8:00 am – 9:00 am	*Registration & Continental Breakfast*

9:00 am – 10:30 am	*Morning Session I*
Senator John Cornyn	*Opening remarks*
Lisa Petrini *Baylor University*	*What is RFID?*
Cliff Downing *Zebra Technologies*	*Hybrid of technologies*
Emily Sopensky *The Iris Company*	*Government & RFID*

10:30 am – 11:00 am	*Break*

11:00 am – 12:30 pm	*Morning Session II*
Koel Ghosh *University of Minnesota*	*RFID in the Food Industry*
David Grau *University of Texas at Austin*	*RFID in the construction industry*
Qian-nog Gu, Ph.D. *University of Houston*	*The impact of real-time supply information on retailer's inventory replenishment decision*

12:30 pm – 2:00 pm	*Lunch & Keynote Speaker:* *Mr. Mark Johnson* *RFID Tribe, President*

Thursday, September 27

2:00 pm – 3:00 pm	Afternoon Session I
Pedro Reyes, Ph.D. Baylor University	*RFID: An experimental study for improving supply chain performance*
Gregory Heim, Ph.D. Texas A&M University	*The value to the customer of RFID: A taxonomy of RFID-enhanced service*
Bill Allen Sirit Inc.	*Uses of RFID in Security and Authentication in the Supply Chain*

3:00 pm – 3:30 pm	Break

3:30 pm – 4:30 pm	Afternoon Session II
Diego Klabjan, Ph.D. Northwestern University	*Getting value from slap-and-ship through inventory control*
Brett Landry, Ph.D. The University of Dallas	*Security issues with RFID*
Ertunga Ozelkan, Ph.D. The University of North Carolina at Charlotte	*Feasibility of RFID decisions for managing supply chains – A returns analysis*

Friday, September 28

8:00 am – 9:00 am	*Registration & Continental Breakfast*

9:00 am – 10:30 am	*Morning Session I*
Qing Cao, Ph.D. *University of Missouri at Kansas City*	*RFID application in health care industry: A case study using grounded-theory approach*
John Walewski, Ph.D. *University of Texas at Austin*	*RFID applications for vehicular tolling and congestion management*
Bob Hoheisal *Texas State Technical College*	*The role of professional services in RFID adoption*

10:30 am – 11:00 am	*Break*

11:00 am – 12:30 pm	*Morning Session II*
Chris Zane *Baylor University*	*RFID: A value added technology to reduce costs associated with lost luggage*
Pamela Zelbst, Ph.D. *Sam Houston State University*	*A hands on approach with RFID in the classroom*
Divakar Rajamani, Ph.D. *University of Texas at Dallas*	*Unlocking the value of RFID*

12:30 pm – 2:00 pm	*Lunch & Keynote Speaker:* *Mr. John M. Crossno* *SAVR Communications, Inc., CEO*

2:00 pm – 2:15 pm	*Closing Remarks*

Gaps in the supply chain, gaps in RFID technology - Strategies to leap hurdles

Mr. Mark Johnson

RFID Tribe, President

http://www.rfidtribe.org

Mark Johnson serves as president of RFID Tribe, a global association for RFID technology professionals. He has served in leadership roles as CFO and COO for software, information technology, consumer electronics, telecommunications and supply chain businesses at Texas Instruments, Alcatel and DHL. Mark advises companies in the technology space, provides guidance on corporate development and frequently speaks at conferences focused on RFID and sensor technology. Mark received a BBA from the University of Texas at Austin and a MBA from Southern Methodist University. He resides in Plano, Texas with his wife and three children.

RFID Tribe, a global organization with local chapters, is the world's association for radio frequency identification (RFID) professionals. The group of industry experts collaborates on RFID and sensor technology, standards, venture capital, products, applications, industry trends, people and events RFID Tribe serves as an engine for ideas, people and capital. RFID Tribe has members in more than 65 countries. Members work at companies using RFID technology (end-users), at vendor firms selling RFID technology and services, at academic institutions and at governmental organizations.

Challenges exist in supply chain implementations and in RFID applications

Mr. John M. Crossno

SAVR Communications, Inc., CEO

http://www.savrcom.com

Thirty-five years of manufacturing and integration experience in the motion control, automation, RFID, and wireless sectors. His career encompasses (14) acquisitions and (16) start-ups associated with these industries, and is known for his turn-around capabilities. His educational foundation culminated with an MBA from Vanderbilt University's Owen Business School.

