brings together leading researchers from academia and industry to exchange ideas, discuss new methodologies, and review standard practices. ART Forum aims to create and maintain a strong link between technical excellence and methods that is actionable in business practice.

*In celebration of the 20th anniversary of the ART Forum, all attendees will receive a commemorative laptop bag.*

**ART Forum  
20th  
Anniversary  
Gift**

WHISTLER, BC, CANADA | JUNE 14–17, 2009

AMERICAN MARKETING ASSOCIATION

# ARTforum

ADVANCED » RESEARCH » TECHNIQUES

20TH ANNIVERSARY

Dear Attendee:

In honor of the 20th anniversary of this special conference, the ART Forum Program Committee not only chose papers that offer improvements and extensions of methods featured in past conferences, but also advanced methods in areas of emerging interest to both practitioners and academics in marketing. These include sophisticated approaches to data collection, integrity, and dynamic models.

Several popular features from previous years are offered again this year, including the poster sessions and roundtable discussions. The poster sessions allow extensive one-on-one discussion, and roundtables provide the opportunity to expand upon the formal presentations.

We also offer a number of activities for first-time and newer ART Forum attendees, including an overview of the conference and its content, assisted professional networking, and a tutorial designed to introduce attendees to the advanced research methods presented in the program.

We hope that you will join us for an exciting and informative 2009 ART Forum.

## TIM GILBRIDE

*Committee Chair*

*Assistant Professor of Marketing  
University of Notre Dame*

## ART FORUM PROGRAM COMMITTEE

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### Prasad Naik

Professor of Marketing  
University of California,  
Davis

### Robert Sanders

Director  
Allstate Insurance

### Lynn Brown

Program Manager  
American Marketing  
Association

## HIGHLIGHTED TOPICS:

Over the course of two and a half days of programming, attendees are encouraged to share in a lively and open discussion and critique of the various methods. Additional learning opportunities are provided through optional tutorials on a variety of topics:

- Making the Most of the ART Forum: An Exploration of Topics and Methods
- Market Segmentation: Conceptual and Methodological Foundations
- Advanced Market and Customer Segmentation
- Introduction to Discrete Choice Modeling
- Advanced Topics in Discrete Choice Modeling
- Applied Probability Models in Marketing Research: Introduction
- Probability Models for Customer-Base Analysis
- An Introduction to Bayesian Statistics and Marketing
- Advanced Bayesian Statistics and Marketing

## NEW TUTORIAL:

- Introduction to Dynamic Marketing Models

# PRE-CONFERENCE TUTORIALS (Optional)

SUNDAY, JUNE 14, 2009

8:00 am–1:30 pm Tutorial Registration

8:15 am–12:15 pm Concurrent Tutorials A, B, C, D (*Tutorial D repeats Wednesday*)

## A. Making the Most of the ART Forum: An Exploration of Topics and Methods

*Jeff Brazzell and Cindy Ford, The Modellers, Inc.*

Get ahead of everyone else! If you would like some extra background on and discussion of the important advancements that will be presented at this year's ART Forum, then this tutorial is for you. We will outline and discuss the major analytical themes that will be covered in this year's Forum with the aim of helping you get the most out of the ART. We'll include some history to help put methodologies into perspective and incorporate case study examples where possible. Topics will follow the Forum agenda and include customer relationship modeling, choice modeling and dynamic models, as well as data collection challenges and implications.

## B. Market Segmentation: Conceptual and Methodological Foundations

*Wagner Kamakura, Duke University*

Market segmentation is an essential component of any marketing strategy and is a required consideration in most marketing-related decisions. As many organizations become more customer-focused, they also use segmentation as an important basis for developing their customer relationship-management strategy.

This tutorial will start with the conceptual foundations of market segmentation, reviewing the requirements for effective segmentation and the different forms of market segmentation. However, the major emphasis will be in providing participants with a clear intuition about how the basic methods for market/customer segmentation work, what are their advantages and limitations. This will be done through the discussion of illustrative examples and real applications of the methodology for market and customer segmentation based on life-style, life-cycle, choice-based conjoint, customer behavior and share-of-wallet. Among the methods and models to be discussed are: K-means Clustering, Latent-class Analysis, Regression Mixtures and Multinomial-Logit Mixtures.

This tutorial will draw on the material from the book of the same title by Wedel and Kamakura, but with less emphasis on the technical details and with new methods and applications.

