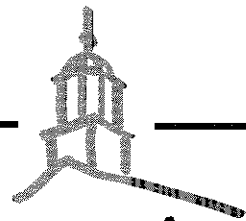




**The Decision Sciences Institute
2011 Annual Meeting
Program**

Decision Sciences as a Catalyst for
Interdisciplinary Exchange and Cultural Change



Boston

Decision Sciences Institute

42nd Annual Meeting

November 19-22, 2011

SC-5 Featured Session: Configurations of Supply Chains

Saturday, Nov. 19th, 2011, 10:00-11:30 a.m. St. Botolph

Session Chair: Heather Lutz (University of St. Thomas)

Managing Value in Supply Chain - Case Studies on the Sourcing Hub Concept

Refereed Research Paper

Anupam Agrawal (University of Illinois at Urbana Champaign),
Arnoud De Meyer (Singapore Management University), Luk N. Van
Wassenhove (INSEAD)

We examine the upstream sourcing experiences of four firms in four different countries in the automotive industry, and identify themes that influence sourcing knowledge and sourcing costs for these firms. Synthesizing the learnings from these case studies, we propose the concept of the Sourcing Hub, a collaborative center involving the firm, its suppliers and raw material suppliers, as the principal alignment mechanism for managing value in upstream sourcing.

Global Supply Chain Configurations And Management: Evidences From The Electric Motors Industry

Refereed Research Paper

Federico Caniato (Politecnico di Milano), Ruggero Golini (Università degli Studi di Bergamo), Matteo Kalchschmidt (Università degli Studi di Bergamo)

Supply chain (SC) globalization significantly grew in the last years and this pushed companies to find ways to manage effectively international networks. The aim of this work is therefore to study global SC configurations and management in a specific industry through a set of case studies. Moreover, we interpreted the results under the light of a set of contextual variables ranging from competitive priorities to the value chain that characterizes the industry.

Disaster Relief Supply Chains: Taming the Bullwhip

Research Abstract

Heather Lutz (University of St. Thomas), Laura Birou (Louisiana Tech University), Nezh Altay (DePaul University)

Immediately after a natural disaster, the needs of those affected are often not known. As multiple organizations attempt to survey the needs, the potential for inaccurate information increases and is further exaggerated through the relief supply chain. This research proposes ways to mitigate the bullwhip effect in relief supply chains.

SC-6 Strategic Supply Chain Relationships

Saturday, Nov. 19th, 2011, 10:00-11:30 a.m. Salon J

Session Chair: Laird A. Burns (University of Alabama in Huntsville)

The Influence of Exchange Hazards and Power on Opportunism in Outsourcing Relationships

Research Abstract

Sean M. Handley (Rutgers University), W. C. Benton (The Ohio State University)

Utilizing dyadic data on 102 business process outsourcing relationships, we test a model which hypothesizes that the buying firm's reliance on different bases of inter-firm power will have differing effects on the risk of service provider opportunism. These hypotheses are evaluated while concurrently examining the influence of relationship-specific investments and technological uncertainty on provider opportunism.

Effect of Operational Capability to SCM Success: Revisited

Research Abstract

Osam Sato (Tokyo Keizai University), Yoshiki Matsui (Yokohama National University), Tomoaki Shimada (Kobe University), Hideaki Kitanaka (Takushoku University)

Basic operational capability of plant is known as an important contributing factor for SCM to succeed. Wu et al. (2010) recommended new operational scale of operational capability of plant. By employing the framework, we revisited effect of operational capability on SCM success with our data.

The Impact of Customer Power On Demand Variation And Supply Chain Design: How Savvy Customers Use Negotiating Power With Suppliers to Competitive Advantage

Research Abstract

Laird A. Burns (University of Alabama in Huntsville), Fan T. Tseng (University of Alabama in Huntsville)

A rich body of research has emerged for understanding how product characteristics and demand variation affects supply chain design. But the effects of customer power on inducing novel demand patterns are under-researched. We investigate how customer influenced demand variation affects an OEM's supply chain design, supply chain complexity, and performance in the computer industry, using primary data from a global computer company.

Assessing the strategic purchasing capabilities of firms in Korea

Research Abstract

Daesik Hur (Yonsei University), Hyojin Kim (Yonsei University)

The purchasing function has progressively assumed a key contributor to the strategic success of the firm. But the firms don't know clearly what level they are at now and what they should do for strategic purchasing. The objectives of this study are: (1) to define what the firm's strategic purchasing capabilities (FSPC) are, (2) to develop and measure the FSPC constructs, and (3) to discuss implications. Data was collected from firms in Korea, and proposed models will be tested.

