2016 JPIM/MSI RESEARCH WORKSHOP

INNOVATION IN DATA-RICH ENVIRONMENTS

June 8th-10th, 2016

SPONSORED BY:

The Journal of Product Innovation Management (JPIM)
The Marketing Science Institute (MSI)
The Office of Research & Engagement

HASLAM COLLEGE OF BUSINESS
THE UNIVERSITY OF TENNESSEE, KNOXVILLE

Research Workshop Summary

On June 8-10, 2016, the Haslam College of Business at the University of Tennessee (UT) hosted the *Journal of Product Innovation Management*/Marketing Science Institute Research Workshop on "Innovation in Data-Rich Environments." The co-chairs were Dr. Neeraj Bharadwaj, Associate Professor of Marketing & Supply Chain Management, and Dr. Charles Noble, Henry Professor of Business and Associate Dean for Research and Faculty.

A total of 60 people attended the Research Workshop. This was a diverse group, featuring academics travelling from afar (e.g., Denmark, France, Great Britain, Hong Kong, and Italy) and representing a host of different academic disciplines (e.g., Innovation, Marketing, Supply Chain Management, Engineering, Architecture & Design, Communications, Business Analytics, and Management).

The workshop featured two site visits where the workshop participants learned about additive manufacturing. The first was a tour of Local Motors' new Knoxville "microfactory" (https://localmotors.com/). Kurtis Hodge, an Economist at Local Motors, provided an overview of the next generation manufacturing facility which enables individuals to custom design their own vehicle. The next stop was the Manufacturing Demonstration (MDF) facility of the Oak Ridge National Laboratory (http://web.ornl.gov/sci/manufacturing/mdf/). In addition to showing a host of 3D printed items, Dr. Suresh Babu, UT/ORNL Governor's Chair of Advanced Manufacturing, detailed how additive manufacturing can stimulate product and process innovation, reduce life-cycle energy and greenhouse gas emissions, and/or lower production costs.

The workshop also featured a series of presentations. There were: eight presentations by authors of manuscripts invited for revisions for a special issue of *Journal of Product Innovation Management*; four featured academic presentations by prominent scholars working on Innovation and/or Big Data analytics; two presentations by UT Technology Innovation thought leaders, two invited presentations by UT colleagues; and a keynote address on cognitive computing delivered by three IBM executives. A summary of the presentations appears on the next page, followed by a photo collage of the three day event.

The event was co-sponsored by the: *Journal of Product Innovation Management*, Marketing Science Institute, and University of Tennessee's Office of Research & Engagement, Haslam College of Business, and Marketing & Supply Chain Management department. The generous support from the aforementioned permitted us to deliver this outstanding event.

We also extend our special thanks to Tamara Farley and to the Student Brand Ambassadors (Taylor Albert, Ridge Carter, Nida Haq, Korii Jones, Caitlin Morris, Jianyin Roachell, Corbin Robinson, Andrew Sayers, and Todd Young) for their enthusiastic support of and invaluable assistance in attending to the numerous tasks required to host this event.

Competitive Paper Presentation Summaries

Identifying New Product Ideas: Waiting for the Wisdom of the Crowd or Screening Them in Real-Time?
By: Michel Ballings (University of Tennessee), Steven Hoornaert (Universiteit Gent), Edward Malthouse (Northwestern University), and Dirk Van den Poel (Universiteit Gent)
This paper applies text mining and machine learning algorithms to grade ideas generated by the innovation community.

The 3Vs of Big Data: Strategic Drivers and Contingent Effects on New Product Revenue
By: Jeff Johnson (University of Missouri-Kansas City), Scott Friend (Miami University), and Hannah Lee (Miami University)
This paper addresses the how Big Data can be leveraged as a resource in balance with firm capabilities to drive innovation success in dynamic marketplaces.

Building Healthy Innovation Communities Through Churn Prediction
By: Steven Debaere (IESEG School of Management), Kristof Coussement (IESEG School of Management), and Tom De Ruyck (InSites Consulting)
This paper applies predictive modeling to a broad sample over a three year period to better understand the drivers (at the member, moderator, and community levels) of a heathy innovation community.

Data as a Driver for Innovation of Product-enabled Services
By: Rene Goduscheit (The University of Southern Denmark)
This paper examines whether data can drive service innovation at goods-dominant small and medium-sized enterprises (SME's).

The Organization Impact of Big Data Marketing on Service Innovation
By: Luigi DeLuca (Cardiff Business School), Gabrielle Troilo (Bocconi University), and Paolo Guenzi (Bocconi University)
This paper examines how internal firm characteristics (e.g., organizational structure, culture, personnel) need to adapt in order to effectively harness the abundant data available to firms to drive service innovation.

Ideator Expertise and Cocreator Inputs in Crowdsourced Product Cocreation
By: Jianjun Zhu (University of Hong Kong), Stella Yiyan Li (City University of Hong Kong), and Michelle Andrews (Emory University)
This paper examines the extent to which marketing expertise or engineering expertise impacts ideation and subsequent development.

A Framework for Accelerated Innovation in a Data-Driven Environment
By: Yuanzhu Zhan (University of Nottingham), Kim Tan (University of Nottingham), and Robert Perrons (Queensland University of Technology)
This paper seeks to understand how best to match accelerated innovation approaches to a firm and the role of Big data analytics in supporting different approaches to accelerated innovation.