## C. Introduction to Discrete Choice Modeling

*Bryan Orme, Sawtooth Software, and Jon Pinnell, MarketVision Research*

This tutorial is designed for people with only limited background or experience with discrete choice modeling. We'll provide background for understanding from where choice models have evolved and why they have gained such presence in commercial marketing research over the past decade. In addition, we'll:

- Review the terms commonly encountered when designing, executing, analyzing and reporting a discrete choice study.
- Discuss the inputs to and outputs from a discrete choice study.
- Describe the challenges of modeling choice data, including IIA, capturing heterogeneity, and dealing with simple vs. more complex model specifications.
- Provide a list of "pitfalls to avoid" and "best practices" for executing discrete choice studies.
- Illustrate uses and applications of discrete choice modeling.

While some math is unavoidable, the focus is on practical issues, solutions and theory. We will provide attendees a framework by which they can evaluate whether discrete choice is an appropriate approach and how best to work with internal specialists or vendors to deliver the most useful choice research.

## D. Introduction to Dynamic Marketing Models

*Prasad Naik, University of California, Davis*

**NEW!**

Dynamics emerge in many ways: managers' current decisions (e.g., advertising spending) affect not only current outcomes (e.g., sales, awareness), but also future outcomes (e.g., brand equity); or managers anticipate future outcomes (e.g., likelihood of product harm crisis) and incorporate potential consequences in making current decisions; even the mere passage of time changes a firm's external environment (e.g., onset of recessions), affecting consumers and managers and competitors and markets. Although such different phenomena lead to different formulations of dynamic models, their estimation and inference is, nonetheless, unified in the framework of state-space models.

This tutorial will introduce several examples of commonly used dynamic models in marketing, illustrate the common theme that unifies them within the state-space framework, explain how to estimate them using a common algorithm via the Kalman filter, and provide an intuitive understanding of how and why the Kalman filter works and its role in classical and Bayesian statistics. This tutorial contains technical notations for clarity and precision (viewer discretion is advised!), but our focus will be on learning the use and usefulness of dynamic marketing models in practice.

**REGISTER  
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12:15–1:00 pm

Lunch

1:00–5:00 pm

Concurrent Tutorials E, F, G

**E. Advanced Market and Customer Segmentation***Wagner Kamakura, Duke University*

This second tutorial will focus on extensions of the basic classification and data-reduction tools discussed in the first tutorial, which allow for more advanced forms of market and customer segmentation such as: segmentation with concomitant variables, joint segmentation and dynamic segmentation.

To better understand these model extensions, we will first review some of the methodological details of the basic models. Among the extensions to be covered in the advanced tutorial are:

- Latent class analysis with concomitant variables—useful for profiling segments and for joint segmentation
- Hidden Markov models—applied to dynamic segmentation
- Latent variable models for Generalized Factor Analysis—useful for data reduction and for individual-level measurement

Implementation issues will also be discussed in this second tutorial, including the availability of commercial software for latent-class and latent-variable modeling.

**F. An Introduction to Bayesian Statistics and Marketing***Greg Allenby, The Ohio State University*

The tutorial will provide an introduction to modern Bayesian statistics in marketing. The tutorial will draw from material in the book *Bayesian Statistics and Marketing* by Rossi, Allenby and McCulloch using the R statistical software available at <http://www.r-project.org/>. Many sessions at the conference this year will report results based on (hierarchical) Bayesian models using Markov chain Monte Carlo (MCMC) methods of estimation. The goal of this tutorial is to lay the groundwork for understanding the basics behind these sessions, and to set the stage for the advanced tutorial offered on Wednesday. Software algorithms from the R contributed package “bayesm” will be used to illustrate the methods (also available from the same website). Attendees are encouraged to download R and the bayesm package onto their laptops before the session, and to bring their laptops with them to the tutorial. Attendees will leave with a better understanding of Bayesian models and some of the tools needed to estimate their own models of marketing data.

**G. Applied Probability Models in Marketing Research: Introduction***Peter Fader, University of Pennsylvania, and  
Bruce Hardie, London Business School*

Central to a complete understanding of today’s “leading-edge” market research techniques is a sound intuitive appreciation of the basic foundations upon which these sophisticated tools are built. For example, both Hierarchical Bayes models and latent class models build on simple probability modeling concepts (e.g., zero-order choice process, Poisson counts, conditional expectations, and exponential interpurchase times)—yet how many researchers are comfortable at precisely defining these concepts or explaining the motivation for using them?