SAVR Communications is an innovator of cost effective, intelligent, and adaptable radio frequency systems, autonomous track and trace devices, and custom wireless solutions. These products and activities connect physical assets to business systems to enhance their security and utilization, and are focused toward the following sectors: Specialty Shippers, Port Facilities, Pharmaceuticals, DHS Emergency Responsiveness, Sarbaynes-Oxley Compliance, and M2M (machine-to-machine).
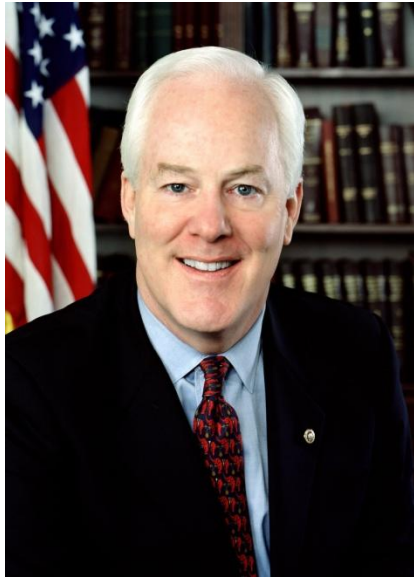
John Cornyn was elected to the U.S. Senate in 2002. In a short period of time, he earned a national reputation as a forceful and articulate voice for Texas values. He was selected by his colleagues in November 2006 to be a member of the five-person Republican Senate leadership team – Vice Chairman of the Senate Republican Conference – the only first-term Senator in recent memory to be so honored.

Sen. Cornyn continues to take a leading role on many important issues in the Senate. He is committed to bolstering our national defense and keeping America safe from terrorism, reducing spending, securing our borders, making health care more accessible, continuing to strengthen the economy and expand job opportunities, improving educational opportunity for all Texans, and protecting the most vulnerable in our society.

Sen. Cornyn serves on the Armed Services, Judiciary and Budget Committees. In addition, he is Vice Chairman of the Senate Select Committee on Ethics. He serves as the top Republican on both the Judiciary Committee's Immigration, Refugees and Border Security subcommittee and the Armed Services Committee's Airland subcommittee.

Sen. Cornyn has distinguished himself as a prominent supporter of President Bush's judicial nominees; he continues to work tirelessly on behalf of Texas military personnel, veterans and their families; he has played a leading role in securing our nation's borders, while working to bring about broader reforms of our broken immigration system; and he stands as a dedicated defender of free markets, traditional values and individual liberty.

In addition to his legislative committees, Sen. Cornyn is the chairman of the Senate India Caucus, chairman of the Senate RFID (Radio Frequency Identification) Caucus, Vice Chairman of the Congressional Sportsmen's Caucus, and Vice Chairman of the Senate Republican Conference Task Force on Hispanic Affairs. He is also a member of the Senate Republican High Tech Task Force, the Congressional Oversight Group on Trade and the President's Export Council.

While in the Senate, John Cornyn has received various awards and recognitions, including the 2005 Border Texan of the Year Award; the National Child Support Enforcement Association's Children's Champion Award; the American Farm Bureau Federation's Friend of Farm Bureau Award; the Texas Association of Business's (TAB) Fighter for Free Enterprise Award; the National Federation of Independent Business's (NFIB) Guardian of Small Business Award; the National Coalition of Latino Clergy and Christian Leader's (CONLAMIC) Latino Leadership Award; and the Texas Association of Mexican American Chambers of Commerce's (TAMACC) International Leadership Legislative Award; among others.

Session Speakers:

(alphabetical order)

Uses of RFID in Security and Authentication in the Supply Chain

Bill Allen

Abstract:
Enterprise security extends beyond the IT infrastructure and corporate facilities and on into the supply chain. A security strategy is incomplete without factoring in the protection of goods as they flow from manufacturing through to distribution and on to the customer. Goods are susceptible to theft and counterfeiting - which accounts for more than $200 billion in corporate losses annually.

RFID has proven to be beneficial in providing a new level of security and accountability in the supply chain. High value branded items, pharmaceuticals, licensed goods and many other products can be better protected through the use of RFID technology. The speaker will outline some of the challenges and opportunities, and will examine the roll RFID can have in increasing security and insuring that products are be better protected in the supply chain.

Biography:

Bill Allen
Director of Marketing, RF Solutions
Sirit Corporation

Bill Allen is marketing director of Sirit Corporation. In this role, he is responsible for development and execution of all marketing and communications functions for Sirit's RFID fixed reader and module portfolio.