Invited Presentation Summaries

Cognitive Computing Driving Innovation: An IBM Point of View
Keynote Address Speakers: Timothy Humphrey (VP of Analytics and Acquisitions), Rashida Hodge (Director, IBM Watson Client Delivery), and Thomas Ward (Supply Chain Cloud Strategist).
The presentation provided an overview of how cognitive computing can help decision-makers understand, reason, and learn. The authors further developed that cognitive computing will permit the highest level of collaboration between humans and machines to facilitate business decision-making.

Role of Big Data and Analytics in Rapid Qualification of Additively Manufactured Components
UT/ORNL Technology Innovation Thought Leader: Dr. Suresh Baba (UT/ORNL Governor's Chair of Advanced Manufacturing)
This presenter provided a glimpse into the potential of additive manufacturing (i.e., 3D Printing) to make high value added monolithic and hybrid components for automotive, aerospace and energy applications, and the advances needed to deliver on the promise

AMIE: A Collaborative Approach
UT/ORNL Technology Innovation Thought Leaders: James Rose (Director of the Institute for Smart Structures, College of Architecture & Design) and Kaushik Biswas (ORNL Building Scientist)
These presenters shared an overview of the Advanced Manufacturing Integrated Energy (AMIE) project, which showcased one of the UT-ORNL collaborations on energy-efficient buildings.

Winning & Whining: Social Media, big Data, and the Democratization of Customer Feedback
By: Rhonda Reger (University of Tennessee)
This presentation raised the important issue of understanding when the crowd is wise and when it is not.

Strategic Implications of Crowdsourced Logistics
By: John Bell (University of Tennessee), Vince Castillo (University of Tennessee), and Bill Rose (University College, Dublin)
This presenter sought to evaluate the benefits that firms can derive from crowdsourcing logistics services.

Predicting Innovation Success in Data-Rich Environments
By: Neeraj Bharadwaj (University of Tennessee), Charles H. Noble (University of Tennessee), Annette Tower (University of Tennessee), Leah Smith (University of Tennessee), and Yuexiao Dong (Temple University)
This paper employs both structured prelaunch data and structured and unstructured postlaunch data to predict innovation outcomes.

Featured Academic Speaker Presentation Summaries

Innovation as Data: The Digital Revolution, 3D Printing, and Remixing
Featured Academic Speaker: Aric Rindfleisch (University of Illinois)
This presenter proclaimed that 3D printing may serve as basis of the next Industrial revolution, and went on to describe his contrarian, philosophical view on "innovation as data." Also considered were the challenges and opportunities emerging from 'digital re-mixing' involving 3D printing.

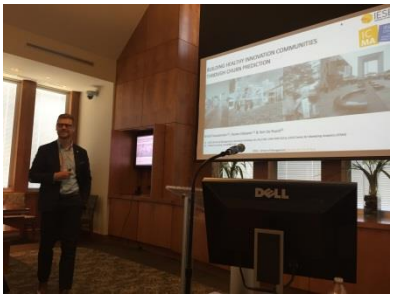
Business Model Innovation as a Driver of Economic Growth
Featured Academic Speaker: Alina Sorescu (Texas A&M)
This presenter draws on a nascent research stream on business models to propose ways in which companies can leverage information networks and big data to innovate their current business models or develop new ones.

Innovations in Technology and Techniques for Bridging Quantitative and Qualitative Analyses
Featured Academic Speaker: Prasad Naik (University of California-Davis)
This speaker provided insights into bridging the domains of qualitative and quantitative insights, and explaining why 'sparse' versions of existing methodologies may be needed for high-dimensionality (i.e., $p > n$). Furthermore, he explained how technology can breakdown qualitative data like videos and sounds to digitalize them in the forms of structured data for quantitative analytics, transforming the way that we would perceive qualitative data in the future.

Big Data for Good
Featured Academic Speaker: Magda Hassan (University of Warwick)
She discussed the dearth of Big Data in the context of emerging markets, and proposed that NGOs, Businesses, and Governments can collaborate to obtain data needed to address such Big Problems as minimizing wealth inequality, optimizing health care allocation, eradicating disease and providing relief from natural disasters.

Photos

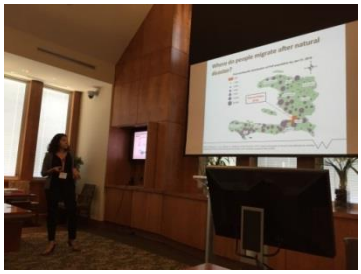

Background


DELL


Data-Driven Business Model Innovation
Alina Sorescu
Texas A&M University


The 3Vs of Big Data: Strategic Drivers and Contingent Effects on New Product Revenue


THANK YOU!
Comments or suggestions?




Predicting Innovation Success in Data-Rich Env



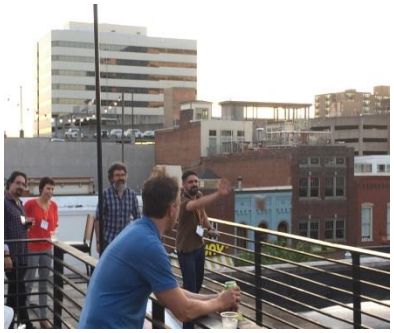

INNOVATION IN
DATA-RICH
ENVIRONMENTS






materials
ved Materials
Refractories
Coatings
Magnesium
Catalyst





Partners

MSI MARKETING SCIENCE INSTITUTE

THE JOURNAL OF PRODUCT INNOVATION MANAGEMENT

THE UNIVERSITY OF TENNESSEE KNOXVILLE
OFFICE OF RESEARCH & ENGAGEMENT