



# 2008 IACIS Conference Program & Refereed Proceedings



**48th Annual IACIS International Conference  
October 1—4, 2008  
Savannah, Georgia, USA**

***Synchronizing Your Knowledge***

This is an official publication of the  
INTERNATIONAL ASSOCIATION FOR COMPUTER INFORMATION SYSTEMS







# PREFACE

Welcome to the 48th Annual Conference for the International Association for Computer Information Systems!

The Southern hospitality and charm of Savannah provides the perfect backdrop for this year's conference. The welcoming atmosphere of the location is exceeded only by the collegial spirit among our conference participants. Representatives from 23 different countries participated in submitting and reviewing papers. We truly are synchronizing our collective knowledge through the collaborative research ventures, many of which are initiated or progressed through the IACIS International Conference.

Our two keynote speakers this year are both focused on how their organizations synchronize knowledge for added value. Thursday keynote speaker Ken Kaiser will define ways that Target leverages technology through its strategy of brand differentiation, global talent, leadership development and innovation. Mr. Kaiser will also discuss the opportunity that IS faculty have to facilitate global IT talent development, given the world-wide need for technology solutions.

Friday keynote speaker Michael J. Lynch will demonstrate the innovative ways that 3M has integrated collaborative technologies to enable 3M personnel from around the world to (a) find other 3M personnel with similar research interests, (b) synchronize their knowledge and (c) move forward in the innovative manner that has distinguished 3M for decades.

Your post-conference feedback indicated that the networking opportunities were extremely valuable to you. Therefore, the IACIS Board continued the tradition of offering multiple networking opportunities in the form of the welcome reception, the business luncheon, the Thursday dinner, generous morning and afternoon breaks, and free time on Friday night. We encourage you to take advantage of these opportunities to establish or strengthen your professional relationships.

Your post-conference feedback also indicated that you wanted more session time for presentations and discussions. You asked; we listened. The presentation sessions are now 60 minutes long with three papers per session. For your convenience, the sessions are again arranged by theme with as much simultaneous diversity as possible (e.g., software development and curriculum development are offered simultaneously whereas the instruction and learning tracks are consecutive). We hope you will use the longer, theme-based sessions to engage in lively discussions.

Papers selected for publication in *Issues in Information Systems* can be accessed online at [http://iis-online.org/iis/2008\\_iis/index.htm](http://iis-online.org/iis/2008_iis/index.htm). IIS is registered with the U.S. Library of Congress as a serial publication and is listed in Cabell's Directory of Publishing Opportunities in Management. Only complete, accepted papers appear in IIS; accepted abstracts appear in the Conference Proceedings.

Special thanks go to Thom Luce and Ohio University for their continued support of the IACIS conference database site for online submission and review and conference management activities. Thom maintains and updates our system each year, based in large part on your suggestions. Conference management is quite smooth thanks to this system. Please continue to provide input for ways we can improve your submission and review experience.

You all continue to make the IACIS International Conference an excellent conference. With increased travel costs and decreased college budgets, we appreciate your making this conference your home conference. Thank you for presenting your best work here. We look forward to continued lively and meaningful presentations and discussions.

Jean A. Pratt  
IACIS Vice President and Conference Chair



Lorraine (Lori) Willoughby  
IACIS Secretary and IIS Editor



# IACIS EXECUTIVE BOARD



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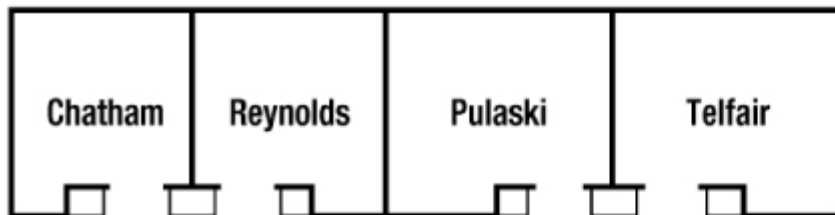
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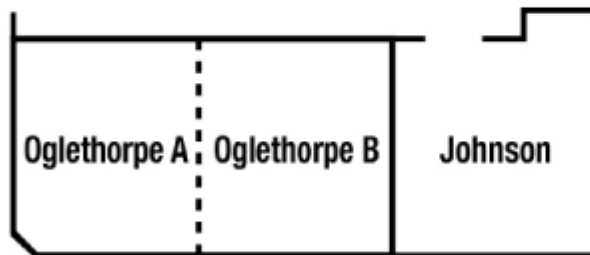
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		<b>Forsyth</b>	<b>Franklin</b>	<b>Telfair</b>	<b>Pulaski</b>
<b>Thursday, October 2</b>	10:20—11:20	01A	01B	01C	01D
	11:30—12:30	02A	02B	02C	02D
	2:00—3:00	03A	03B	03C	03D
	3:20—4:20	04A	04B	04C	04D
	4:30—5:30	05A	05B	05C	05D
<b>Friday, October 3</b>	10:00—11:00	06A	06B	06C	06D
	11:10—12:10	07A	07B	07C	07D
	2:00—3:00	08A	08B	08C	08D
	3:20—4:20	09A	09B	09C	09D
	4:30—5:30	10A	10B	10C	10D
<b>Saturday, October 4</b>	8:30—9:30	11A	11B	11C	11D
	9:40—10:40	12A	12B	12C	12D
	11:00—12:00		13B	13C	

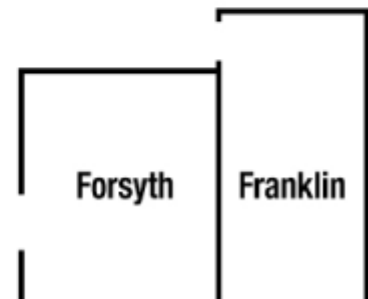


## Second Floor

### PREFUNCTION



### MEZZANINE



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# CONFERENCE PROGRAM





# PROGRAM OVERVIEW



## Wednesday, October 1, 2008

6:00 – 8:00 p.m.

Reception/Registration

Plaza, Lower Level

## Thursday, October 2, 2008

7:30 a.m. – 10:30 a.m.

Registration

Savannah Ballroom Foyer

10:30 a.m. – 5:00 p.m.

Registration

Prefunction 2 (Second Floor)

7:30 – 8:30

Continental Breakfast

Savannah Ballroom C

8:30 – 8:40

Welcome and Announcements

Savannah Ballroom C

8:40 – 9:00

Award

2008 Computer Educator of the Year

Savannah Ballroom C

9:00 – 10:00

Keynote

Kenneth Kaiser, Vice President  
Corp Systems Development, Target

Savannah Ballroom C

10:00 – 10:20

Networking Break

Savannah Ballroom Foyer

10:20 – 11:20

Session 1A  
Session 1B  
Session 1C  
Session 1D

Curriculum Design/Development #1  
Electronic Communication  
Software Development #1  
Database/Data Modeling #1

Forsyth  
Franklin  
Telfair  
Pulaski

11:30 – 12:30

Session 2A  
Session 2B  
Session 2C  
Session 2D

Curriculum Design/Development #2  
E-business/E-commerce/E-government #1  
Software Development #2  
Database/Data Modeling #2

Forsyth  
Franklin  
Telfair  
Pulaski

12:30 – 2:00

Lunch (on your own)

2:00 – 3:00

Session 3A  
Session 3B  
Session 3C  
Session 3D

Curriculum Design/Development #3  
E-business/E-commerce/E-government #2  
Software Development #3  
Database/Data Modeling #3

Forsyth  
Franklin  
Telfair  
Pulaski

3:00 – 3:20

Networking Break

Prefunction 2 (Second Floor)

3:20 – 4:20

Session 4A  
Session 4B  
Session 4C  
Session 4D

Curriculum Design/Development #4  
E-business/E-commerce/E-government #3  
Supply Chain Management  
Online/Blended/E-Learning #1

Forsyth  
Franklin  
Telfair  
Pulaski

4:30 - 5:30

Session 5A  
Session 5B  
Session 5C  
Session 5D

Curriculum Design/Development #5  
Mobile Commerce/Technologies  
Security/Risk Management  
Online/Blended/E-Learning #2

Forsyth  
Franklin  
Telfair  
Pulaski

6:00 – 9:30 p.m.