This tutorial aims to fill in these gaps by bringing practitioners fully up to speed on the basic methods that may underlie many of their current or future research activities. Our two broad objectives are (1) to review the basic terminology and logic associated with the area of probability models as applied to marketing research problems, and (2) to develop participants’ skills through a set of case studies that demonstrate the model building process in detail. We will illustrate all of the steps required to develop a probability model, estimate its parameters, and interpret the results. Careful and extensive use is made of the Solver tool in Microsoft Excel, which makes it possible to construct all of these models within a familiar spreadsheet environment. By the end of the tutorial, participants should be quite comfortable with all of the aforementioned principles and models and the managerial issues that surround them.

1:00–6:45 pm

Conference Registration

5:00–5:30 pm

Welcome Orientation

5:30–6:45 pm

Welcome Reception

**REGISTER  
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MONDAY, JUNE 15, 2009

7:30 am–6:30 pm	Conference Registration, Posters and Exhibits Open for Viewing
7:30–8:00 am	Continental Breakfast
8:00–8:10 am	Welcome from Conference Chair

## CONFERENCE PAPERS

8:10–11:30 am	Session I: CRM
8:10–8:15 am	Introduction by Session Chair

### 8:15–8:45 am Customer-Base Analysis Using Repeated Cross-Sectional Summary (RCSS) Data

*Pete Fader, Wharton School, University of Pennsylvania*  
*Bruce Hardie, London Business School*  
*Kinshuk Jerath, Carnegie Mellon University*

While we have many powerful models to capture and forecast customer behavior using individual-level datasets, a growing number of critical issues (ranging from IT complexity to data-protection laws) make it difficult to store and utilize such data in practice. With this in mind, we investigate the use of a series of histograms or “repeated cross-sectional summaries” (RCSS, for short) as a much simpler data summary. We demonstrate how a popular model (the Pareto/NBD) can be effectively implemented using RCSS data instead of the usual disaggregate datasets with virtually no loss in the performance of the model or the accuracy of its parameter estimates.

### 8:45–9:15 am Roadmap to CLV for CPG

*Rick Abens, Director of Advanced Analytics, Conagra Foods*  
*Dominique Hanssens, UCLA Anderson School of Management*

Until now, consumer packaged goods companies could not measure and manage customer lifetime value because consumers switch back and forth between brands and retailers so often. Current CLV management practices work well with companies that have contractual or more formal relationships with their customers, where the distinction between current customer and a prospect is clear. These firms have utilized CLV management over ROI management so that they can better manage the long-term impact of their marketing strategies. By adopting an “always-a-share” approach, CPG companies can also use CLV management to acquire and develop loyal consumers.

9:15–9:35 am	Discussion
9:35–10:05 am	Break
10:05–10:10 am	Introduction by Session Chair

### 10:10–10:40 am Survival Ensembles as a Tool for Analyzing Customer Attrition

*Kurt A. Pflughoeft, Director of Marketing Sciences, Market Probe*  
*Jorge Alejandro, Associate Research Director, Market Probe*

Customer attrition is a perplexing issue as even the most satisfied customers defect. To model this process requires techniques which can handle both the dimensions of time and censorship. Random survival forests and the Cox proportional hazards model are used to gain insights as to the predictors that increase the likelihood of defection within the telecommunications industry.

### 10:40–11:10 am B2B Customer Recommendations Based on a Planned Purchasing Model

*Peter Lenk, University of Michigan*  
*Lynd Bacon, Loma Buena Associates*  
*Michael Troutman, CMT Marketing Analytics*

We propose a B2B product recommendation and sales support system for a manufacturer. We assume that the manufacturer’s customers periodically (daily) review their inventory levels, reorder when the inventory drops below preset reorder points, and determine order quantities based on expected future demands. Our periodic review inventory model (PRIM) derives inter-order time distributions as functions of previous quantity and expected customer demand, which varies over time. We use hierarchical Bayes methods to predict reorder times and quantities for a large number of SKUs, to estimate demand functions with splines, to incorporate the effect of sales calls with impulse decay functions, to include seasonal and regional variations, and to account for customer-level effects. The predictions from PRIM are used in a decision support system to help sales representatives schedule business visits over time and geographically and recommend products during sales calls.