SC-7 Interactive Session: Solution Approaches for Logistics Problems

Saturday, Nov. 19th, 2011, 10:00-11:30 a.m. New Hampshire

Session Chair: John E. Bell (University of Tennessee)

Seaport Operations Research Update-Container Terminal Perspective

Research Abstract

Samsul Islam (University of Auckland)

The fundamental collection of surveyed literature employs Operations Research (OR) methods to optimize container terminal operations. The review of the literature on seaport system aims to provide a unified approach to grasp the facts at a glance about many models to amplify capacity at different sections.

Capacitated Multi-echelon Shipping Network Design with Delivery Deadlines and Stochastic Demand

Research Abstract

Gabriel Wang (Rutgers, The State University of New Jersey)

We consider an integrated supply and distribution problem where unfinished goods are shipped from suppliers to customers with delivery deadlines through the capacitated processing centers (PCs) in global supply chain. The problem is to determine the PC locations, supplier selection, and customer assignment while the total cost is minimized. A heuristic algorithm is developed based on the special case of the problem. Computational results are provided to verify the effectiveness of our algorithm.

Integrated Location and Inventory Decision Problem in a Three-tier Supply Chain Network

Research Abstract

M. Kamran Mumtaz (Lahore University of Management Sciences),
Shaikat A. Brah (Lahore University of Management Sciences)

The paper considers a three-tier distribution network with one manufacturer, multiple warehouses and retailers. The demand at the retailers is constant with no shortages. The problem is to determine location of the plant, number and location of warehouses, allocation of retailers to these warehouses and inventory policy for the warehouses and retailers. The objective is to minimize long run average total costs. We develop a math formulation and a heuristic solution procedure for this problem.

The Impact Of Demand Patterns On Heuristic Algorithm Stability In The Vehicle Routing Problem

Refereed Research Paper

John E. Bell (University of Tennessee), Stanley E. Griffis (Michigan State University)

An experiment using three heuristic algorithms is conducted on problems with varying demand patterns in order to analyze the stability of algorithm performance when facing different patterns. Results indicate that some algorithms perform better on problems with actual clustering and non-symmetry patterns seen in actual routing networks. Study has implications for practitioners and routing software developers who must consider the nature of actual demand in business environments.

Shipboard logistics: Internal re-supply operations in a just-in-time space starved environment

Research Abstract

Simon Veronneau (Quinnipiac University), Jacques Roy (HEC Montreal), Sylvain Landry (HEC Montreal)

This paper reports on part of the findings of an ongoing research project onboard large cruise ships. The research goal is to understand complex and dense re-supply operations in such environments. This research also draws from earlier work on hospital logistics, which shows similar challenges. Finally we present best practices that were found in this field study, and the implications for other industries.

Traveling Trainer Problem: modeling and solution algorithms

Research Abstract

Mehmet B Yildirim (Wichita State University), Timur Keskinturk (Istanbul University), Ekrem Duman (Dogus University)

In this variant of traveling salesman problem, a trainer with limited budget and time plans a tour to train as many customers as possible given that customers may travel up to a certain distance to attend the training. A mathematical model is developed and computational results are presented.

Supply Chain Issues in US Manufacturing Companies - Some Observations

Research Abstract

Purnendu Mandal (Lamar University), Angappa Gunasekaran (University of Massachusetts Dartmouth)

Organizational strategies and practices in US manufacturing companies are revisited, particularly the supply chain issues. We carried out a nationwide survey recently and the results are compared with a similar study conducted in 2005. In this presentation, we highlight the major shifts in business practices.

Inventory's Speed of Adjustment for US Industries

Research Abstract

Sima M Fortsch (State University of New York at Buffalo), Nallan C. Suresh (State University of New York at Buffalo), Charls W. Wang (State University of New York at Buffalo, UB)

Abstract: We used data from Census 2010 ranging: 1992 – 2010. Findings: 1) Retail and Wholesale industries are AR1 and AR2. AR coefficients are high showing our model would decay slowly and any shocks to the system would linger for long time. 2) Linear regression results in higher R_{square} . 3) Only Retail industry has shown improvement in decreasing inventory to sale ratio. 4) Wholesaler had the quickest response to sale's variability. Supply Chain was coordinated in their response.