Fun Night: Tour of Savannah and dinner at the Morris Center





# PROGRAM OVERVIEW

Friday, October 3, 2008

7:30 a.m. – 10:30 a.m.		Registration	Savannah Ballroom Foyer
10:30 a.m. – 5:00 p.m.		Registration	Prefunction 2 (Second Floor)
7:30 – 8:30		Continental Breakfast	Savannah Ballroom C
8:30 – 8:40		Welcome and Announcements	Savannah Ballroom C
8:40 – 9:40	Keynote	Michael J. Lynch, Manager IT Advanced Pers & Wrkgpr Sols, 3M	Savannah Ballroom C
9:40 – 10:00		Networking Break	Savannah Ballroom Foyer
10:00 – 11:00	Session 6A Session 6B Session 6C Session 6D	Curriculum Design/Development #6 E-business/E-commerce/E-government #4 IT Implementation IS Instruction #1	Forsyth Franklin Telfair Pulaski
11:10 – 12:10	Session 7A Session 7B Session 7C Session 7D	Curriculum Design/Development #7 E-business/E-commerce/E-government #5 Course Management IS Instruction #2	Forsyth Franklin Telfair Pulaski
12:20 – 1:50		Business Luncheon	Savannah Ballroom C
2:00 – 3:00	Session 8A Session 8B Session 8C Session 8D	Curriculum Design/Development #8 Groups/Teams #1 Information Management IS Instruction #3	Forsyth Franklin Telfair Pulaski
3:00 – 3:20		Networking Break	Prefunction 2 (Second Floor)
3:20 – 4:20	Session 9A Session 9B Session 9C Session 9D	Decision Making #1 Groups/Teams #2 Networks #1 Learning #1	Forsyth Franklin Telfair Pulaski
4:30 – 5:30	Session 10A Session 10B Session 10C Session 10D	Decision Making #2 Project & Change Management #1 Networks #2 Learning #2	Forsyth Franklin Telfair Pulaski
5:35 – 6:00		JCIS Editorial Board Meeting	Forsyth





# PROGRAM OVERVIEW



Saturday, October 4, 2008

7:30 – 11:00 a.m.		Registration	Prefunction 2 (Second Floor)
7:30 – 8:30		Continental Breakfast	Prefunction 2 (Second Floor)
8:30 – 9:30	Session 11A Session 11B Session 11C Session 11D	Culture #1 Project & Change Management #2 Work and Training IT Adoption	Forsyth Franklin Telfair Pulaski
9:40 – 10:40	Session 12A Session 12B Session 12C Session 12D	Culture #2 University and Information Systems SAP/ERP TAM	Forsyth Franklin Telfair Pulaski
10:40 – 11:00		Networking Break	Prefunction 2 (Second Floor)
11:00 – 12:00	Session 13B Session 13C	Social Networks Information Systems Issues	Franklin Telfair
12:10 – 12:40		Conference Debriefing	Forsyth





# KEYNOTE PRESENTATIONS

Thursday, October 2

9:00 – 10:00 a.m.

Savannah Ballroom C (Lobby Level)

**Speaker:** *Kenneth Kaiser*, Vice President of Corporate Systems Development, Target Corporation



Ken Kaiser, Vice President of Corporate Systems Development at Target Corporation, is responsible for all systems strategy for Finance, Human Resources, Property Development and Asset Protection across the entire corporation. In his 11 plus years at Target, his responsibilities have spanned the areas of Supply Chain Development, Business Intelligence, Target Financial Services and Target.com. Before Target, Ken spent 20 years in financial services working in IT at First Wisconsin and Norwest Corporation (now US Bank and Wells Fargo respectively). Ken is a summa cum laude graduate of the University of Wisconsin—Eau Claire and has an MBA from Marquette University. With his wife of 31 years, they are the proud parents of 3 sons, with the youngest just starting college and the other two successfully graduating and establishing themselves in their careers.

**Presentation Title:** *The Paradox of Synchronization in the World Today*

**Presentation Abstract:** *Today in times of economic uncertainty, with accelerating rates of change and increasing pressures for organizational transformation, the challenges for Information Technology continue to grow from both a relevancy and impact perspective. Leadership and innovation are critical to meeting these challenges for all businesses, organizations and institutions. The expanding global talent pool and its role in the overall competitive landscape provide a unique situation to positively affect IT's capabilities. Recognition of these challenges and a strategic response to these circumstances provide a window of opportunity for IT in its goal of greater synchronization. The combination of these challenges and opportunities represents a paradox for goal achievement. This presentation will address one way that a Fortune 50 retailer is responding to the situation through its focus on brand differentiation, global competitiveness, leadership and innovation. The journey was never promised to be easy, but the rewards have never been greater in addressing the synchronization paradox.*

Friday, October 3

8:40 – 9:40 a.m.

Savannah Ballroom C (Lobby Level)

**Speaker:** *Michael J. Lynch*, Manager, IT Advanced Personal and Workgroup Solutions, 3M



Mike Lynch is currently responsible for the strategy and implementation of IT collaboration technologies, enabling functions such as R&D, Supply Chain, Sales & Marketing and HR to work together electronically around the globe. Over the last 30 years, Mike has held positions in IT as an Enterprise Software Architect, manager of IT's e-Business practice, and as a researcher in IT's Advanced Technologies group. Before joining IT, he worked in 3M's Manufacturing Process Control and in one of 3M's business units as the Software Architect of the Docutron® Electronic Document Management System. Prior to his stint at 3M, he held a position at Westinghouse Defense, performing test equipment electronics design for the Air Force AWACS Radar and F-16 Radar programs. Mike holds a B.S. degree in Electrical Engineering from the University of Wisconsin — Madison. When not working, he enjoys reading, golf, skiing, travel, and sailing.

**Presentation Title:** *3M's Collaboration Strategy —Helping 3Mer's easily innovate, communicate, network and share knowledge via global virtual communities*

**Presentation Abstract:** Collaboration has always been an important activity at 3M, a company known for its innovation. With the advent of the latest generation of internet technologies, the opportunity exists to take collaboration to a whole new level. Because 3M is a global company (with over half of its employees and two thirds of its sales outside of the US) the need to work electronically across time zones, geographies, languages and cultures has driven us to find new ways to connect, communicate and work together. Technologies such as wikis, blogs, team websites, forums, social networking, High definition video conferencing, web conferencing, smartphones, streaming audio/video, podcasts, communities, social bookmarking, tagging, RSS feeds, etc. are at all play in the "interactive web." The challenge is to harness all of this in the service of finding colleagues of interest, sharing knowledge, obtaining training, and working together to create new products for customers.





# IACIS RECOGNITION AWARDS



## Computer Educator of the Year

The **Computer Educator of the Year** is the highest award given by the Association, and competition for the award is keen. Candidates show exceptional research and teaching skills, have made significant contributions to IS and IS education, and enjoy a national or international reputation for their outstanding work throughout the IS community. Recent recipients have included curriculum innovators, leaders in the field of artificial intelligence and IS management, and publishers of learning materials that have significantly impacted the IS educational community. Nominations for the Computer Educator of the Year are accepted from September until March, with selection made in June or July for awarding at the annual conference in the fall.

## Ben Bauman Award for Excellence

Ben Bauman was a long time member, officer, Director and contributor to IACIS, and a member of the faculty at James Madison University. Ben made it his life's work to contribute to his profession and university, and to mentor junior faculty and help them realize their potential. He passed away suddenly, and in recognition of his years of service and contributions, IACIS has established an annual award in his honor.

The **Ben Bauman Award for Excellence** recognizes faculty excellence and service. Candidates for the Ben Bauman Award include senior faculty with significant service to their profession, university and community. Service would include taking a leadership role in professional organizations, assuming significant committee responsibilities and serving the community through civic, church and other activities. While research and scholarship are important activities for all faculty, the major emphasis when reviewing senior faculty nominations for the Ben Bauman Award will be on reviewing their significant and long-term service.

A second category of candidates includes junior faculty showing outstanding scholarship, service and great promise. It is expected that candidates in this category will not have a long record of scholarship and service, but will have recognizable achievements. The major emphasis when reviewing junior faculty nominations for the Ben Bauman Award will be on the candidate's potential and promise for a significant academic career.

Nominations will be accepted for both junior and senior faculty, with one candidate from all nominations selected each year to receive the award. Nominations for the Ben Bauman Award for Excellence are accepted from September until March, with selection made in June or July for awarding at the annual conference in the fall.

## "Best Paper" Awards

Up to three awards for "Best Paper" are conferred at the annual conference. Reviewers for the conference nominate papers based on demonstrated excellence of specific criteria. The Conference Chair submits the nominated papers to a panel of experts for another round of blind reviews. The Conference Chair confers the "Best Paper" awards at the annual conference in the fall. Not all categories are awarded each year. The Conference Chair may also recognize "Honorable Mention" awards for excellent papers.

Papers may be nominated for one of the following categories:

- Best Pedagogy Paper Award: the best paper treating pedagogical issues
- Best Research Paper Award: the best paper reporting original research
- Best Technical Paper Award: the best paper regarding technological innovations





# IACIS RECOGNITION AWARDS

## 2008 Computer Educator of the Year Zbigniew Pastuszak



Zbigniew Pastuszak has served as Lecturer and Trainer, Center of Industrial Managers Education; Lecturer, School of Enterprise and Administration; and Assistant Professor and Manager of the MIS Lab, Maria Sklodowska-Curie University, Lublin, Poland. Dr. Pastuszak has been serving in various consulting and teaching posts for more than ten years, has traveled extensively throughout Europe teaching and consulting, and has assembled a remarkable record of accomplishment. Through his company *E-Biz Comprehensive E-Business Service*, he provides advice, contract software and technology training to clients and coordinates a team of 11 experts providing such services as database consultation to the School of Slavonic and East European Studies, the UCL, London. He has also served as a technical consultant to the Polish Agency for the Development of Enterprises and served as E-Business Project Manager for Lublin University of Technology.

As a faculty member, Professor Pastuszak has supervised more than 100 engineer's and master's theses. Supporting his consulting and teaching activities is his ability to effectively communicate in Polish, French, English, and Russian. Professor Pastuszak has also drafted and participated in grants from the Polish Science Committee related to Polish competition in E-Business, developed courseware for the Polish Virtual University, served as the Polish partner in the project Information Systems and Multimedia in Education through the University of Primorska, and helped develop the HRM Strategy for 100,000 Polish Postal workers.

In addition to an active teaching and consulting schedule, Professor Pastuszak is the author of more than 90 international publications and academic proceedings, serves as editor-in-chief of the journal *Logistics*, and as an editorial reviewer for *Industrial Management and Data Systems*, *International Journal of Management and Decision Making*, *Interdisciplinary Journal of Knowledge and Learning*, and many others.