11:10–11:30 am	Discussion
11:30 am–1:00 pm	Lunch

**1:00–4:20 pm**      **Session II: Data Collection and Analysis****1:00–1:05 pm**      **Introductions****1:05–1:35 pm**      **Quantifying the Risk of “Bad” Respondents**

*Michael Conklin, Chief Methodologist, MarketTools Inc.  
Norbert Wirth, Director - Analytics Europe, MarketTools Ltd.*

Recently, the marketing research world has been inundated with loudly voiced concerns about respondent quality, especially in online panels. Much of the discussion has centered on anecdotal evidence of inconsistent results in a single replicated study, but anecdotes cannot prove or disprove any hypothesis. Others focus on whether the business decision is possible to change given the small differences in results caused by “bad” panelists. In this presentation we demonstrate methods for quantifying the risk-benefit trade off of taking actions to eliminate “bad” panelists from a sample.

**1:35–2:05 pm**      **Beyond Click-Through: Identifying the Problem and the Impact It Has on Choice Based Conjoint Studies**

*Katherine Lewis, Senior Analyst, Adelphi International Research  
Adrian Vickers, Statistics Manager, Adelphi International Research  
Roger Brice, Group Director, Adelphi International Research  
Phil Mellor, SVP - Development, Adelphi International Research*

The increasing use of the Internet for survey data collection has led to an emergence of respondents who give little (or even no) real thought to their responses. This goes beyond the problem of “click-through” to other inappropriate responses with varying impact on data quality. We discuss the nature of this problem across countries and identify different cheating patterns and present remedies.

**2:05–2:25 pm**      **Discussion****2:25–2:55 pm**      **Break****2:55–3:00 pm**      **Introduction by Session Chair****3:00–3:30 pm**      **Understanding Search and Selection: Utilizing Virtual Reality Research Capabilities to Uncover In-store Shopper Decision Paths and Navigational Cues**

*Stuart Taylor, VP Insights, Kimberly-Clark Corporation  
Karin Peterson, Director, Shopper Insights, Kimberly-Clark Corporation  
Ruth Thompson, VR Research Manager, Kimberly-Clark Corporation*

Kimberly-Clark has been a pioneer in developing and implementing virtual reality (VR) capabilities in consumer and shopper research. Working in partnership with multiple key research suppliers, a combination of methods have been employed through research in VR environments to uncover new insights around the shopping experience, the conscious and sub-conscious decision and navigation paths (search and selection) shoppers take in making purchase selections to fulfill their needs. This presentation offers early views and insights into these techniques and findings.

**3:30–4:00 pm**      **Harnessing Virtualization Technologies for Market Research and Measuring New Media Impact**

*Paul Messinger, University of Alberta  
Eleni Stroulia, University of Alberta  
Kelly Lyons, University of Toronto  
Xin Ge, University of Northern British Columbia  
Annie Niu, Webster University  
Kristen Smirnov, University of Alberta  
Michael Bone, University of Alberta*

This paper deals with new modes of data collection using virtual worlds and virtualization technologies to examine traditional market research questions and the impact of new media. In particular, we describe an approach to conducting surveys in virtual worlds. We also consider the implications of virtualization technologies for focus groups, pre-market tests and ethnographic observation. We then show how these techniques can be applied to assess the impact of new media at four levels of engagement, which we refer to as a “hierarchy of engagement.” Overall, understanding how virtualization technologies influence market research methods and media communications is important for understanding future developments in the market research and advertising professions.

**4:00–4:20 pm**      **Discussion****4:30–5:00 pm**      **Roundtable Discussions****5:00–6:30 pm**      **Poster Authors Available for Discussion****5:00–6:00 pm**      **Networking Hour**

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TUESDAY, JUNE 16, 2009

7:30 am–6:30 pm	Conference Registration
7:30–8:00 am	Continental Breakfast
8:00 am–5:00 pm	Posters Available for Viewing
8:00–8:10 am	Comments from Conference Chair

## CONFERENCE PAPERS

8:10–11:30 am	Session III: Enduring Issues
8:10–8:15 am	Introduction by Session Chair

### 8:15–8:45 am **Predicting Joint Choice Using Individual Data**

*Neeraj Arora, University of Wisconsin - Madison*  
*Anocha Aribarg, University of Michigan*  
*Moon Young Kang, University of Wisconsin - Madison*

Choice decisions in the marketplace are often made by a collection of individuals or a group. A particularly unique aspect of a joint choice is that the group's preference is very likely to diverge from preferences of the individuals that constitute the group. For a marketing researcher, the biggest hurdle in measuring group preference is that it is often infeasible or cost prohibitive to collect data at the group level. Our objective in this research is to propose a novel methodology to estimate joint preference without the need to collect joint data from the group members. Our methodology makes use of both stated and inferred preference measures, and merges experimental design, statistical modeling, and utility aggregation theories to capture the psychological processes of preference revision and concession that lead to the joint preference. Results based on a study involving a cell phone purchase for 214 parent-teen dyads demonstrate predictive validity of our proposed method.