Mr. Allen also served as group director of Radio Frequency Identification (RFID) at CMP Technology. In this role, he was responsible for the company's targeted portfolio of face-to-face and online RFID and Near-Field Communication (NFC) properties, including RFID World and NFC Planet events in North America and Europe.

Prior to joining CMP, Bill Allen was director of strategic alliances and programs for Texas Instruments RFid Systems. In this position, Bill drove the strategy and development of key business, channel and technology relationships, and defined and managed core alliance programs for the group. Bill previously directed TI-RFid's worldwide communications strategy and oversaw marketing programs including media and analysts relations, advertising, trade shows, association programs and e-commerce initiatives for TI-RFid solutions.

Bill is also a leading spokesman on issues surrounding RFID technology and applications from wireless payment to EPC supply chain initiatives. While at TI, he was chairman of the RFID Action Group for AIM Global, the global trade association of the automatic identification industry, and headed the association's RFID privacy taskforce.

RFID application in health care industry: A case study using grounded-theory approach

Qing Cao, Ph.D.

Abstract:

Benefits of RFID technology to the healthcare not only include improved operational efficiency, but also can translate into saving lives or improving patient outcomes. However, little academic research in the healthcare-specific application of RFID exists and research that systematically investigates the factors influencing healthcare organizations' adoption of RFID applications is a rarity. A grounded theory methodology was employed to explore adoption and implications of RFID technology in a health care organization aiming at developing a theoretical framework in this emerging research area. We interviewed different stakeholders in the organization regarding their opinions and experiences about the RFID application. As we code and analyzed data, we derived a list of categories and concepts as well as a model that depicts the causal conditions, context conditions, actions/interactions, and consequences of RFID application in the health care organization. This study contributes to IS research by developing a model on adoption of RFID applications in healthcare organizations. Moreover, the results of this study can provide guidelines or suggestions to health care organizations that are embarking on RFID applications.

Biography:

Dr. Qing Cao is an Associate Professor of Management Information Systems at H.W. Bloch School of Business and Public Administration at the University of Missouri at Kansas City. Dr. Cao holds a Ph.D. from the College of Business Administration at the University of Nebraska and he also earned an MBA from University of Wisconsin and a B.S. in Mechanical Engineering from Shanghai Jiao Tong University. Dr. Cao's current research interests include e-commerce and m-commerce, IT outsourcing, supply chain information management, RFID adoption and implementations, and artificial intelligence applications. Dr. Cao is a member of *Association for Computing Machinery, Association for Information Systems, and Decision Sciences Institute*. Dr. Cao is the recipient of the 2005 UMKC Trustees' Faculty Fellowship Award for his accomplishments in research. Dr. Cao has published 18 research articles in journals such as *Journal of Operations Management, Decision Sciences, Communications of ACM, IEEE Transactions on Systems, Man, and Cybernetics, Information and Management, International Journal of Production Research, European Journal of Operational Research, Computers and Operations Research, Journal of Database Management, International Journal of Production Economics*, and among others. Dr. Cao published and presented more than 30 referred conference papers and he also co-authored a book and three book chapters.

Components and benefits of a Hybrid RFID Installation

Clifford Downing

Abstract:
This presentation offers an understanding of the components of an RFID Solution and how they work together. An understanding of how a hybrid solution can be of greater benefit for companies to adopt instead of just installing a "slap & Ship" system to meet the requirements of the current mandates from the DOD and Wal Mart.

Biography:

Cliff Downing
Senior Business Development Manager, RFID
Zebra Technologies

Cliff has been involved with the Data Collection Hardware Industry selling to Supply Chain accounts since the mid 1980's. Cliff has over 10 years of experience using both Active and Passive RFID technology in many different applications. Starting back in 1997, working for Intermec Technologies, Cliff was Industry Manager of Transportation when Intermec acquired Amtech who developed a passive RFID tag used in the Railroad Industry. Cliff then introduced that RFID technology to the trucking industry for Yard Management applications. Cliff moved on to help grow RF Code, a startup company who developed Active RFID hardware and middleware.

Cliff now works for Zebra Technologies where his assignments have been primarily focused on the adoption of RFID in the Supply Chain Industry. Assigned directly to the Wal-Mart account as the RFID specialist, Cliff is the Zebra interface for projects that Wal-Mart or Wal-Mart suppliers might be engaged with.

RFID in the Food Industry

Koel Ghosh, Ph.D.