In recognition of his outstanding achievements and dedication to technology and management education, he has received 9 awards from the Rector of Maria Sklodowska Curie University and the Rector of Lublin University of Technology. Recently he was selected as author of the Best Paper at the Management International Conference, Portoroz, Slovenia.

Professor Pastuszak has truly made a significant impact on the world of Computer Information Systems through his teaching, his scholarship, his commitment to editing professional and technical journals reaching throughout the globe, and his consulting with organizations both within Poland and in the European Community. We congratulate Zbigniew Pastuszak on being selected as the 2008 IACIS Computer Educator of the Year.

## 2008 Ben Bauman Award for Excellence Gary J. DeLorenzo



Gary J. DeLorenzo is an Assistant professor of Mathematics and Computer Science, California University of Pennsylvania, Eberly College of Science and Technology. Prior to joining academia, Dr. DeLorenzo spent more than thirty years in manufacturing and banking, serving as manager, senior systems analyst, technical consultant, programmer, and various other technical positions. University teaching is not new to Professor DeLorenzo. During his business career he served for more than 15 years as an adjunct faculty member, teaching both undergraduate and graduate courses. While serving as a manager with Pittsburgh Plate Glass and pursuing graduate studies, Professor DeLorenzo effectively applied his newly learned research techniques to his work, applying qualitative ethnographic field method techniques to business information requirements analysis. During his last year with PPG he also served as a Visiting Professor in the Robert Morris University Graduate Program. In his nomination, Robert Morris Professor Fred Kohun states that "Serving as Visiting Professor confirmed what his years of adjunct teaching had led him to discover: his love of teaching and academic life."

In his short career since joining the faculty at CALU, Professor DeLorenzo has gained a reputation as someone who brings people together and gets them excited and shares his industrial wisdom with all of his students to make courses more timely and relevant. In addition to teaching, he has found a new passion in life: research. He has published a number of papers in academic journals and has made numerous conference presentations, both nationally and internationally. Also, since joining the faculty at CALU, he has formed a partnership with the John Heinz History Center to secure service learning opportunities for his students by providing database development and technical support to help manage the museum's hundreds of thousands collections.

Dr. DeLorenzo is clearly on track for an outstanding career as a university faculty member, and we congratulate him on being selected for the 2008 IACIS Ben Bauman Award for Excellence.







## CURRICULUM DESIGN/DEVELOPMENT #1

Thursday, October 2

10:20—11:20 a.m.

Forsyth

Session Chair: Sean McGann

### WINNING INFORMATION SYSTEMS MAJORS IN THE INTRODUCTORY COURSE: THE COURSE UP CLOSE—A PANEL PRESENTATION

Raymond Frost, Ohio University, frostr@ohio.edu

Jacqueline Pike, University of Pittsburgh, jpik@katz.pitt.edu

Lauren Kenyo, Ohio University, krewatch@ohio.edu

*Per IACIS request, this panel will present a major component of the curriculum that has generated such incredible increases in enrollment at Ohio University. That component is our revised introductory course. We have also written an academic paper, separately submitted, on the course titled *Generating Student Interest in the Information Systems Major: A Strategic Framework for the Introductory Course*. This panel looks inside the strategic framework to reveal the detailed content of the course.*

This panel presentation describes details of the introductory course that helped solve an enrollment problem in the Management Information Systems Department at Ohio University’s College of Business. The session will give an overview of the course and specific examples of units used in the course. We will also highlight the innovative pedagogy used in the course. The content of the introductory course must be intrinsically rewarding, exciting, fun, and motivating. Learning software tools is not most students’ idea of fun. The focus needs to shift to the deliverables that students are producing with the tools. The deliverables need to be business focused and relevant.

Our course is perceived by students and faculty alike as exciting, fun, and relevant precisely because our focus is on interesting business problems and not just on learning software tools. Students recognize the value right away. Faculty are predictably a harder sell because of their concern that less breadth of the tools will be covered. However, because of the depth of our approach, we believe that even old school faculty will learn new things about the tools with this content, Our most skeptical faculty member was a believer by the second week of class.

We have debated what tools should be covered, and we believe that we have settled on an appropriate set that allows us to keep the focus on business content and satisfy faculty expectations. These include Excel, Access, PowerPoint, and Word. Not only do we cover those tools but we do so with meaningful examples and require polished professional deliverables. But that still leaves one tool missing. It is a tool whose value is more obvious to students than to faculty. That tool is Photoshop.

The contents in brief of our course include the following:

- Unit 1 Graphic Design: Create an ad using graphic design, type design, and ad design principles.
- Unit 2 Design a Brand: Create an ad, design an original brand, or create a logo using specific tools.
- Unit 3 Target Marketing: Target a niche market by creating an ad or professional flier—use specific tools.
- Unit 4 Web Site Design: Create a website based on standard web design and usability principles.
- Unit 5 Networking and Placement: Create an effective résumé and cover letter.
- Unit 6 Papers and Presentations: Create a PPT presentation using critical thinking and spin techniques.
- Unit 7 Design Spreadsheets and Graphs: Create graphs for decision making; use specific spreadsheet tools.
- Unit 8 Graphical Integrity: Learn how to preserve data integrity, adjusting for inflation, standardization, CPI.
- Unit 9 Decision Support: Use forecasting tools such as sensitivity analysis, calculate future values.
- Unit 10 Performance Measures: Manipulate date to derive standardization, financial analysis, strategic recs.
- Unit 11 Business Intelligence: Create and query an Access database; perform data analysis using pivot tables.
- Unit 12 Concepts in MIS: Put into context all of the material covered in the text; explore other areas of MIS.







## ELECTRONIC COMMUNICATION

Thursday, October 2

10:20—11:20 a.m.

Franklin

Session Chair: Carl M. Rebman

### **AN EMPIRICAL STUDY OF INSTANT MESSAGING BEHAVIOR BASED ON THE TECHNOLOGY ASSESSMENT MODEL (TAM)**

Alan R. Peslak, Penn State University, arp14@psu.edu

*Instant messaging (IM) is an important form of synchronous electronic communications that has become extremely popular among teens and young adults. The communication offers unique advantages over email and other forms of communication but has not gained widespread support among corporate users. This study reviews instant messaging and its use and attempts to determine factors which influence its success. The Technology Acceptance Model (TAM), based on Davis's work (1989), is used to model IM behavior. Generally, the study finds that TAM does model IM behavior. Both perceived usefulness and perceived ease of use are positively associated with intention to use instant messaging. Other relationships are explored and a modified TAM model for IM is proposed. This study has important implications for researchers to further explore IM and TAM and for practitioners who can use this model to influence and popularize an important synchronous form of communication.*

### **A COMPARISON OF STUDENT USE AND UNDERSTANDING OF TEXT MESSAGING SHORTHAND AT TWO UNIVERSITIES**

Betty A. Kleen, Nicholls State University, betty.kleen@nicholls.edu

Lynn Heinrichs, Elon University, lheinrichs@elon.edu

*Text and instant messaging have introduced a new shorthand vocabulary for communication in today's world. Yet, little research has been done to-date on how much it is used and understood. The current study examines student use and understanding of text messaging acronyms and shorthand at two universities. A questionnaire was administered to students enrolled in the introductory MIS course at both schools. Data were collected regarding text messaging practices, perception of appropriateness, and shorthand interpretation. Results are analyzed and discussed along with implications for future research.*

### **CURRENT PRACTICES IN ELECTRONIC COMMUNICATION MANAGEMENT**

Richard Glass, Bryant University, rglass@bryant.edu

Nancy Records, Bryant University, nrecords@bryant.edu

Hal Records, Bryant University, hrecords@bryant.edu

Robert Behling, Illinois University, R-Behling@wiu.edu

*Virtually all corporations use e-mail as a method of electronic communication in their organizations. Yet many organizations report that their e-mail management systems are in "complete chaos." Instant messaging (IM) is a rapidly emerging electronic communication technology that is already being used for business applications by 60% of mid to large enterprises. This paper describes the results of a detailed survey of management practices for e-mail and instant messaging among organizations in the Northeast United States. Findings support earlier studies that despite 100% acceptance and use of e-mail among organizations, e-mail management practices are often lacking in corporations. IM was allowed to be used for business purposes by 45% of organizations surveyed. Management practices for IM were found to be in a lesser state of development than e-mail management practices. Results of the survey are reported in this paper and implications for organizations are discussed.*





## SOFTWARE DEVELOPMENT #1

Thursday, October 2

10:20—11:20 a.m.