### 8:45–9:15 am **A Dynamic Framework for Modeling Multistakeholder Interaction – Pharmaceutical Case Study**

*Brian Griner, Executive Director, Strategic Analytics*  
*Andrew Aprill, Founder, Biovid Corp.*

This presentation will cover a real-world case study in the pharmaceutical sector where the dynamics of a physicians, patients and payors are modeled in an integrated framework that simulates the interplay between key stakeholders in the market and identifies key business drivers for those stakeholders.

9:15–9:35 am	Discussion
9:35–10:05 am	Break
10:05–10:10 am	Introduction by Session Chair

### 10:10–10:40 am **A Probit Model with Structured Covariance for Similarity Effects and Source of Volume Calculations**

*Jeffrey Dotson, Vanderbilt University*  
*Jeff D. Brazell, CEO, The Modellers, LLC*  
*Peter Lenk, University of Michigan*  
*Thomas Otter, Johann Wolfgang Goethe-Universitaet Frankfurt*  
*Steven N. Maceachern, Ohio State University*  
*Greg M. Allenby, Ohio State University*

It is well known that independent errors in random utility models can result in anomalies in prediction. In particular, if the random components for the options within a choice task are assumed to be independent, then the independence of irrelevant alternatives (IIA) can result in unrealistic predictions (e.g., market share forecasts) when a choice set contains perceptually similar alternatives. We propose a parsimonious model for the error covariance based upon a subject's perceived distance among alternatives. We demonstrate the value of our model using data from a commercial conjoint study. We show that assumptions about the error term in a random utility model do have a substantial impact on prediction and that our structured covariance probit model can flexibly accommodate correlated errors, thus yielding more realistic patterns of substitution.

### 10:40–11:10 am **Getting Pricing Right: What Do We Learn from Popular Methods?**

*David Bakken, Executive Vice President, Harris Interactive*  
*Cynthia Mun, Methodologist, MGM-Mirage*  
*Jennifer Rice, Methodologist, Harris Interactive*

Conjoint methods are generally regarded as the best survey-based method for estimating price elasticity for products and services. Even so, less rigorous methods, such as the Van Westendorp price sensitivity meter, Gabor-Granger, and brand-price trade-off (BPTO) continue to be employed, often for cost reasons. Using a survey that included both a choice-based conjoint study and a Van Westendorp component, we consider the validity of the two approaches with respect to an in-market pricing experiment conducted by the client. We compare the use of the Van Westendorp estimates of reservation prices with other methods (such as a cut-off model) for improving simulation of demand under varying prices.

11:10–11:30 am	Discussion
11:30 am–1:00 pm	Lunch

### 1:00–2:25 pm Session IV: Emerging Challenges

1:00–1:05 pm	Introduction by Session Chair
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#### 1:05–1:35 pm **A 300 Vehicle Continuous Shape Space for Market Research Applications**

*John Cafeo, Technical Fellow, General Motors R&D*  
*Randall Smith, General Motors R&D*  
*Richard Pawlicki, Consultant, RRP&Associates*

This presentation reviews current efforts and open issues in creating a continuous shape space of parameterized vehicles for the design and marketing of new cars. Our hand-built 300 vehicle shape database includes 2D side views of 2008 North American cars and trucks—essentially one version of every commercially available consumer vehicle. The vehicles are put into correspondence so they can be formally compared. With this basis set, we utilize techniques from Biological Morphometrics to describe shape and size separately, or together. We are exploring the open question: “Do vehicles that have similar shapes have similar physical properties? Do they evoke similar emotional responses—e.g., have the same aesthetic appeal?” In this case, similarity is defined as distance between different shapes.

#### 1:35–2:05 pm **Website Morphing**

*Michael Braun, Massachusetts Institute of Technology*  
*Gui Liberali, Massachusetts Institute of Technology*

Adapting website design to user characteristics in real time can have substantial impact on sales. We propose a method to morph websites automatically by matching website basic structure and other functional characteristics to customers’ cognitive styles in real time. We demonstrate feasibility and potential profit increases using data from a representative sample of potential and current customers of a large broadband provider from Great Britain to prime the analysis of an experimental website developed to sell broadband plans. To encourage further development, we provide a taxonomy of potential cognitive styles, morph design procedures and guidelines that help building efficient websites that allow rapid identification of the user style and efficient morphing.