Joint work with:
Jean Kinsey, Co-Director, The Food Industry Center, University of Minnesota
Ted Labuza, Professor, Department of Food Science & Nutrition, University of Minnesota
Fred Riggins, Assistant Professor, MISRC, Carlson School, University of Minnesota

Abstract:
The use of Radio Frequency Identification (RFID) in food and beverage retail and supply chain management has been steadily gaining momentum. Food spoils and is susceptible to contamination, be it from naturally occurring pathogens or from acts of terrorism. Varied joint academic industry research initiatives, including firm level pilot trials and survey research, has explored how RFID can be used to monitor and impact the quality, safety, and security of food supply and also provide an early warning of potential problems within the food chain. The proposed talk will present the motivations behind the RFID efforts, research findings, and their implications for integrated RFID enabled food supply chain. In particular, the talk will focus on (1) Reasons specific to the food industry that makes a case for RFID, (2) Learning from our center's interaction and dialogue with select firms in the industry about their reasons for adopting, rejecting, or waiting on RFID, and (3) Insights gained from the National Center for Food Protection and Defense's Supply Chain Security Benchmarking and Assessment (2006) about the characteristics of firms that actively use RFID.

Biography:

Koel Ghosh is a Research Associate with The Food Industry Center, a *Sloan Industry Study Center*, at the University of Minnesota. With background training in agricultural, environmental, and regional economics, Koel now engages in active scholarship of the food industry in the following areas: food safety and food terrorism, consumer behavior, characteristics of US food supply and consumption and their implications for health and obesity, industry trends, and tracking emergent issues like Radio Frequency Identification (RFID) technology and Neutragenomics for the food industry.

RFID in the construction industry

David Grau

Joint work with:
Carlos Caldas, Assistant Professor, University of Texas
Carl Haas, Professor, University of Waterloo
Paul Goodrum, Associate Professor, University of Kentucky

Abstract:
Even though the implementation of RFID within the construction industry is in its early stages, the identification technology has already been utilized for many different purposes in very recent times. Several attempts have lately used RFID in order to increase the visibility and control of construction components throughout the supply chain. These efforts have addressed supply chain management for long lead items and the logistics between suppliers and contractors with a variety of approaches. Other complementary efforts have focused on the implementation of RFID devices to bring real-time awareness and controls from construction job sites. On these sites, RFID can not only significantly improve manual type of processes, but enables the possibility to re-engineer these processes around the identification technology. The implementation of off-the-shelf products on construction scenarios is a challenging one, though. The adoption of RFID within these and other construction applications is a highly promising business that has only been recognized for a few organizations so far.

Biography:

David Grau is a Ph.D. student and research assistant at the University of Texas at Austin. For the past three years, David's research topic has been on increasing the visibility of construction materials using advanced sensing technologies. Work in this area has focused on automating the location of construction components on large industrial projects by combining sensing devices and localization techniques. In this study, David has also determined the impact on construction productivity of this technology-enabled location approach. Previous research studies focused on automating the reception of construction components on the job sites using active radio frequency devices and on improving field materials management processes with positioning technologies. Prior to his Ph.D., David worked in the construction industry for more than seven years managing a diversity of projects in South and Central America, and Europe.

The impact of real-time supply information on retailer's inventory replenishment decision

Qian-nong Gu, Ph.D

Joint work with:

Thomas C. Chen, Department of Industrial Engineering, University of Houston
Basheer M. Khumawala, Bauer College of Business, University of Houston

Abstract

Application of Radio Frequency Identification (RFID) technology in supply chain is currently one of the most discussed research topics in production and operations management. RFID improves the visibility of real time inventory and lead time information among supply chain partners. Although the various benefits due to this increased visibility have been broadly discussed by practitioners, how to integrate this technical advancement into business decision making process and how much benefit can be expected have not been specifically addressed in the literature. This paper presents a 3-stage supply chain model that uses real-time information (available quantity, lead time status of open orders), provided by RFID system locating at partners of upstream supply chain, for determining inventory replenishment decision of downstream retailer. A dynamic programming approach is proposed for the retailer to make an inventory replenishment decision under capacitated supply and uncertain lead time with the availability of timely supply information. A numerical illustration is provided to explain the benefits for the retailer under different scenarios. We plan to extend this approach to explore the benefits for other supply chain partners (distribution center, manufacturers) when RFID is adopted in the supply chain.

Biography:

Qiannong (Chan) Gu holds a Ph.D. in Manufacturing Systems from Florida Atlantic University. He is currently pursuing his second Ph.D. in Operations Management at University of Houston. His teaching and research areas of interest focus on supply chain contract modeling, application of RFID in supply chain, facility location, distribution and inventory control, and disaster management.

