Abstracts

Presentation 1 - Friday, May 7th, 9:00 – 10:30 AM

1. John D’Arcy, University of Notre Dame

Are Happy Employees More Secure? Examining Employment Relationship Effects on Information Security

Information security issues continue to plague organizations despite investment in extensive countermeasures. In an effort to strengthen what is viewed as a "weak link," security experts are focusing more on the employee and their security behaviors in addition to technical solutions. Previous research shows that both policy implementation and training efforts are effective in encouraging individuals to take security precautions. In this research we focus on the general employee (i.e., end user) and examine the effectiveness of policies and training on individuals who are less satisfied and exhibit varying degrees of burnout with their current work situations. Are the general policy and training techniques as effective with unsatisfied employees as they are with satisfied employees? With high burnout employees versus those who are not experiencing burnout? By integrating information security and organizational behavior constructs as predictors of precautionary security behavior, we try to focus an organization's security efforts on where they can be most effective in strengthening the company against a cyber-attack.

2. Ali Tafti, University of Illinois, Urbana-Champaign

Positioning and Performance in Information Technology Collaboration Networks

High-technology industries are known to be collaboration-intensive. Extant research shows that firms that are well-positioned to collaborate within and across industry boundaries can achieve higher performance. However, information technology (IT) industries are unique among high-tech industries, since IT can be reconfigured for appropriation and use in multiple contexts. Hence, we argue that IT-producing firms should be aware of the impact of their position in collaboration networks created by alliances between and among IT-consuming and IT-producing firms. We consider network-based metrics of such alliances and industry-level IT investment data, and find that the profitability of IT-producing firms decreases with the
IT-intensity and network-centrality of their IT-consuming alliance partners. We discuss the potential reasons for these effects and the implications for collaboration strategy for IT-producing firms.

3. Min-Seok Pang, University of Michigan

**Information Technology and Administrative Efficiency in U.S. State Governments - A Stochastic Frontier Approach**

This paper aims at exploring value creation from information technologies in not-for-profit organizations such as governments. While the majority of studies in the information systems discipline have focused on discovering IT business value in for-profit organizations, the question of whether the performance effect of IT exists in the not-for-profit area has been least studied so far in either management or public administration literature. We examine whether IT improves administrative efficiency in U.S. state governments by automating manual, labor-intensive processes and providing state employees with valuable information for decision making. Utilizing the IT budget data in state governments, the census data on state government expenditure, and a variety of information on public services states provide, we estimate technical cost inefficiency, an inverse proxy for administrative efficiency, with a stochastic frontier model. We discover a significantly negative relationship between IT intensity and cost inefficiency, a finding that is robust to the use of a series of alternative specifications and measures. This study contributes to the IS literature by expanding the scope of IT value research to the not-for-profit area and bringing a new approach to measure the performance impact of IT.

**Presentation 2 - Friday, May 7th, 11:00 AM – 12:30 PM**

1. Hong Guo, University of Notre Dame

**Net Neutrality and Vertical Integration of Content and Broadband Services**

Whether broadband service providers (BSPs) should be allowed to vertically integrate with content providers is a contentious issue. This is even more so when viewed through the lens of the net neutrality debate, since the vertically integrated firm can prioritize the delivery of its own content at the expense of that of its competitors if net neutrality is not enforced. Using a game-theoretic model, we analyze the issues of vertical integration of content and broadband services surrounding this debate from an economic perspective. Our analysis establishes the various equilibria in the game, and shows that the vertically integrated broadband service provider does not have any incentive to abide by the principles of net neutrality. If net neutrality is not enforced, social welfare might in certain cases decrease with vertical integration, and in such cases the BSP’s objectives are at odds with that of the social planner. With other
ranges of parameter values, social welfare increases with vertical integration, at the expense of the competing pure play content provider. Interestingly, we find that it is not always true that the BSP will always degrade the delivery of the competing content, and in fact will sometimes have the incentive to prioritize the latter over its own. The analysis thus provides crucial inputs to the policymakers as they decide on whether to allow vertical integration between a BSP and a content provider in the absence of net neutrality.