2:05–2:25 pm	Discussion
2:25–2:55 pm	Break
2:55–3:00 pm	Introduction by Session Chair

#### 3:00–3:30 pm **No Front Door, No Check Out Counter: The Challenges of Measuring Destination Marketing Success**

*Deborah Diamond, Director of Research and Strategy,  
Greater Philadelphia Tourism Marketing Corporation*  
*Ethan Conner-Ross, Research Analyst, Greater Philadelphia Tourism Marketing Corporation*

This presentation by a destination marketing organization will introduce the challenges associated with measuring visitation to destinations that have no front door and no check-out counter. Using state-of-the-art, customized techniques, Greater Philadelphia has been successful in obtaining the measures that destinations need to direct their marketing strategies and demonstrate their marketing success. The techniques include online measures, survey research and econometric modeling.

#### 3:30–4:00 pm **Sampling Large-Scale Social Networks—The Good, The Bad, and the Ugly**

*Peter Ebbes, Penn State University*  
*Zan Huang, Penn State University*  
*Arvind Rangaswamy, Penn State University*

There is growing interest among marketing academics and practitioners in understanding social networks and their potential impact on marketing activities. We will demonstrate how practitioners should construct samples of social networks using sampling techniques that we found most useful for sampling networks. We will provide insights regarding sample sizes that are necessary for adequately recovering the characteristics of population networks and outline how we are studying the expected effects of “buzz” campaigns and behavioral outcomes via sampled networks.

4:00–4:20 pm	Discussion
4:30–5:00 pm	Roundtable Discussions
5:00–6:30 pm	Poster Authors Available for Discussion
5:00–6:00 pm	Networking Hour

**REGISTER  
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WEDNESDAY, JUNE 17, 2009

7:30 am–1:30 pm	Conference Registration
7:30–8:00 am	Continental Breakfast
8:00–8:10 am	Comments from Conference Chair

## CONFERENCE PAPERS

8:10–11:50 am **Session V: Dynamic Models**

8:10–8:15 am **Introductions**

8:15–8:45 am **A Dynamic Factor Model for Understanding the Intermediate Effects of Advertising on Sales**

*Norris I. Bruce, University of Texas Dallas*  
*Kay Peters, Managing Director, Center for Interactive Marketing and Media Management, University of Muenster*  
*Prasad A. Naik, University of California, Davis*

We present a new approach that enables managers to extract information contained in “soft” metrics such as ad recognition, memorability, humor, purchase intention and utilize it to predict brand sales. Two novel aspects of the proposed approach are as follows. First, we incorporate dynamic evolution of the three factors—cognition, affect, experience—over time. Such dynamics are ignored in previous studies partly because most multi-factor studies used either cross-sectional data or laboratory experiments, and partly because the appropriate method for extracting dynamic factors with stable correlations is not available in the extant literature. Second, based on the theory of discrete algebraic Riccati equations (DARE), we develop a new method to estimate stable correlations amongst dynamically evolving factors. We illustrate this method by applying it to market data on soft and hard metrics (e.g., GRPs, sales) and demonstrate its usefulness in not only understanding the dynamic factor structure and predicting brand sales, but also furnishing evidence that the underlying factors are not orthogonal as implied by previous static models. Finally, we discuss the implications for researchers and managers.

8:45–9:15 am **Evaluating Mean Reversion in Market Data: A Structural Time Series Approach**

*John Hartman, Vice President, Observant LLC*  
*Stephen Cameron, Columbia University*  
*Erik Coats, Observant LLC*

Brand managers frequently seek to evaluate the impact of such diverse interventions as new marketing drives, sales force optimizations, competitive “share stealing” and advertising campaigns. To do so they turn to “pre-post” panel data analysis or aggregate time series analysis. It is our belief that such efforts at data analysis are often afflicted with a dynamic variant of Galton’s fallacy as the initial condition of the observation point may affect its subsequent dynamics. In our present data analysis we find a tendency to mean reversion. We utilize a new test for long horizon mean reversion and employ structural time series methods to decompose consumer sales data for twenty Metropolitan Statistical Areas (MSAs) for a 20-year period.

9:15–9:45 am **Optimal Advertising During a Crisis**

*Olivier Rubel, University of California, Davis*  
*Prasad A. Naik, University of California, Davis*  
*Shuba Srinivasan, University of California, Riverside*

We examine how forward-looking managers should optimally allocate resources to corporate and brand advertising, when anticipating the possibility of a product-harm crisis, which could erode marketing effectiveness and/or baseline sales.