Telfair

Session Chair: Ewuuk Lomo-David

### ISSUES AND CHALLENGES OF AGILE SOFTWARE DEVELOPMENT WITH SCRUM

Juyun Cho, Colorado State University-Pueblo, joey.cho@colostate-pueblo.edu

*Agile software development methods have been developed and evolved since early 1990s. Due to the short development life cycle through an iterative and incremental process, the agile methods have been used widely in business sectors where requirements are relatively unstable. This paper explains the differences between traditional software development methods and agile software development methods and introduces the characteristics of one of the popular agile methods, Scrum. Finally, the paper illustrates issues and challenges discovered through an in-depth case study in a company which has employed Scrum for many projects. The insights presented in the paper can be used in organizations that are in the process of agile software development using Scrum.*

### DESIGN PATTERNS FOR TEST DRIVEN DEVELOPMENT IN ACCESS VBA

Todd Schultz, Augusta State University, tschultz@aug.edu

*Application of appropriate design patterns can extend test driven development within an Access Visual Basic for Applications environment to allow unit testing of object class properties and methods. While this approach is not as simple as automating testing of functions in modules, the approach is tractable for intermediate-level developers and leads to significant benefits derived from a test driven approach.*

### THE CHALLENGE OF SUPPORTABLE OPEN SOURCE SOFTWARE: IS IT REALLY OPEN?

Arthur McAdams, Fairfield University, amcadams@mail.fairfield.edu

Winston Tellis, Fairfield University, winston@mail.fairfield.edu

*Information sharing has become an important phenomenon in Information Systems as “Open Source” software continues to spread. College campuses in the United States and developing countries find this particularly attractive, since the cost of technology projects effectively has reduced. However, this implies a willingness to share one’s talents openly. Many software engineers are eager to do so; however, they thus lose their competitive edge. This paper examines the forces leading up to the Open Source era and what one might expect in the future.*





## DATABASE/DATE MODELING #1

Thursday, October 2

10:20—11:20 a.m.

Pulaski

Session Chair: Istvan Molnar

### IMPROVING END-USER DATABASE DEVELOPMENT QUALITY: A 5C DATA MODELING METHOD

Hsiang-Jui Kung, Georgia Southern University, [hjkung@georgiasouthern.edu](mailto:hjkung@georgiasouthern.edu)

Hui-Lien Tung, Paine College, [tungh@mail.paine.edu](mailto:tungh@mail.paine.edu)

Adrian Gardiner, Georgia Southern University, [agardine@georgiasouthern.edu](mailto:agardine@georgiasouthern.edu)

*The growth of end-user computing has been driven by advances in both personal computer hardware and software technology and their ever-decreasing pricing. Most casual end-users shy away from database design due to its complexity. However, more sophisticated end-users try to take advantage of complex PC-based database management system products to develop their own database, but frequently experience difficulties in producing quality databases because they do not possess sound data modeling training/skills. To address this problem, the authors propose a simple and straightforward normalization algorithm, the 5C data modeling method. The method focuses on easy-to-follow steps and eliminates references to technical terminology that may confuse the user-developer. The experiment results show that users can apply these techniques to build better databases without understanding traditional textbook terms such as first, second and third normal forms, and referential integrity.*

### A NOVEL APPROACH FOR IDENTIFYING ENTITY TYPES FOR CONCEPTUAL DATA MODELING IN DEVELOPING DATA-INTENSIVE WEB APPLICATIONS

Seung C. Lee, University of Minnesota at Duluth, [slee@d.umn.edu](mailto:slee@d.umn.edu)

*Creating effective and efficient databases requires that we thoroughly identify and clearly define entity types, attributes, and relationships. That is why conceptual data modeling is one of the most important tasks in developing applications. This paper introduces a new method for identifying entity types for entity-relationship conceptual data modeling in developing data-intensive web applications. The method is founded on the very elements of web applications including pages, links, web application architecture, and business logic modules.*

### CICERO COLORING SCHEMA FOR DATA MODELING

Vladan Jovanovic, Georgia Southern University, [vladan@georgiasouthern.edu](mailto:vladan@georgiasouthern.edu)

Lily Cupic Georgia Southern University, [lilycj48@yahoo.com](mailto:lilycj48@yahoo.com)

*Developing understandable data models as blueprints i.e. diagrammatic representations of large Databases and Data Warehouses is challenging, given the inherent complexity of large systems that DB/DW support. In this paper, we present a novel color-coding approach aimed at making large data models more understandable. The coloring schema (CICERO) is presented within an Ontology based approach to Data Modeling intended for a domain of inquiry comprised of system and problem situations primarily occurring in database and data warehouse design and integration. Paper also provides significant baseline data regarding defects in data modeling prior to using model coloring.*





## CURRICULUM DESIGN/DEVELOPMENT #2

Thursday, October 2

11:30 a.m.—12:30 p.m.

Forsyth

Session Chair: Hsiang-Jui Kung

### **GENERATING STUDENT INTEREST IN THE INFORMATION SYSTEMS MAJOR: A STRATEGIC FRAMEWORK FOR THE INTRODUCTORY COURSE**

Raymond Frost, Ohio University, frostr@ohio.edu

Jacqueline Pike, University of Pittsburgh, jpik@katz.pitt.edu

Lauren Kenyo, Ohio University, krewatch@ohio.edu

*This paper describes an enrollment problem and the solution for the introductory course developed by the faculty members in the Management Information Systems Department at Ohio University's College of Business. The solution is a method of introducing information systems (IS) to students that often leaves them wanting to return to the subject area again in the form of a major or minor. The method is presented as a framework which readers can adopt within their own departments. This framework demonstrates how to introduce information systems as an interesting and fun area of study, provide lasting value, and teach students to teach themselves. The method builds upon existing literature in the areas of information systems, management education, education in higher education, communications, marketing, and psychology.*

### **LESSONS LEARNED: THE CREATION OF A CS/CIS GATEWAY CLASS**

Shannon Duvall, Elon University, sduvall2@elon.edu

Michele Kleckner, Elon University, mkleckne@elon.edu

*Creating a Computing Sciences class for non-majors has many well-known challenges: What topics should be covered? How do we meet the various needs of non-majors? What do the students already know? How can we make the class engaging? In this article we uncover how these challenges were addressed at Elon University, leading to a successful CSO course now in its fourth year.*

### **IS THERE WORKING PROFESSIONALS' SUPPORT FOR RECOMMENDING STUDENTS DOUBLE MAJOR IN ACCOUNTING AND INFORMATION SYSTEMS?**

Orion Welch, St. Mary's University, owelch@stmarytx.edu

Tom Madison, St. Mary's University, tmadison@stmarytx.edu

Sandra Welch, University of Texas at San Antonio, sandra.welch@utsa.edu

*This paper examines current accounting and finance professionals' preferences regarding the type of degree acquired by beginning professional accounting staff prior to employment within their organization. Specifically, we investigated to what extent a double undergraduate degree in accounting and information systems was identified as a desired degree for entry level in the field. The survey population was 2,300 individuals who were members of a large, regional CPA society in south Texas, members of the Institute of Management Accountants in the same area, or employers who had interviewed prospective employees on St. Mary's University's campus during the previous three years. While accounting was the preferred single major, 39% of 104 respondents who identified a second discipline, preferred the double major of accounting and information systems. Of this set of respondents, 75% were employed in industry, finance, government, or "other" rather than in public accounting firms.*





## E-BUSINESS/E-COMMERCE/E-GOVERNMENT #1

Thursday, October 2

11:30 a.m.—12:30 p.m.

Franklin

Session Chair: Alan R. Peslak

### **THE RELATIONSHIP OF E-COMMERCE READINESS TO TECHNOLOGY ACCEPTANCE: THE CASE OF BARBADOS**

Jude E. Edwards, Spicer Memorial College, Pune, India judeedwards@comcast.net

Leila A. Halawi, American University of Dubai, drhalawi@gmail.com

Richard McCarthy, Quinnipiac University, Richard.mccarthy@quinnipiac.edu

*This is an exploratory study that examines the relationship between selected components of e-commerce readiness and dimensions of Davis' (1989) Technology Acceptance Model. Building upon the notion that there exists some linkage between e-commerce readiness and Technology Acceptance, this study seeks to examine these linkages in e-businesses within Barbados. Three relationships are proposed – a relationship between technology acceptance and the existing e-Readiness infrastructure, a relationship between technology acceptance and current telecommunications access, and a relationship between technology acceptance and education. The results of this study demonstrated that there are strong relationships between e-commerce readiness components and various technology acceptance dimensions.*

### **E-BUSINESS IN SLOVENIAN SMES**

Viktorija Sulčič, University of Primorska Faculty of management Koper, Slovenia, viktorija.sulcic@fm-kp.si

Dušan Lesjak, University of Primorska, Faculty of management Koper, Slovenia, dusan.lesjak@fm-kp.si

*Small and medium-sized enterprises (SMEs) are socially and economically very important since they represent 99% of all enterprises in the EU and 96.2% of all enterprises in Slovenia. In the paper, the comparison of e-business in Slovenia and in the EU countries is presented. Not only infrastructure is needed to extend e-business among SMEs, which could be the case among Slovenian SMEs. Even if broadband access to the Internet in Slovenia is not a problem anymore, B2B e-business is not spread among Slovenian SMEs as it is in EU countries. On the other hand, B2G and C2G services are more spread among Slovenian enterprises and even among individuals than among the subjects in the EU countries.*

### **DOMAIN NAME DISPUTES: TECHNOLOGY OUTPACES THE LEGAL SYSTEM**

Sam Ramanujan, University of Central Missouri, ramanujan@ucmo.edu

Someswar Kesh, University of Central Missouri, kesh@ucmo.edu

Steve Ewens, University of Central Missouri, sge2000@att.net

*The history of the human race is replete with instances in which the implementation of a new technology renders obsolete one or more facets of a society, such as human beliefs, the infrastructure of an industry, or the method of organization of labor. One such case is the rapid growth of the Internet and the World Wide Web (the Web), and the resulting inadequacy of legal systems to provide needed structures for the new realities. In particular, this paper deals with the legal inadequacy dealing with domain name disputes (DNDs). This paper discusses the evolution of the legal framework to address DNDs, and based on the analysis of this evolution, it provides recommendations to form strategies for preventing, detecting and pursuing cyber-squatters in order to prevent DNDs.*





## SOFTWARE DEVELOPMENT #2

Thursday, October 2

11:30 a.m.—12:30 p.m.