2. Hila Etzion and Scott Moore, University of Michigan

Managing Multiple Selling Channels Online: A Simulation Study of Selling with Posted-price and Open-bid Auctions

In this paper, we use a simulation to study the profitability of selling consumer goods online using posted price and open ascending-bid auction simultaneously. We develop a model of consumers’ behavior when faced with the choice between the two channels. The model is implemented in a simulation of the market which is used to identify the best designs of the dual channel regime and compare its performance with that of two alternative selling regimes: only auction and only posted price. We find that the best designs of dual channels with open-bid auctions differ from those of dual channels with sealed-bid auctions previously studied. Specifically, the auction’s length is always set at the maximum level, and the designs are not affected by consumers’ sensitivity to a delay in receiving the item. We also find that whether the risk of cannibalization of posted price sales by the auction is high or low, the dual channel regime outperforms the other two regimes when optimally designed. However, if the two channels are managed independently, the dual channel outperforms the single channel only when cannibalization risk is low.

3. Jingjing Zhang, University of Minnesota


Recommender systems provide suggestions to consumers of products in which they may be interested. Research in this context has focused almost exclusively on the development of the algorithms that allow these systems to make accurate recommendations. Less well-studied are the behavioral aspects of using recommender systems. In this study, we explore the impact of providing consumers with a prior rating generated by the recommendation system on consumers’ preferences. Our overarching conjecture is that the rating provided by a recommendation system serves as an anchor for the consumer’s constructed preference. To test our conjecture, we conducted two controlled laboratory experiments (i.e., Study 1 and Study 2) to explore the impact of recommendations on consumers’ preferences for television programs as reported immediately following their viewing. Results of our experiments provide strong evidence that supports our conjecture. Using both arbitrary High and Low recommendations and altered values above
and below an actual recommendation, an anchoring effect was observed, which resulted in significant differences in reported preferences. Thus, viewers’ preferences are malleable and sensitive to the recommendation received, such that the expressed preference is pulled nearer to the value of the provided recommendation. Although the impact of the ratings is not necessarily symmetric (i.e., equivalent whether the recommendation is adjusted upward or downward), the results suggest that the degree of asymmetry is more situationally dependent than the overall effect. Additionally, this research demonstrated that effects of pure number-based anchoring can be separated from the effects of the perceived strength of a recommendation system.

**Presentation 3 - Friday, May 7th, 1:30 PM – 3:00 PM**

1. Matthew J. Hashim, Purdue University  
**Digital Delivery of Movies: An Analysis of the Impact of Downloaded Movie Formats on DVD Movie Sales**  
There is uncertainty in the electronic commerce domain as to whether or not the addition of technology-enabled products to a firm’s product selection has an impact on the sales of traditional products. This paper addresses this question from the perspective of DVD movie sales and finds that the addition of downloadable movies may have an effect on the sales of traditional DVDs depending on what type of digital format is available. In particular, digital purchase formats have no effect on DVD sales while digital rental formats significantly reduce the sales of traditional DVDs. This suggests there may be a cannibalization effect happening where consumers are trading off a purchase of a DVD for a time-limited and less expensive rental of the same movie.

2. Mark Madrilejo, University of Michigan  
**Citizen's Briefing Book: A Case Study of Crowd-Driven Idea Generation**  
Online idea generation systems are a relatively new tool allowing organizations to open early innovation stages to their external stakeholders. While many studies of idea generation have been conducted using groups, teams, or internal stakeholders, few have examined crowd-driven ideation and evaluation. This study explores the interaction between system design, user behavior, and idea content in a unique case of a large-scale, public, time-limited idea generation exercise. Idea popularity scores are correlated with submitter effort and idea quality, but the effects are small compared to the impact of social influence facilitated by the system design.
3. Terence Saldanha, University of Michigan

**IT for Innovation: How Does the CIO Role matter?**

The evolving role of Information Technology (IT) in strategic and innovative capabilities of firms places increased emphasis on the Chief Information Officer (CIO) as a key Information Systems resource. In this study, we empirically examine how the CIO’s managerial role pertaining to entities and functions outside of the IT organization predicts the IT-driven innovation capability of the firm. We find that the IT-driven innovation capability of the firm is likely to be higher when the CIO reports to the Chief Executive Officer, when the CIO has greater involvement with customers and when the CIO is more involved in new product development. However, we find no significant link between CIO’s involvement in business strategy and IT-driven innovation. Implications of the findings for research and practice are discussed.