The value to the customer of RFID: A taxonomy of RFID-enhanced service

Gregory Heim, Ph.D.

Abstract:

Many business press articles promote the coming benefits of radio frequency identification (RFID) devices by documenting emerging RFID inventory control applications within supply chains and retail stores. Yet, researchers and practitioners often appear skeptical about the potential benefits from RFID applications, citing security, technology and infrastructure barriers to adoption. Whether one promotes or is a skeptic, RFID most likely is here to stay. While many years may pass before thorough RFID deployment, it is essential today for managers to determine the strategic and tactical implications posed by RFID. In particular, managers should identify how RFID will affect customer value. The premise behind this article is that companies should focus on delivering value to customers via their RFID applications. To the best of our knowledge, prior literature has not analyzed how RFID affects customer value, or which aspects of value customers might gain. Thus, in this paper we examine how customer value dimensions might be enhanced by RFID within service environments. We develop a taxonomy derived from the breadth of potential use cases for RFID applications. We then associate value dimensions to each cell of the taxonomy, based on prior literature and an analysis of open-ended qualitative survey responses. The result provides a guide to RFID value propositions for managers enhancing their services with RFID.

Biography:

Gregory R. Heim is an assistant professor in the Information & Operations Management Department of Mays Business School at Texas A&M University. He holds an A.B. in economics from The University of Chicago and a business administration Ph.D. in operations and management science from the Carlson School of Management at the University of Minnesota. His research interests include person-to-person service operations, electronic service (e-service) operations, operations strategy, management of technology, quality management, mass customization, and retail supply chain management. His articles have appeared in Communications of the Association for Information Systems, International Journal of Electronic Business, International Journal of Flexible Manufacturing Systems, International Journal of Retail and Distribution Management, Journal of Operations Management, Journal of Service Research, Manufacturing & Service Operations Management, and Production and Operations Management.

The role of professional services in RFID adoption

Bob Hoheisal

Abstract:

Organizations offering professional services in RFID technology have the honor and burden of heralding the new enhanced digital age. These organizations have the task of combining technological research with existing business best practices to yield new methodologies to improve organizational efficiency and corporate strategy. This lecture will provide an overview of the roll these high tech mavericks play and provide some personal insight into this industry.

Biography:

Bob Hoheisal is a project manager and director of Texas State Technical College's RFID learning center. He holds a Bachelor of Science in Information Systems and Transportation Logistics from the Sam M. Walton College of business at the University of Arkansas, Fayetteville. While at the University of Arkansas Bob studied under Dr. Bill Hardgrave, Executive Director of the University of Arkansas RFID Research Center. After completing his education, Bob started working for a RFID Professional Services Company called RFID Global Solution. While at RFID Global, Bob built a state of the art RFID testing laboratory and conducted extensive tests with various active and passive RFID devices. Research topics included extreme cold, static and dynamic tag environments, pallet and case testing, item level testing, and asset tracking and management. This research and development resulted in several proof of concept studies for solution design that were then implemented at customer sites. This research was also a major contribution to two patent pending RFID products. In addition to laboratory research, Bob has been directly involved in several RFID integration projects for companies in the defense, aerospace, and security industries.

Getting value from slap-and-ship through inventory control

Diego Klabjan, Ph.D.

Joint work with:
Paul Pei, Department of Industrial Engineering and Management Sciences, Northwestern University, Evanston, IL

Abstract:
While several RFID implementations in supply chain management have emerged in recent years, the benefits are still not pronounced. In addition to improved processes, RFID generates a tremendous amount of real-time data. Suppliers to big-box retailers have full visibility of their shipments. A challenge becomes how to use this information to improve decision making. We explore the option of improved inventory control under such visibility. We present novel models that capture real-time status of shipments and make optimal inventory control decisions. In addition, we show analytically that RFID real-time data yield better inventory control policies than the traditional setting. We also establish that broader RFID deployments produce additional benefits.

Biography:

Diego Klabjan is an associate professor at Northwestern University, Department of Industrial Engineering and Management Sciences. After obtaining his doctorate from the School of Industrial and Systems Engineering of the Georgia Institute of Technology in 1999, in the same year he joined the University of Illinois at Urbana-Champaign. In 2007 he became an associate professor at Northwestern. He is the recipient of the first prize of the 2000 Transportation Science Dissertation Award and he received various other awards with graduate students. He is a former president of the Institute of Operations Research and the Management Sciences (INFORMS) Aviation Applications Section. He is an associate editor for Naval Research Logistics and two areas in Operations Research. His research is focused on transportation, supply chain management, radio frequency identification, and large-scale optimization.