Telfair

Session Chair: Juyun Cho

### **AN ANALYSIS OF A SOFTWARE QUALITY ASSURANCE TOOL'S IMPLEMENTATION: A CASE STUDY**

John J. Scarpino, Robert Morris University, scarpino@rmu.edu

Paul J. Kovacs, Robert Morris University, kovacs@rmu.edu

*Software Quality Assurance has grown within the last 10 years and now incorporates more sophisticated tools that enhance software testing capabilities. However, before testing can be conducted properly, the correct procedure must be implemented. Too often, organizations rush into implementing a software quality assurance tool without first establishing a viable quality assurance process. This paper reports on data collected in December of 2007 concerning the implementation of a Software Quality Assurance tool at a Fortune 500 company in August 2006. The data analysis reveals problems that can arise while applying a Software Quality Assurance tool, the means required to employ a quality process and how to resolve major issues that may be caused by the initial implementation of the process.*

### **AN EMPIRICAL EXPLORATION OF SOFTWARE DEVELOPMENT QUALITY**

Harry C. Benham, Montana State University, hbenham@montana.edu

*This study uses data collected on students enrolled in a software development course to explore the role of creative self-efficacy, playfulness, and self-efficacy in the quality of the students' software development process and projects using a theoretical model proposed by Chiravuri and Ambrose. Instruction in the Carnegie Mellon Software Engineering Institute's Personal Software Productivity (PSP) techniques was coupled with traditional software engineering topics providing an opportunity to measure both the student's software development process and the quality of the software developed. Creative self-efficacy and self-efficacy were found to have a modest impact on the quality of the students' software product.*

### **ASSESSING THE READABILITY OF FREWARE END-USER LICENSING AGREEMENTS**

Janet J. Prichard, Bryant University, prichard@bryant.edu

Michael B. Hayden, Rhode Island College, mhayden@ric.edu

*The Internet provides users with numerous web sites for downloading free software. Popular sites often warrant the software to be virus and spyware free. However, a number of these applications collect and transmit data back to the developers. End users typically consent to this data collection when they accept the terms presented in an End User License Agreement (EULA). This is often done without reading the agreements, perhaps because of the agreements' length and complexity. In this study, the authors examine the length, voice (passive or active), and reading complexity metrics for the EULAs of 100 popular freeware applications, in an attempt to determine whether they are written at a level recommended by readability experts.*







## **DATABASE/DATA MODELING #2**

Thursday, October 2

11:30 a.m.—12:30 p.m.

Pulaski

Session Chair: Vladan Jovanovic

### **FROM CONCEPT TO COMPLETION: A DATA WAREHOUSE FOR MEASURING PERFORMANCE WITHIN THE CORPS OF ENGINEERS OPERATIONS AND MAINTENANCE DIVISION**

James Sissom, Southern Illinois University, jsissom@siu.edu

*The Operations and Maintenance Business Information Link (OMBIL) is a relational data warehouse that provides users with direct access to performance-based management, budget, and financial information in a graphic format for review and analysis. This paper examines the corporate data models constructed to support the successful deployment of the physical system (business application). The business application data entry fields are also examined for comparison to the decision support component built into OMBIL. This analysis paper compares data model complexity to performance measures that are reported to the Office of Management and Budget and for use in determining the overall effectiveness of the Corps' civilian water resources management mission. The research findings will provide an analysis baseline for further examination of the maintainability and reliability of conceptual data models and assist in refining established data quality frameworks.*

### **USER SATISFACTION IN DATAWAREHOUSING: AN EMPIRICAL INVESTIGATION OF SALIENT VARIABLES**

Kimberly L. Merritt, Oklahoma Christian University, kimberly.merritt@oc.edu

*Corporations are increasingly turning to data warehouses for support of critical corporate decision-making; however, much remains to be learned about the success of data warehousing. Building a data warehouse is no small endeavor, requiring considerable resources from the corporation in terms of both time and money. Ensuring the success of the system will generate for the firm a return on its considerable investment. The research presented in this article investigated success in data warehousing as measured by user satisfaction. Data warehouse users at an online travel company were asked to complete a quantitative survey exploring their satisfaction with the company's data warehouse system. Individual differences were explored to determine what variables influenced the satisfaction of users of differing education levels, computer expertise, data warehousing expertise, job classification, and tenure with the firm. Results of the research will assist organizations in maximizing the potential returns from the significant investment required to build a data warehouse.*

### **A FRAMEWORK FOR THE ASSESSMENT OF DATA MINING PROJECTS: DESIGN SCIENCE PERSPECTIVE**

Fuchung Wang, National Chengchi University, Taiwan, 92356502@nccu.edu.tw  
Sharne Koug Chung, National Chengchi University, Taiwan, kchou@nccu.edu.tw

*This paper applied the design science perspective to synthesize what was known about business value and guide future research. Assessment of data mining projects is integral to continued funding and development of both future and existing undertakings. Meanwhile, this paper was to propose a framework, which was based on the existent knowledge of data mining projects and design science methodology. The framework can be used as a template for such evaluation by researchers and educator both before, during and after the completion of these projects. Our research examined this three-dimensional framework for the assessment of data mining projects. The three dimensions are design, domain and assessment levels.*





## CURRICULUM DESIGN/DEVELOPMENT #3

Thursday, October 2

2:00—3:00 p.m.

Forsyth

Session Chair: Jacqueline Pike

### COMPUTER LITERACY IN THE COLLEGE OF BUSINESS CURRICULUM

Gerald Kohers, Sam Houston State University, kohers@shsu.edu

Gary Baker, Sam Houston State University, garybaker@shsu.edu

David Taylor, Sam Houston State University, davidtaylor@shsu.edu

*This study looks at some of the ways in which computer literacy is being addressed by College of Businesses in the U.S. With the ever increasing use of computers in K-12, and the presumed increase in computer literacy of incoming freshman, are colleges adjusting the way they look at computer literacy? Before any consideration is made on if a person is computer literate, there needs to be an agreed upon definition of how that particular group is defining computer literacy. Interviews are conducted in order to obtain individual faculty's perceptions of computer literacy and what their college is doing in regards to computer literacy. Student surveys are also taken in order to measure their perceived level of computer literacy.*

### THE INFLUENCE OF INCOMING STUDENT CAPABILITIES ON THE DESIGN OF INFORMATION SYSTEMS PROGRAMS

Greg Taylor, Winston-Salem State University, taylorg@wssu.edu

*Many common approaches to information systems curriculum development ignore the interests and capabilities of the students likely to enter the programs being designed. This can lead to unrealistic student expectations, employment mismatches, and high program failure rates. A model is proposed that encourages information systems program developers to consider the strengths and weaknesses of the incoming students along with appropriate stakeholder expectation, faculty capabilities, and environmental factors as curricula are being created and revised. Programs designed for the success of the incoming students will be more attractive to potential students and may lead to increased enrollments in information systems.*

### A STUDY OF ICT ISSUES IN HIGHER EDUCATION AT TAIWAN, R.O.C. AND TEXAS, U.S.A.

Li-Jen Y. Shannon, Sam Houston State University, lys001@shsu.edu

Peter A. Cooper, Sam Houston State University, cooper@shsu.edu

*In this paper, we share the results of a study which analyzed the preparedness of the Millennial Generation (MG) of university students for a technology-driven world in both Taiwan, R.O.C. and Texas, U.S.A. in Spring 2006. To measure technological preparedness, we examined the MG's information and computer technology (ICT) literacy levels as well as their comfort levels with digital life environments (DLE). This comparative quantitative study analyzed data from students' self-report questionnaires from one state university in Texas and one national university in Taiwan. A total of 910 students were analyzed. Findings indicate there is a positive correlation between the students' ICT literacy levels with: (a) working hours on computers to complete coursework, and (b) comfort levels with DLE. Our study attempted to understand better how to address the needs of the MG students by analyzing both their perceptions of their ICT literacy levels and their comfort levels with DLE. The results of our study provide valuable information regarding how to best design the curriculum and instruction in higher education in order to prepare the MG for a technology-driven world.*







## E-BUSINESS/E-COMMERCE/E-GOVERNMENT #2

Thursday, October 2

2:00—3:00 p.m.