Drivers of Order Fulfillment Performance across Sales Channels: An Analysis of Transaction Data

Research Abstract

David (Xiaosong) Peng (Texas A&M University), Gregory R. Heim (Texas A&M University)

This research examines the transaction level, product level, and customer level variables that drive order fulfillment performance across two different sales channels (trade and OEM). An analysis using data over 30,000 sales orders of a Fortune 500 manufacturer indicates that there are considerable differences in the list of variables that affect fulfillment performance between the two channels.

SC-8 Interactive Session: Evaluating Supply Chains

Saturday, Nov. 19th, 2011, 10:00-11:30 a.m. Tufts

Session Chair: Angappa Gunasekaran (University of Massachusetts Dartmouth)

Supply Chain Efficiency with Information Errors

Research Abstract

Hyun-cheol P. Choi (California State University at Fullerton), James D. Blocher (Indiana University), Srinagesh Gavirneni (Cornell University)

We investigate supply chain efficiency for a two stage serial supply chain with upstream and downstream information sharing with information errors. It has been known that supply chain information sharing has been beneficial and efficient. In reality, the information being shared among the members cannot avoid errors in it. We use discrete event simulations to evaluate the impact of errors in upstream and downstream information sharing.

An Econometric Analysis of Finished Goods Inventory in the U.S. Automotive Industry: Bayesian and Classical Approaches

Research Abstract

Chia-Hung Chuang (The State University of New York at Buffalo)

The research proposes to undertake a Bayesian analysis of finished goods inventory, using the classical economic order quantity (EOQ) as a starting point. In particular, it intends to investigate the simultaneity between EOQ and demand. The model will be estimated using the data on the U.S. automotive industry.

SC-9 Implications of Globalization

Saturday, Nov. 19th, 2011, 10:00-11:30 a.m. Salon A

Session Chair: Jon F. Kirchoff (The University of Tennessee)

Global Supply chain: The effect on both product and process innovation

Refereed Research Paper

Ryan L. Skiver (University of Toledo)

With a vast increase in technology over the past twenty years companies are finding it beneficial to obtain a global supply chain. Not only does a global supply chain provide benefits in cost reduction but it can also be seen to enhance a firm's innovation in both product and process. When a firm creates a global workforce and manages the knowledge of the workforce they create valuable knowledge which is absorbed into the supply chain and increases the innovativeness of the products and processes (truncated – too long)

The Political Economy of Global Supply Chains: Exploring the Impact of Managerial Perceptions on Strategy Formulation

Research Abstract

Jon F. Kirchoff (The University of Tennessee)

The strategy-structure-performance paradigm (SSP) has been used to explain internal links between global supply chain strategy and performance, but is relatively silent on strategy formulation. To gain a better understanding of global supply chain strategy formulation processes, this research employs the political economy paradigm (PEP) as a theoretical base and draws from the relevant literature to develop a preliminary political economy framework of global supply chain management.

The Decision Sciences Institute

2012 Annual Meeting Program

2012

GLOBALIZATION—

Working Together and Celebrating Our Differences



Decision Sciences Institute

43rd ANNUAL MEETING

NOVEMBER 17-20, 2012

IT-5 Decision Support Systems and Business Intelligence (III)

Saturday, Nov 17th, 2012, 3:00-4:30 p.m. Salon 10

Session Chair: Chunxing Fan (Tennessee State University)

Discussants: Mehmet Bayram Yildirim (wichita state university), Gilwhan Kim (SUNY buffalo), Pamela J Zelbst (Sam Houston State University)

An Effective Algorithm for Solving a Single-Supplier Multiple-heterogeneous Customers Network Problem

Refereed Research Paper

Chunxing Fan (Tennessee State University)

1. This paper focuses on a single-supplier multiple-heterogeneous customer network problem with the consideration of dynamic demand. We develop an effective algorithm for solving this problem. The performance of the proposed algorithm is evaluated through simulation of 100 consultative planning cycles with 10 time periods in each cycle.