Security Issues with RFID

Brett J. L. Landry, Ph.D, CISSP

Abstract:
RFID technologies have the ability to transform supply chain management. However, as with any technology, there are security concerns. Recent developments in RFID security has revealed two different vulnerabilities. Poisoned tags that have been rewritten to contain viruses or other malware and poisoning the infrastructure through the use of RFID. This paper is intended to raise the awareness of Data Security Issues with RFID.

Biography:

Dr. Brett J. L. Landry is an Associate Professor of Information Assurance in the Graduate School of Management at the University of Dallas. He is the Director for the Center for Information Assurance which is a NSA Center for Academic Excellence. He has worked in network security and design in the private and public sector having most recently consulted with the U. S. Navy Human Capital Development Program. Landry earned his Ph.D. from Mississippi State University and has published numerous articles on Information Technology in journals such as the ACM Journal of Educational Resources in Computing (JERIC), Communications of the ACM (CACM), Decision Sciences Journal of Innovative Education, International Journal of Services and Standards, Journal of Business Ethics, Journal of Organizational Change Management and others. His recent publication entitled *Dispelling 10 common disaster recovery myths: Lessons learned from hurricane Katrina and other disasters* in the ACM Journal of Educational Resources in Computing (JERIC) based on his experiences in New Orleans after Hurricane Katrina.

Feasibility of RFID decisions for managing supply chains – A returns analysis

Ertunga C. Ozelkan, Ph.D.

Joint work with:
Agnes Galambosi, Ph.D., Department of Mechanical Engineering, The University of North Carolina at Charlotte

Abstract:
Radio Frequency Identification (RFID) is believed to change how supply chains operate today. While RFID's promise for improved inventory visibility and automation in inventory management is making many supply chain players hopeful for increased sales and reduced operating costs, these benefits do come at a cost and involve risks. This talk presents financial returns analysis that captures RFID's costs and benefits, and quantifies the financial risks of implementing RFID for various business sizes and products with different unit profits to understand when RFID makes business sense. Based on a simulation analysis, the presentation aims to provide some insights on how break-even of sales volumes, unit profits, and tag prices, and how return on investment, and risks vary among a manufacturer and a retailer in a supply chain. A sensitivity analysis is also performed to understand the returns under pessimistic and optimistic scenarios.

Biography:

Ertunga C. Ozelkan, is an Assistant Professor of Engineering Management and the Associate Director of the Center for Lean Logistics and Engineered Systems (CLLES) at the University of North Carolina at Charlotte (UNC Charlotte). Prior to UNC Charlotte, he also taught at the University of Texas at Dallas' business school. Before joining academia, Dr. Ozelkan worked for i2 Technologies, a leading supply chain software vendor in the capacity of a Customer Service and Curriculum Manager and a Consultant. He also worked as a project manager and a consultant for Tefen Consulting in the area of productivity improvement for Hitech firms. Dr. Ozelkan holds a Ph.D. degree in Systems and Industrial Engineering from the University of Arizona. He teaches courses on supply chain management, lean systems, decision analysis and systems optimization. His current research interests are modeling of supply chains and applications in different industries. Dr. Ozelkan is the recipient of IIE's 2006 Lean Division Excellence in Teaching Award.

Basics of RFID and case studies

Lisa Petrini

Abstract:

There exists a lucrative opportunity to take part in the growth of the RFID Market through outsourcing and consulting. As RFID facilitates improved decision making, firms of all sizes across many industries are beginning to address RFID as a compliance matter. If implemented to its fullest benefit, they will experience tremendous returns on their investment and hopefully, a sustained competitive advantage.

Biography:

Lisa Petrini an undergraduate student at Baylor University majoring in Entrepreneurship and Operations Management. She is currently a Standards Intern at Waco Foundation.

Unlocking the RFID's Real Value

Divakar Rajamani, Ph.D.

Abstract

RFID is not a new technology. However the opportunities it presents to radically improve the performance of the products and supply chains are not still well understood. In this presentation, we discuss some perspectives on how RFID can improve the product and supply chain performance, dispel a few myths, identify some barriers to overcome and accelerate the adoption of this technology.

Biography:

Dr. Divakar Rajamani is a Professor and Managing Director of the Center for Intelligent Supply Networks at University of Texas at Dallas. Divakar has had a ten-year career in industry at such companies as i2 Technologies and General Motors, where he worked in a consulting capacity. His areas of expertise include Lean Manufacturing, Product Lifecycle Management, Factory Planning and Transition Planning. He also served on the faculty of the University of Manitoba from 1990-1996. He has published in the operations research field and co-authored a book on, Cellular Manufacturing Systems: Design, Planning and Control, which was published in 1996.