9:45–10:05 am **Discussion**

10:05–10:25 am **Break**

10:25–10:30 am **Introduction of Paul Green Award Winner**

10:30–11:00 am **Presentation: Recipient of the 2008 Paul Green Award Recommendation Systems with Purchase Data**  
*Anand V. Bodapati, University of California, Los Angeles*

11:10–11:15 am **Discussion**

11:15–11:30 am **Announcement of Best Presentation Award**  
**Closing by 2010 Chair**

11:30 am **Conference Adjourns**

## POST-CONFERENCE TUTORIALS (Optional)

WEDNESDAY, JUNE 17, 2009

12:30–4:30 pm

Concurrent Tutorials H, I, J, K (Tutorial attendees – lunch is on your own)

### H. Advanced Bayesian Statistics

*Greg Allenby, Helen C. Kurtz Chair in Marketing, The Ohio State University*

This advanced tutorial on Bayesian modeling picks up from the Sunday introductory session. We will focus on hierarchical models, including logit and probit models with random-effects, and gain an understanding of the Metropolis-Hastings algorithm. Tutorial material will continue to draw from the book *Bayesian Statistics and Marketing*. We will explore algorithms used in a number of the ART Forum sessions for model estimation, including quantile regression and other models used to analyze marketing data. Attendees are encouraged to download software and case studies onto their laptops prior to tutorial. Data for the case studies in the book are available at: <http://faculty.chicagogsb.edu/peter.rossi/research/bsm.html>.

### I. Probability Models for Customer-Base Analysis

*Peter Fader, University of Pennsylvania  
Bruce Hardie, London Business School*

Customer-base analysis seeks to use information on the history of customer purchase patterns to identify which individuals are most likely to be active (or inactive) customers and to predict future purchasing patterns by those customers listed in the firm's transaction database. Any researcher hoping to make statements about "customer lifetime value" must deal with these issues, but unfortunately the set of commonly available tools is not well-suited for the task.

This tutorial builds upon the basic "platform" provided in our introductory seminar to provide a set of techniques and models tailored to address these situations properly. As before, we will focus on developing the models entirely in Excel and provide attendees with the relevant spreadsheets and notes on how to implement the models "from scratch". Our goal is to provide the attendee with tools that can be applied immediately (maybe with some slight modifications) at his/her place of work. The structure of the tutorial is as follows:

- Introduction to the idea of customer-base analysis
- Overview of the concept of Customer Lifetime Value (CLV) and the presentation of a general framework for its calculation
- Brief review of the probability modeling basics required for model building (e.g., review of binomial, geometric, Poisson, exponential, gamma, and beta distributions; discussion of common mixtures such as the NBD, beta-geometric, and beta-binomial)
- Presentation of probability models that can be used to answer various managerial questions including the calculation of CLV
- Generalizations of the specific models presented in this tutorial making links to the broader modeling literature

### J. Advanced Topics in Discrete Choice Modeling

*Jon Pinnell, President, MarketVision Research  
Bryan Orme, President, Sawtooth Software*

In this tutorial, we'll discuss advanced topics the experienced choice researcher is likely to encounter in practice. This session will discuss issues surrounding design, parameter estimation, and simulation. The session will begin with very brief review of background and definitions. The session will continue with:

- Advanced design topics, such as evaluating design efficiency, alternative-specific designs, interactions, conditional effects, and methods to deal with many attributes;
- Issues in parameter estimation, such as different approaches to disaggregation, HB pitfalls, assessing respondent reliability; the scale parameter, methods to guide market segmentation; and
- Simulation topics, including: the question if utilities are linearly additive, goal seeking/optimization, IIA issues and interpretation of the default alternative.

The session will include a compendium of 'best practices' based on empirical findings. We assume that those attending this tutorial are familiar with discrete choice modeling.

### K. Introduction to Dynamic Marketing Models

*Prasad Naik, University of California, Davis*

NEW!

Dynamics emerge in many ways: managers' current decisions (e.g., advertising spending) affect not only current outcomes (e.g., sales, awareness), but also future outcomes (e.g., brand equity); or managers anticipate future outcomes (e.g., likelihood of product harm crisis) and incorporate potential consequences in making current decisions; even the mere passage of time changes a firm's external environment (e.g., onset of recessions), affecting consumers and managers and competitors and markets. Although such different phenomena lead to different formulations of dynamic models, their estimation and inference is, nonetheless, unified in the framework of state-space models.