Franklin

Session Chair: Leila A. Halawi

### **A CROSS-NATIONAL ANALYSIS OF E-GOVERNMENT IMPLEMENTATION: A RESEARCH NOTE**

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Southern University and A&M College

*This paper examines the implementation of e-government in selected countries. Using a sample of 41 countries at various stages of economic development, the study finds that the largest stage (43.9%) of e-government implementation is publishing basic information. The next most common level (36.58%) of implementation is giving citizens the information with which to correspond with government via e-mail and chat rooms; forms are also available online. Only a small percentage (9.76%) of countries are currently providing citizens with the ability to participate in transactions via digital government; end-to-end online transaction. However, some countries still have, web sites under construction; thus, no government information or services are provided online. The findings support the general tenet that e-government implementation is affected by a host of factors, including administrative traditions, political culture, institutional maturity, regulatory/policy frameworks, and the availability of technology.*

### **INFORMATION THE TRANSFORMATION OF PUBLIC ADMINISTRATIONS: THE CASE OF E-HOUSEKEEPER IN TAIWAN**

Su-Houn Liu, Chung Yuan Christian University, vandy@mis.cycu.edu.tw

Tsang-Yao Chen, Chung Yuan Christian University, PoloChen@cycu.edu.tw

Hsiu-Li Liao, Chung Yuan Christian University, wenlly.liao@msa.hinet.net

*Many researchers have explored how to better deploy public services over the Internet. Starting year 2006, the Taiwan government has initiated a new generation of its e-Government public service information infrastructure—the i-Government project. In May 2007, e-Housekeeper, the first application of the i-Government implementation was deployed. Current survey results show that e-Housekeeper has drastically increased the willingness of use and satisfaction rate of the online public service users. With the integrated, standardized, and active online public services, the i-Government project is seen to have the potential to transform public administrations in Taiwan.*

### **EXAMINING THE USE OF COMPETITIVE INTELLIGENCE IN STAFFING MUNICIPAL POLICE DEPARTMENTS: AN EXPLORATORY STUDY**

Queen E. Booker, Minnesota State University, Mankato, queen.booker@mnsu.edu

Fred L. Kitchens, Ball State University, fkitchens@bsu.edu

Carl M. Rebman, University of San Diego, carlr@sandiego.edu

*The criminal justice system is a complex, knowledge intensive industry where competitive advantage is achieved by effective management and deployment of human resources. It is an industry in which formal competitive intelligence (CI) human resource management processes can make a significant impact in terms of keeping communities safe and livable by selecting police officers who are committed to the agency and the agency's mission. The industry as a whole has made significant gains in integrating information across agencies although this has not been fully exploited in respect of CI information on labor markets. This paper explores the ways in which employees and managers can share information to create knowledge to better manage the criminal justice system for competitive intelligence for human resource purposes.*





## SOFTWARE DEVELOPMENT #3

Thursday, October 2  
Session Chair: Todd Schultz

2:00—3:00 p.m.

Telfair

### **X-WINDOWS, GUI PROGRAMMING, AND MICROSOFT WINDOWS**

Herbert Carew, University of Houston-Victoria, wescarew@gmail.com  
Meledath Damodaran, University of Houston-Victoria, damodaranm@uhv.edu

*The graphical user-interface under UNIX is X-Windows. X-Windows is an important graphic tool; other tools exist that complement X-Windows based development in one way or another. The technology behind X-Windows spawned a generation of similar types of graphical user interfaces on disparate operating systems; hence X-Windows can be called the father of all graphical user interfaces. X-Windows provides an excellent foundation for user-interface development in a UNIX environment, yet supports usage with Microsoft Windows. In this paper we first provide a glimpse to the rich history behind X-Windows. We also examine programming considerations in X-Windows based development, where we also compare some of the methods within the X-Windows environment versus the Microsoft Windows environment. Each window system has its own place, but there may be more to X-Windows than what many students and graduates of a typical IS program are exposed to. We will present a view as to why a software architect or engineer should approach a solution requiring a graphical interface with an unbiased focus and consider all tools and languages available, including libraries, network capabilities, spawning of images across networks to other computers, database considerations, debuggers, and source code maintenance.*

### **BENCHMARK NEW PRODUCT DEVELOPMENT PROCESSES USING DEA-BASED MODULARIZED APPROACH**

Tzu-An Chiang, Mingchi University of Technology, tchiang@mail.mit.edu.tw  
Amy J.C. Trappey, National Taipei University of Technology, trappey@ntut.edu.tw  
and National Tsing Hua University, trappey@ie.nthu.edu.tw  
Wen-Chih Chen, National Chiao Tung University, wenchih@faculty.nctu.edu.tw

*Developing new products efficiently complying with resource constraints is a key success factor in today's marketplace. However, unpredictable incidents occur during new product development (NPD) processes, which often cause resources and schedule overruns. Traditional project management tools lack of efficient and effective methods to solve these problems and challenges. This study applies the data envelopment analysis (DEA) concept to develop a novel project planning and management decision support methodology for NPD that can allocate resources economically and respond unexpected delays dynamically. This paper describes a mobile phone NPD case study to demonstrate the real-world application. In the case study, the proposed approach significantly reduces NPD resource spending on the non-critical activities and optimally allocates the resource on the critical path. The result complies with time, budget and resource constraints and provides project managers solid recommendations for NPD execution improvement within a product portfolio.*

### **THE ROLE OF OBJECT-ORIENTED METHODOLOGIES IN THE IMPLEMENTATION OF COMPUTER-AIDED SOFTWARE ENGINEERING (CASE) TECHNOLOGY**

Adeyemi A. Adekoya, Virginia State University, aadekoya@vsu.edu  
Emmanuel O. Omojokun, Virginia State University, Emmanuel@vsu.edu

*Object-oriented Systems Analysis and Design (OOSAD) approach has recently been finding enthusiastic reception in systems development and in the market. This paper is an attempt to empirically establish if there exists a relative advantage of OOSAD over the structured approach, in the implementation of CASE technology.*





## DATABASE/DATA MODELING #3

Thursday, October 2

2:00—3:00 p.m.

Pulaski

Session Chair: Kimberly L. Merritt

### **AN ANALYSIS OF DISTRIBUTED DATABASE INDEXING METHOD IN REGARD TO PERFORMANCE OF EXTRACT/TRANSFORM/LOAD (ETL) PROCESSES**

Dennis C. Guster, St. Cloud State University, dguster@stcloudstate.edu

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*Data mining and very large databases offer a great deal of promise for business and government alike. Unfortunately, due to the ever changing data needs of the modern organization, as evidenced by the growing number of petabyte data applications, the task to efficiently extract data in a timely manner becomes more difficult. The research described herein presents some encouraging findings in regard to using indexing to improve upon the ETL process. Specifically, a decrease of about 3 times in run time was observed when moving from a flat table to an indexed table function logic. The business value of this decrease may be realized in terms of less wait time when end-user queries are executed.*

### **USING UML FOR OBJECT-RELATIONAL DATABASE SYSTEMS DEVELOPMENT: A FRAMEWORK**

Ming Wang, California State University, ming.wang@calstatela.edu

*Data model of object-relational databases (ORDBs) is a great challenge to many database application practitioners due to its complexity. Unified Modeling Language (UML) offers tremendous flexibility and rich expressivity for modeling ORDB systems. This paper proposes a framework of using UML to model ORDBs systematically. The intent of the paper is to provide a guideline for database application practitioners to develop ORDBs more efficiently.*

### **CREATING CUSTOMIZED DATABASE VIEWS WITH USER-DEFINED NON-CONSISTENCY REQUIREMENTS**

David Chao, San Francisco State University, dchao@sfsu.edu

Robert C. Nickerson, San Francisco State University, RNick@sfsu.edu

*Database views typically are maintained to be consistent with their definitions, which are expressed in algebraic operations and selection conditions. In many applications, however, users' requirements for views are not expressible with algebraic operations and selection conditions and may not be consistent with the current state of the database. Typically, this non-consistency is due to users' requirements of excluding qualified records from the views and/or including deleted records in the views. This paper examines the characteristics of non-consistent views and methods of expressing non-consistent requirements.*





**CURRICULUM DESIGN/DEVELOPMENT #4**

Thursday, October 2  
 Session Chair: Gary Baker

3:20—4:20 p.m.

Forsyth

**SOA IN THE CONTEXT OF A COMPARISON OF DISTRIBUTED COMPUTING ARCHITECTURES AND THE IS CURRICULUM**

David Wood, Robert Morris University, wood@rmu.edu  
 Frederick Kohun, Robert Morris University, kohun@rmu.edu  
 Joseph Packy Laverty, Robert Morris University, laverty@rmu.edu

*This paper provides an overview of the SOA methodology through the introduction and review of antecedent modular programming paradigms and technologies. What sets SOA apart as an analysis and design methodology is the explicit inclusion of business process redesign as part of the object-oriented approach to systems development. While the Systems Development Life Cycle is a mainstay of IS curricula, the SOA methodology including business process redesign, is not as common. With the advent of web technologies and incorporation of object oriented design, more modern IS has reduced the inclusion of business analysis. This paper demonstrates that what is currently included in a typical technical IS curriculum can be integrated and taught in the context of the SOA methodology*

**THE IMPACT OF CLOUD COMPUTING ON IS/IT ACADEMICS**

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 Floyd A. Wiles, Utah Valley University, wilkesfl@uvsc.edu  
 Kevin P. Young, Utah Valley University, youngke@uvsc.edu

*Change in the underlying technology supporting the subjects of Information Systems and Information Technology is not new. Since the beginning of computing technology as a subject of academic interest, changing technology has been the one constant that has driven the need to adjust the content of what is taught and how it is taught. One of the most recent changes coming on the scene is the emergence of Cloud Computing. With its roots in the Google architecture and reliance on such technologies as virtualization and commodity level computers, a new computing platform is emerging that will potentially affect everything in the curriculum. This article explores some of those changes.*

**TAILORING MBA (SOFTWARE ENTERPRISE MANAGEMENT) CURRICULUM TO MEET INDIA’S GROWING IT CHALLENGES**

Rakesh K. Singh, Centre for Development of Advanced Computing, rksingh@cdacnoida.in  
 Abhijit Sen, Kwantlen University College, abhijit.sen@kwantlen.ca

*With India’s economic growth creating a need for skilled human capital, schools are tailoring their curriculum to create a new generation of professionals who can face the emerging challenges of globalization and competition with confidence. The traditional MBA curriculum has to be redesigned to suit today’s needs, which require that students be provided a balanced exposure to the latest skills in Information Technologies (IT) supported by management disciplines. The MBA (Software Enterprise Management) program at the Centre for Development of Advanced Computing (C-DAC), Noida, India is designed to address the specific Management and Information Technology (IT) needs of the software industry in India. This paper provides an overview of the unique MBA (Software Enterprise Management) program curriculum and discusses the approach used in integrating ERP software in the curriculum.*





## E-BUSINESS/E-COMMERCE/E-GOVERNMENT #3

Thursday, October 2

3:20—4:20 p.m.