RFID: An experimental study for improving supply chain performance

Pedro M. Reyes, Ph.D.

Abstract:
We examine the impact of RFID-point of sale data sharing on ordering decisions in a two-echelon supply chain. Theoretical studies have shown that accessibility to point of sale data can impact supply chain dynamics. We study this phenomenon from a behavior examination in the content of a simple, serial supply chain that is subject to stochastic demand and information time-lags using a controlled simulation experiment. Of obvious practical importance; RFID has been the subject of intense discussion and research since the Wal-Mart and U.S. Department of Defense mandates. Within the retail supply chains, there are great expectations for RFID-capturing and real-time demand information sharing, key for improving supply chain performance. One belief, in particular, is that sometime in the near future, retail customers can move their basket of goods into a designated *read-zone* where all of the items will be read and automatically charged to their credit card before leaving the store, while all inventory records among all supply chain partners are updated. The purpose of this research is to test this belief. We discuss the implications of our work and identify future research needs.

Biography:

Dr. Pedro M. Reyes is an Assistant Professor of Operations Management in the Hankamer School of Business, Baylor University. He is the Director for the Center for Excellence in Supply Chain Management (CESCM) within the Baylor Advanced Research Institute (BARI), an Affiliate of *Sloan Industry Studies*, and a member of the *RFID Technology Council*. Dr. Reyes received the Hankamer School of Business *Young Researcher Award* and is recognized by The University of Texas at Arlington College of Business as a *Lawrence Schkade Research Fellow.*

Research interests consist of the use of RFID in Supply Chain and Logistics operations and Operations Planning and Control Systems. Dr. Reyes has 20 publications, with research published or accepted in journals such as *European Journal of Operational Research, Decision Sciences Journal of Innovative Education, Journal of Supply Chain Management, Production and Inventory Management Journal*, *Applied Mathematics and Computation*, *International Journal of Integrated Supply Management*, and *Supply Chain Management: An International Journal*.

Dr. Reyes has over 20 years of industry experience in Operations Management. His industry professional roles include Global Supply Chain Coordinator, Materials Manager, Production Manager, and Production and Inventory Control Manager. He has also served on project management teams for Six Sigma continuous improvement, implementing ERP software packages, such as *i*2, SAP and Oracle, and ISO 9000 certification and re-certification.

Government & RFID

Emily Sopensky, CEO

Abstract:

A review of several state, federal and international governments' response to RFID technology.

Biography:

Emily Sopensky (USA)
The Iris Company

A business consultant, Emily Sopensky is the sole proprietor of The Iris Company (www.iriscompany.com), a communications business, specializing in strategies for startups. Her involvement with radio frequency identification began in 1996 with Texas Instruments (Dallas, Texas), where she was a consultant for six years with the RFID group (then called TIRIS). After 20 years working with technology companies in Central Texas, she became the second IEEE-USA Fellow to the U.S. State Department, and relocated to Arlington, Virginia.

Ms. Sopensky, a Senior Member of IEEE, is actively supporting The Institute in recognizing this emerging technology. She chaired the first IEEE-wide juried conference in March 2007, she is chairing the second to be held in March 2008 and co-located again with RFID World, the largest RFID trade show. Ms. Sopensky represents IEEE on the RFID Technology Council, an ad hoc group formed solely to support the U.S. Senate RFID Caucus formed in July 2006. She led the IEEE-USA team that wrote the white paper on RFID (now available from IEEE-USA) and the position statement. She chairs the IEEE-USA Committee on Communications Policy.

In March 2007, Ms. Sopensky co-founded the RFID Educational Foundation, a non-profit organization formed to accept and make educational grants. For more information, see therfidfoundation.org.

RFID applications for vehicular tolling and congestion management

John Walewski, Ph.D.

Abstract:

One of the first consumer applications of RFID was automated vehicular toll collection systems first introduced in the late 1980s. With a significant increase in the number of toll roads proposed over the next several years, RFID-technologies are a key component in creating the state-of-the-art electronic open road systems. In addition, RFID-based electronic tolling is viewed as a key tool for reducing traffic congestion and many states are pursuing a host of creative uses of RFID-related technologies. For example, car-tracking RFID tags can be used to enforce the congestion charges being implemented by cities such as London and Stockholm and proposed for New York City. This presentation will introduce RFID technologies in the transportation sector and will explore in detail the current and future uses of RFID for vehicle tolling, tracking, and other applications.