This tutorial will introduce several examples of commonly used dynamic models in marketing, illustrate the common theme that unifies them within the state-space framework, explain how to estimate them using a common algorithm via the Kalman filter, and provide an intuitive understanding of how and why the Kalman filter works and its role in classical and Bayesian statistics. This tutorial contains technical notations for clarity and precision (viewer discretion is advised!), but our focus will be on learning the use and usefulness of dynamic marketing models in practice.

REGISTER  
BY MAY 14  
AND SAVE!

## POSTER PRESENTATIONS:

June 14–17, 2009

Posters will be available for viewing and authors will be available for discussion during breaks and receptions

**Design and Analysis of a Lexicographic Choice Model for Brand Tracking Research**  
Keith Chrzan, VP, Marketing Sciences, Maritz Research

**Virtual Velcro Whiteboard: An Interactive Engaging Way to Capture Online Perceptual Responses**  
Brian Attig, PhD, Vice President, Quantitative Services Division, Psyma International

**A Choice Based Conjoint and Maximum Difference Scaling Approach to Constant-Sum Unmet Needs Analysis**  
James L. Alford, PhD, User Experience Researcher, Volt Information Sciences

**Information as a Segmentation Metric**  
Pieter Sheth-Voss, Research Director, Eidetics

**Exploring the Reliability and Validity of Conjoint Analysis Studies**  
Christopher N. Chapman, PhD, User Experience Researcher, Microsoft Corporation

**Comparison of Genetic Algorithm, Greedy Algorithm, and a Feature Reduction Heuristic in Search of an Optimal Product Line**  
Thomas Wilson, Statistical Analyst, and Susanna Xu, Statistical Analyst II, Momentum Market Intelligence

# GENERAL INFORMATION

## 20TH ANNUAL ART FORUM REGISTRATION

### Conference Fee

*Early Registration:\**

**AMA Member: \$875 • Non-Member: \$1,140 • AMA Doctoral Student: \$365**

Any marketing academician/practitioner wishing to expose a doctoral student to the ART Forum is encouraged to accompany them to the conference; the student will receive a special discount rate. Note: Registrations and payment must be received together to qualify for the discount. AMA can not match up registrations at our offices. In the case of online payment, please have the student's member ID and contact information ready.

### Optional Tutorial Fee

Tutorials are optional and are held on Sunday, June 14 and Wednesday, June 19.

*Early Registration:\**

**AMA Member: \$225 per tutorial • Non-Member: \$250 per tutorial**

*\*Registration must be received by **May 14, 2009**. After May 14, add \$100 to fees.*

*Note: Conference registration may not be shared by two or more individuals.*

*Space is limited, and on-site registration cannot be guaranteed.*

### Hotel

#### The Westin Resort & Spa, Whistler

4090 Whistler Way

Whistler, BC, Canada V0N 1B4

Phone: 1.604.905.5000

Reservations: 1.866.412.2864

<http://www.westinwhistler.com/>

*Online reservations:*

<http://www.starwoodmeeting.com/Book/ARTForum2009>

### Room Rates:

**Studio Junior Suite: \$219 CAD**

**One Bedroom Suite: \$249 CAD**

Rates are available from three days before to three days after the meeting dates, based on availability. Please reserve your overnight accommodations early as there are a limited number of AMA special rates available. The reservation cut-off date is Friday, **May 15, 2009**. After May 15, the rooms will be released for sale to the general public, and all reservations will be accepted on a space-available basis at the hotel's available rate.

### Quality Guarantee

AMA is committed to quality. If for any reason you are not satisfied with the ART Forum, the AMA will give you full credit toward another conference or refund your fee. All requests must be submitted to the AMA in writing.

### ADA Accessibility

The AMA is committed to providing equal access to our meetings for all attendees. If you are an attendee with a disability and require program accommodations, please contact the AMA Meeting Services Department at least 14 days before the start of the meeting and we will ensure that appropriate access arrangements are made. If you have disability related needs for your hotel sleeping room, please communicate those directly to the hotel when you make your reservation.

### Conference Cancellation Policy

Cancellations received prior to May 14, 2009 will be granted minus a \$150 fee, cancellations received after May 14 will be granted minus a \$300 fee. There will be no refunds issued on or after the first day of the conference.

ART Forum  
20th  
Anniversary  
Gift

*In celebration of the 20th anniversary of the ART Forum, all attendees will receive a commemorative laptop bag.*



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