Franklin

Session Chair: Jude E. Edwards

### **A STUDY OF FXDB SYSTEM DESIGN TECHNIQUES FOR SEMANTIC INFORMATION RETRIEVAL**

Seongyong Hong, Information and Communications University, syhong@icu.ac.kr

*With the rapid increase of web users and content, intelligent information systems and web services including semantic web to provide semantic information is getting more important. In this paper, we propose FXDB(Fuzzy Xml DataBase) system design techniques for semantic information retrieval and suggest a method to generate semantic information and give them to users in real time through the web. In this paper, we apply XML and fuzzy techniques so that we can interpret metadata in a database semantically and automatically. If it is possible, we can enable XML-based web services for that. Thus this paper can make a contribution to automate the interpretation of metadata more and enhance this interpretation to be more intelligent. Web users also can make a faster decision with more abundant semantic information. Semantic web searching will be possible.*

### **A FRAMEWORK FOR A WEBSITE SNAPSHOT MANAGEMENT SYSTEM**

David Chao, San Francisco State University, dchao@sfsu.edu

Sam Gill, San Francisco State University, sgill@sfsu.edu

*This paper presents a framework for a website snapshot management system. The objective of the system is to recreate webpage snapshots of every published webpage including their code and rendition upon users' requests. We define four levels of snapshots and design software components to create snapshots that meet the requirement of each level. A website may choose to maintain the appropriate level of snapshot that fits its needs.*

### **AN EMPIRICAL STUDY OF UNIVERSITY WEBSITES**

Marzie Astani, Winona State University, mastani@winona.edu

Mohamed A. Elhindi, Southeast Minnesota State College, Melhindi@southeastmn.edu

*For many organizations the website has been used as a tool for inter- and intra-organizational exchange. Since universities and colleges have started to use their websites as means for recruiting students, an effective website design is very important for higher education institutions. This research explores the effectiveness of university websites. Some recommendations are made based on the findings.*





## SUPPLY CHAIN MANAGEMENT

Thursday, October 2  
Session Chair: Vic Matta

3:20—4:20 p.m.

Telfair

### **SUPPLY CHAIN MANAGEMENT SOFTWARE SYSTEMS INTEGRATION AND VERSION UPGRADES: VENDOR AND CUSTOMER BASED FRAMEWORK**

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Asghar Sabbaghi, Indiana University South Bend, [Sabbaghi@iusb.edu](mailto:Sabbaghi@iusb.edu)  
Yan Fu, Indiana University South Bend, [yanfu79@yahoo.com](mailto:yanfu79@yahoo.com)

*Integration and upgrade phases of an information systems project are as critical to an organization as the first time the system is implemented. In order to make the ex-post implementation of an IT project completely successful and sustain the adopted information systems, the basic definition of success needs to be extended to include customer satisfaction factors as well as vendor capabilities. This study focuses on identifying the key elements that managers consider when making the decision to upgrade and integrate supply chain management systems that are already in use. We present a framework on both vendor and customer perspectives in the evaluation of supply chain management software systems integration and version upgrades.*

### **PERCEPTION AND REALITY: AN INTROSPECTIVE STUDY ON SUPPLY CHAIN INFORMATION SECURITY RISK**

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Kevin J. Watson, University of New Orleans, [kwatson@uno.edu](mailto:kwatson@uno.edu)  
Wade H. Baker, Verizon Business Solutions, [wade.baker@verizonbusiness.com](mailto:wade.baker@verizonbusiness.com)

*The collaborative nature of supply chains has exposed firms to a variety of security risks. With information technology (IT) as the cornerstone to integration, this exposure can be passed throughout all levels of business. Unfortunately, the role one plays in the supply chain may affect an internalized view of their firm's current security position, both in terms of what is being done and what should be done to limit risk exposure. This paper provides an initial investigation of the nature and perception of information security risk in supply chains and the managerial implications and limitations of current IT security practices.*

### **A MODELING TECHNIQUE FOR BPR BASED ON EXTENDED PETRI NET**

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Zong Dai, Alfred University, [dai@alfred.edu](mailto:dai@alfred.edu)

*This article develops an extended Petri net model based on EEPC for the purpose of achieving the correctness and validity of qualitative and quantitative business process analysis, as warranted by the literature. The proposed model then is applied to a business license application process at a government agency and the findings are reported.*







## ONLINE/BLENDED/E-LEARNING #1

Thursday, October 2

3:20—4:20 p.m.

Pulaski

Session Chair: Betty A. Kleen

### **A BUSINESS COURSE IN SIMULATION MODELING**

Richard G. Born, Northern Illinois University, rborn@niu.edu

Ingolf Ståhl, Stockholm School of Economics, ingolf.stahl@hhs.se

*The economic and improved decision-making value of discrete-event simulation has been employed by businesses for years, though not at a large scale in every area of business. The lack of rapid growth in the use of simulation modeling is due, in part, to the cost of many simulation software packages in addition to the difficulty of learning them and the complexity of developing even the simplest of models of business systems with them. This paper discusses a modern version of GPSS (General Purpose Simulation System) known as WebGPSS, which was designed to overcome these problems as well as satisfy the special interests and needs of the business student. Students working with WebGPSS quickly see that it provides business value, allows sharing of information for decision making, is practical, and promotes the idea that simulation is fun.*

### **MODELING AND SIMULATION EDUCATION - DO WE REALLY NEED IT?**

Istvan Molnar, Bloomsburg University of Pennsylvania, imolnar@bloomu.edu

Alfredo O. Moscardini, University of Sunderland, UK

Reiner Breyer, University of Applied Sciences Ostfriesland, Germany

*This contribution discusses the underlying philosophy of simulation education; the skills needed by the user to simulate. Authors put forward the view that simulation is more of an art than a science and that this viewpoint has major consequences for its pedagogy. They conclude that modeling and simulation should be educated in order to improve students' thinking and learning processes.*

### **NEW SPACES FOR TEACHING AND LEARNING: THE VIRTUAL CAMPUS OR COME GET YOUR SECOND LIFE!**

S. E. Kruck, James Madison University (kruckse@jmu.edu)

*SL is an online virtual world. Users download the SL program to their computer, then log in and create an avatar – a unique character that represents them in the virtual world. Avatars can travel through the virtual world of SL, interacting with each other and with objects in world. Although SL shares some characteristics with Massively Multiplayer Online Role Playing Games (MMORPGs), SL is not a game. Once a user is in SL, there is no task to complete, no “quest” to perform. Instead, users are free to travel, to interact, and to explore the virtual world. SL is probably best thought of as a space for social interaction of all kinds, rather than a game. One obvious use of SL is its use in online teaching. This demonstration will show you how to get your Second Life avatar and communicate, move (teleport), create landmarks, manage friends, join groups and modify your appearance.*





## CURRICULUM DESIGN/DEVELOPMENT #5

Thursday, October 2

4:30—5:30 p.m.

Forsyth

Session Chair: Seongyong Hong

### WHY ABAP IN THE IS CURRICULUM?

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Roger L. Hayen, roger.hayen@cmich.edu

*This research examines the growing importance of information systems (IS) developers and students having a foundation in Advanced Business Application Programming (ABAP) knowledge. These individuals need this training and education to better apply development workbench technologies for the use in SAP applications. This effort explores concepts that are key learning areas of ABAP application development in an educational or general training session for a good foundation in today's business environments. It also relates how businesses look for specific knowledge of ABAP in potential new hires and what their expectations are of those individuals. The research applies a three-prong collaborative approach whereby recent journal articles are examined, an industry interview is conducted, and online job opportunities are investigated. Articles from the last three years are explored that specifically relate to education and ABAP as well as SAP's Community network and help for up-to-date online resources. Information excerpted from an interview with a top SAP talent recruiter from a Fortune 50 company provides an employer's perspective on current directions toward hiring outside talent from universities. Statistics are analyzed from three major employment websites to reinforce the importance of ABAP in an IS curriculum. Overall, this triad of information sources substantiate one another and support the need for ABAP in the IS curriculum.*

### ABAP OBJECTS: DESIGNING A PROGRAMMING COURSE FOR INFORMATION SYSTEMS STUDENTS USING SAP SOFTWARE

Camille Rogers, Georgia Southern University, cfrogers@georgiasouthern.edu

*This paper discusses an ABAP Objects programming class for Information Systems students. ABAP is the proprietary language of the SAP enterprise resource system. The most recent version of the SAP platform includes ABAP Objects. This paper provides some helpful suggestions on what resources and topics to teach for this language either at an introductory or advanced level programming course using a classic procedural approach or an objects first approach.*

### ONLINE WEB DELIVERY OF A GRADUATE PROJECT MANAGEMENT COURSE: CHALLENGES AND OPPORTUNITIES

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Richard Chambers, Information Systems, Georgia Southern University, rchamber@georgiasouthern.edu

James Whitworth, Information Systems, Georgia Southern University, jewhitwo@georgiasouthern.edu

*In addition to in-class delivery of project management courses, many institutions have already started or are beginning to plan the delivery of courses online. The challenge of offering a course online, especially courses with a heavy emphasis on student interaction and team projects, is well documented in the literature. Therefore, we propose a framework is needed to design and plan an online graduate Project Management course to overcome some of the problems and limitations of online delivery and to take advantage of opportunities online technology can provide. The purpose of this research is to identify components of a framework for online web delivery of a graduate Project Management course by investigating the issues and factors that should be considered in making an online Project Management course effective.*







## MOBILE COMMERCE/TECHNOLOGIES

Thursday, October 2

4:30—5:30 p.m.