Biography:

Dr. John Walewski manages the day-to-day activity of the multi-task interagency technical assistance contract the Center for Transportation Research (CTR) has with the Austin District of the Texas Department of Transportation (TxDOT). Among other activities, he currently works with District and University of Texas at Austin (UT) staff on developing a programmatic process to automate design project schedules, the analysis and evaluation of intelligent transportation system equipment and systems, and an investigation and modeling of arterial functionality. Dr. Walewski assisted in the teaching of the undergraduate construction cost estimating course for the 2006 summer semester, and is also part of the team developing cost estimating and project scheduling course for both TxDOT employees as well as UT students.

The emphasis of his research is risk assessment for international capital projects, selection of project delivery methods, pre-project planning, and sustainable infrastructure development. In 2004, he was awarded a Fulbright grant to collaborate with researchers at the Norwegian University of Science and Technology on risk assessment techniques for constructed facilities. His past research appointments include the Construction Industry Institute and the Center for Construction Industry Studies. Prior to attending UT he served as a staff officer with the Board on Infrastructure and the Constructed Environment of the National Research Council, National Academy of Sciences in Washington, DC, and—among other projects—directed the congressionally mandated studies on improving the delivery and management of projects undertaken by the U. S. Department of Energy. John has a doctorate in civil engineering from UT, a graduate degree in urban planning from the University of Michigan, and a BS in construction management and a bachelor in landscape architecture from Michigan State University.

RFID: A value added technology to reduce costs associated with lost luggage

Chris Zane

Joint work with:
Pedro M. Reyes, Baylor University

Abstract:

Airlines are recalcitrant to maximize logistical systems; industry metrics are based revenue per seat, rather than a cost reduction perspective. The current paradigm focuses minimizing price to reduce competition. Airlines are oblivious of the costs associated with baggage handling. The legacy system's mode of acquisition, based on the scanning of an un-occluded tag, has exhibited a maximum field reliability of 90%. Radio Frequency Identification (RFID) enabled tracking can eliminate the errors caused by surface contaminants. RFID can substantially decrease the operational costs of airports, through reduced baggage sorting expenses, constraint maximization, and logistical improvements.

In this study, a series of experiments were conducted on a dedicated airport baggage carousel to ascertain the feasibility of employing RFID tags to identify luggage. The results demonstrated a sustained read rate exceeding 97%, thus exhibiting significantly higher read rate accuracy than traditional barcodes. A strategic analysis of implementation is viewed from Porter's framework, discussing the options of differentiation, outsourcing, and capital investment.

Biography:

Chris K. Zane is a master's candidate attending Hankamer School of Business at Baylor University, with graduate specializations in strategy and finance. He holds a Bachelor's degree in business management from Baylor University, with a focus in quantitative analysis. Currently, he is a research graduate assistant for Dr. Pedro Reyes.

Previous employment includes the following positions: assistant controller with Johnson Roofing and compliance auditor and systems analyst with Young Contractors. Significant experience consists of coordination and implementation of two enterprise resource planning systems and the integration of a JD Edwards One World platform to utilize supply chain management.

Prior work focused on a dynamic quantitative analysis ascertaining the feasibility of RFID for an airport facility. The precursor thesis utilized a multi-factor logistical regression analysis ascertain the applicability of RFID to acquire and track baggage and providing a series expected cost savings equations utilizing RFID. Current research focuses the applicability of RFID in the distribution and logistical system of airports. This paper is currently under review with *Business Horizons*.

A hands on approach with RFID in the classroom

Pamela J. Zelbst, Ph.D.

Joint work with:
Kenneth W. Green, Jr. Associate Professor of Management at Sam Houston State University.
Victor E. Sower, Professor of Operations Management at Sam Houston State University.

Abstract:

Students in a graduate class were asked to research various industries in relation to RFID's present use and identify future uses of the technology for that industry. In addition, the students were given the opportunity to experiment (hands-on) with an RFID evaluation kit in the classroom and several classroom discussions were conducted in relation to RFID technology. The students were then instructed to write a paper as to potential uses of this technology in the classroom. Based on the results of the student analysis a profile of potential RFID uses in the provision of educational services is developed and presented.

Biography:

Dr. Pamela J. Zelbst is an Assistant Professor of Management at Sam Houston State University. Her research has been presented at conferences including Decision Sciences Institute, Southern Management Association, Southwest Academy of Management, and Western Academy of Management. She currently has articles under review for journals including *Urban Geography* and *The Journal of Business Research.*