**Presentation 4 - Friday, May 7th, 3:30 PM – 5:00 PM**

1. Sanjeev Kumar, University of Wisconsin-Milwaukee

**Embedded Trust in Open Source Software Development Communities**

Structure of naturally evolving collaborative relationships in open source software (OSS) development communities has been identified as a critical factor in success of OSS projects. This study attempts to extend the literature by examining impacts of collaborative relationship structures on trust, an important yet under researched construct in the OSS context. Based on social network and organizational theories, this study proposes that collaboration network structures have significant effects on individual OSS developer’s trust in a project team. Subsequently, we expect that trust has positive effects on effectiveness of an OSS development community. Empirical analysis of project and survey data using partial least square (PLS) verifies that collaboration network structures significantly affect trust, which subsequently enhances OSS team effectiveness in terms of perceived software quality, team cohesiveness and satisfaction with the teamwork. Results of this study shed light on the antecedents and relevance of embedded trust in OSS communities with significant implications for both researchers and practitioners.

2. Keumseok Kang, Purdue University

**Learning and Forgetting Curves in Software Development: Does Type of Knowledge Matter?**

What type of knowledge, among domain, technology, and methodology knowledge, is most influential to the performance of software development? We answer to this question by empirically investigating the learning and forgetting curves in software development using an extensive archival data set of software development projects in an IT service company. We find that prior experiences with the same
methodology or technology have a stronger impact on software project performance than those in the same application domain. Furthermore, our results show that methodology knowledge is more easily forgotten than domain or technology knowledge. Our findings provide managerial implications not only to the development of knowledge and skills, but also to other organizational issues in software development such as project team staffing and career development.

3. James Gaskin, Case Western Reserve University

The DNA of Design Work

In this paper we propose a preliminary framework to identify variations in digital and physical materiality of design work in the context of project-based design organizations. In particular, we adopt a view of organizational routines (Pentland & Feldman, 2005) in which organizations are viewed as conglomerates of varying routines that provide them simultaneously the stability and the capability to adapt to their environment by mutating their routines over time. These sets of routines can be represented as sequences of elements of design practices that describe the design organization – like organizational DNA. Much the same way geneticists might identify patterns in genetic code, we are interested in understanding in particular how different patterns of “design code” might identify the relationship between digitalization and design work in project-based organizing.

Presentation 5 - Saturday, May 8th, 9:00 – 10:00 AM

1. Hailiang Chen, Purdue University

Broadcasting in Online Social Networks: An Empirical Study of Music Sales and Artists' Activities

With the emergence of social media and Web 2.0, broadcasting in online social networks evolves into a new form of marketing. A fundamental question about social network marketing is whether it works at all and if so, how much impact it generates. This paper examines artists' broadcasting behavior on the famous social networking site MySpace and studies the interactions between broadcasting activities and music sales. We employ a panel vector autoregression (PVAR) model to analyze a dataset containing the activity stream data from MySpace and music sales data from Amazon. This model allows us to treat main variables as endogenous and investigate both the short-run and the long-run behavior of the system. We find empirical evidence that an artist's network size plays a crucial role in determining the marketing effects on sales. For artists with many friends, broadcasting activities on MySpace have a significant impact on music sales both in the short run and the long run. This however does not hold for artists with
few friends. The methods we introduce can be applied to evaluate the impact of different marketing actions through online social networks in general.

2. Eric C. Larson, University of Minnesota

**Firm-Level Integration Demands and IT Structure**

There are a number of forces that have intensified the integration demands in large, multi-business firms in recent years. This study considers the organizational response of the information technology and systems (IT) function to meet those demands for coordination felt by the multi-business enterprise. We utilize a unique measure, CIO Rank, to highlight an increase in the prominence of the IT function and specifically the top IT executive over the fifteen year period, 1993 to 2007. Data representing 186 Fortune 1000 firms is used to test hypotheses that demands for coordination influence the CIO Rank. We take an information processing view of the firm, one in which the firm demands information to deal with uncertainty. We view the IT function as an important integrating device coordinating the information processing requirements of the business units within the firm through both technology and organizational linkages.