Ant colony optimization for Workload balancing in Parallel Machines while minimizing total tardiness and average number of active machines

Non-Refereed Research Abstract

2. Mehmet Bayram Yildirim (wichita state university), Mehmet barut (wichita state university), Timur keskinturk (Istanbul University), Ibrahim Akyurt (Istanbul University)

This study introduces the problem of minimizing the average number of active machines and total tardiness while achieving load balancing. A mathematical model is proposed. Some heuristics and an ant colony optimization algorithm are developed and tested on various random data.

The Bayesian stochastic frontier approach to evaluating the business value of information technology as measured by productive efficiency

Non-Refereed Research Abstract

3. Gilwhan Kim (SUNY buffalo), Winston T. Lin (The State University of New York at Buffalo)

In this paper, we employ the Bayesian stochastic frontier model to evaluate the business value of information technology as measured by productive efficiency using a set of firm level data from 133 companies over the period from 1999 to 2009.

Toward a Methodology for Analyzing Raw RFID Data

Non-Refereed Research Abstract

4. Pamela J Zelbst (Sam Houston State University), Jeremy C Bellah (Sam Houston State University), Kamphol Wipawayangkool (Sam Houston State University), Janis Warner (Sam Houston State University)

5. Due to the lack of a general framework for analyzing raw Radio Frequency Identification (RFID) data in extant literature, this research proposes a methodology, in which both exploratory and confirmatory aspects will be emphasized. This methodology unleashes many practical possibilities researchers can use to examine their RFID data.

A Rule Induction Approach to Identifying the Importance of Developer and User Involvement in Open Source Software Projects

Non-Refereed Research Abstract

Barry A Wray (University of North Carolina Wilmington), Richard G Mathieu (James Madison University)

The contribution of this research is a model for success of security-based Open source software (OSS) projects based on a rule induction approach which identifies the impact of different components of the OSS development community, namely project leaders, core developers, co-developers, and active users, on project popularity

IT-6 E-Government (I)

Saturday, Nov 17th, 2012, 3:00-4:30 p.m.

Sierra E

Session Chair: Mohammad I Merhi (University of Texas Pan American)

Discussants: Mary R Lind (North Carolina A&T State University), Mehdi Sagheb-Tehrani (Bemidji State University), Carlo A. Mora-Monge (New Mexico State University)

Organizer: Nada R. Sanders (Lehigh University), Xiang Wan (University of Tennessee)

E-Government Adoption: An International Perspective

Refereed Research Paper

Mohammad I Merhi (University of Texas Pan American), Madison Ngafeeson (University of Texas Pan American)

This study examines the e-government adoption in 192 countries across in the last decade. The panel data obtained is going to be analyzed to evaluate the state of e-government diffusion and recommendations are then made. Results and findings of this study will be presented at the conference.

Community Behaviors among Engineering Communities of Practice and their Relationship with Leadership

Refereed Research Paper

Mary R Lind (North Carolina A&T State University), Jacqueline B Saldana (North Carolina A&T State University)

The existence of leadership dynamics such as embedded leadership roles, mentoring, and shared leadership produced increased motivation, trust, expert and referent power, empowerment, self-efficacy, dyadic relationships, and empathy. Simultaneously, the existence of defective leadership dynamics contributed to the demoralization and decreased performance of CoP members.

E-Government: Some Factors for Successful Implementation

Refereed Research Paper

Mehdi Sagheb-Tehrani (Bemidji State University)

There are many different benefits that a government can get from developing an e-government. There is a need to put forward a conceptual model focusing on steps towards implementing more successful e-government projects. The paper argues that several key success factors are appropriate for e-government implementation.

Exploring the Determinants of Organizational Performance in a Digital World - A Cluster Analysis of U.S. Firms

Refereed Research Paper

Carlo A. Mora-Monge (New Mexico State University), Gioconda Questroni (College of Charleston), Marvin Gonzalez (College of Charleston), Joshua Davis (College of Charleston)

In this paper, the authors investigate empirically what factors differentiate successful from not-so-successful companies when it comes to achieving Organizational Performance in a digital world. Data was collected and analyzed from 180 companies in the US. Overall, the results demonstrate the importance of these factors on Organizational Performance.

IT-7 Electronic Media (II)

Saturday, Nov 17th, 2012, 3:00-4:30 p.m.

Salon 11

Session Chair: Yuwen Chen (University of Rhode Island)

Organizer: Xiang Wan (University of Tennessee), Nada R. Sanders (Lehigh University)

Participants: Vafa Saboorideilami (University of Toledo), Supavich Pengnate (fone.pengnate@okstate.edu)