Franklin

Session Chair: Lynn Heinrichs

### **INFLUENCE OF TRUST PREDICTORS ON DIFFERENT DIMENSIONS OF TRUST IN M-COMMERCE**

Sunitha Mogenahalli, Illinois State University, [snatara@ilstu.edu](mailto:snatara@ilstu.edu)

Pruthikrai Mahatanankoon Illinois State University, [pmahata@ilstu.edu](mailto:pmahata@ilstu.edu)

Billy B. L. Lim, Illinois State University, [blim@ilstu.edu](mailto:blim@ilstu.edu)

*Mobile commerce merchants have critical concerns establishing consumers' trust, which is known to be one of the major contributors of mobile commerce success. Our study explores various dimension of trust and proposes that a multi-dimensional trust supersedes a single measure of trust. Applying stepwise multiple regression analyses, the results show that the multi-dimensional trust (i.e., acceptance, competence, benevolence, and integrity) reveals more detail information regarding the nature of mobile applications and services. Practitioners and researchers can use this finding to investigate multi-dimensional trust in the mobile commerce settings.*

### **MOBILE COMPUTING WITH WEB 2.0: CURRENT STATE-OF-THE-ART, ISSUES AND CHALLENGES**

Hiren Nagar, Illinois State University, [hnagar@ilstu.edu](mailto:hnagar@ilstu.edu)

Billy B. L. Lim, Illinois State University, [blim@ilstu.edu](mailto:blim@ilstu.edu)

*Mobile computing with web 2.0 is considered by many as the next big wave riding in the field of mobile computing. Many industry leaders in the web, telecom, and cell phone manufacturing arena are taking active interest in exploiting the power of web 2.0 and applying it on the mobile platform to bring to the users a set of new and innovative services. With the advanced mobile web services, there are challenges for the design and implementation of the user interfaces for these services. Further, issues such as the lack of open access from telecom carriers and lack of open standards for application development represent major hindrances to mobile web 2.0 becoming a true success in the mobile computing world. This paper describes essential characteristics of mobile web 2.0, mobile web 2.0 applications, future possibilities and challenges of mobile computing with Web 2.0.*

### **USE OF MOBILE AGENTS IN A FEDERATED IDENTITY STRUCTURE**

Farah Layouni, Laboratoire CEDRIC (CNAM), [layoun\\_m@editeur.cnam.fr](mailto:layoun_m@editeur.cnam.fr)

Yann Pollet, Laboratoire CEDRIC (CNAM), [pollet@cnam.fr](mailto:pollet@cnam.fr)

*This work will try to join two axes of research which concepts are in vogue. The first concerns the federated identity. The studies in this topic will allow the interconnection of information systems, access to different resources, and above all, a secure and controlled sharing data. The implementation of such architectures required several exchanges of requests and responses which can be costly in terms of traffic data. So the second axis, namely mobile agents, intervenes to solve these problems. They offer the advantage of reducing the network load, to move the code to the data, to provide more fault tolerance. So this work seeks to take advantage of the benefits that can offer mobile agents to improve the architecture of federated identity.*





## SECURITY/RISK MANAGEMENT

Thursday, October 2

4:30—5:30 p.m.

Telfair

Session Chair: Winston Tellis

### SECURITY OF PERSONAL IDENTIFIABLE INFORMATION

Jack D. Shorter, Texas A&M University – Kingsville, jack.shorter@tamuk.edu

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Alicia Aldridge, Appalachian State University, alicia@appstate.edu

Daphyne S. Thomas, James Madison University, thomasds@jmu.edu

*In today's fast moving world, the use of technology has become a part of everyday life. Technology is found in almost everything. Technology provides many conveniences. However, using technology has its pros and cons. On the positive side, conducting personal business online is convenient, saves time, and is economical. However, with the pluses, there are usually minuses as well. In the case of an online consumer purchase, one may find price deals, but may discover a lack of quality or poor customer care. Also, with online advertising growing at such a high rate, the use of imbedded spyware or adware has also increased. Still, one of today's biggest threats is identity theft and the use of Personal Identifiable Information (PII). This paper discusses mishandling and appropriate handling of personal information and the difficulty of keeping up with ever-changing security threats.*

### COMPUTER SECURITY RISK FACTORS AND READINESS: THE NIGERIAN STUDENTS' PERSPECTIVE

Ewuuk Lomo-David, North Carolina A&T State University, lomoe@ncat.edu

*Insecurity of computers is driven by viruses and illicit intrusions into computer systems. In 2007 companies lost more than \$14 million dollars in court costs and loss of productivity for each breach occurrence. This paper explores the preparedness of Nigerian university students about their knowledge of and importance of information security risk factors.*

### REAL SECURITY IN VIRTUAL SYSTEMS: A PROPOSED MODEL FOR A COMPREHENSIVE APPROACH TO SECURING VIRTUALIZED ENVIRONMENTS

Manal M. Yunis, University of Texas – Pan American, myunis@broncs.utpa.edu

Jerald Hughes, University of Texas – Pan American, jhughes1@utpa.edu

Joseph Roge', University of Texas – Pan American, jroge@utpa.edu

*Corporate adoption of new server virtualization technologies offered by VMWare, Microsoft, the open source community (Xen) and others raises both new opportunities and new risks for system security. Security issues of virtualization have received some attention in trade periodicals and journals, but a comprehensive and authoritative understanding of virtualized system security under current models of information security has yet to be developed. Such an understanding requires that some fundamental questions be asked: What is the place of virtualized system components in security models as they are currently understood? How should the implementation of virtualization be expected to affect security planning under such models? Our paper presents a first attempt to address these questions. We present an integrated model of system security highlighting the effects of virtualization. We then use this model to analyze security impacts of virtualization within the overall system security context, and present suggestions for further research to formalize security in systems incorporating virtualization.*





## ONLINE/BLENDED/E-LEARNING #2

Thursday, October 2

4:30—5:30 p.m.

Pulaski

Session Chair: Richard G. Born

### **ADDING A NEW DIMENSION TO EDUCATION: STUDENTS' PERCEPTIONS TOWARD HYBRID/BLENDED COURSE DELIVERY**

Alex Koohang, Macon State College, alex.koohang@maconstate.edu

Robert Behling, Illinois University, R-Behling@wiu.edu

Susan Behling, Western Illinois University, SD-Behling@wiu.edu

*Hybrid or blended learning combines face-to-face classroom instruction and distance learning techniques. Advantages include flexibility and increased interaction for students, and higher retention and decreased costs for educational institutions. This study surveyed a sample population of Information Systems upper division students to determine their satisfaction/acceptance with various attributes and aspects of the blended IT classes in which they were enrolled. In general, satisfaction/acceptance levels were high for all respondents, with all survey items scoring above 4 on a 1 to 5 Likert scale, with five being strongly agree. The responses were analyzed and no significant differences were found for student age and college status. However, significant differences were found for gender. Females significantly showed greater satisfaction/acceptance toward blended courses. Implications for the findings are discussed. Recommendations for further research are made*

### **DISTANCE LEARNING: SOME ADVANTAGES AND DISADVANTAGES**

Mehdi Sagheb-Tehrani, Minot State University, m.tehrani@minotstateu.edu

Tom Seymour, Minot State University, tom@minot.com

*Universities are now offering on-line degrees at all levels. In online courses, not only does the educational process happen by means of a computer system, generally over the Internet, but instructions occur through the computer as well. This paper discusses the advantages and disadvantages of online learning. Online learning has the ability to provide virtual learning environment (VLE). The author hopes that this paper provides valuable insights disclosing the concepts of advantages and disadvantages of on-line learning.*

### **AUTOMATED DERIVATION OF LESSONS LEARNED BY MACHINE REASONING ABOUT MILITARY STORIES**

J. Wesley Regian, Concurrent Technologies Corporation, RegianJ@ctc.com

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Kamal Gella, Concurrent Technologies Corporation, gella@ctc.com

Laurie Waisel, Concurrent Technologies Corporation, waisell@ctc.com

*The Military Analogical Reasoning System (MARS) is a prototype performance support system and decision aid for commanders in Tactical Operations Centers. MARS enhances and supports the innate human ability for using stories to reason about tactical goals, plans, situations, and outcomes.*





**CURRICULUM DESIGN/DEVELOPMENT #6**

Friday, October 3

10:00—11:00 a.m.

Forsyth

Session Chair: Li-Jen Y. Shannon

**AN EXPLORATORY STUDY ON FACTORS INFLUENCING MAJOR SELECTION**

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Susan Jones, Utah State University, susan.jones@usu.edu

David Olsen, Utah State University, david.olsen@usu.edu

*Despite the increased use of innovative computer-related technologies, undergraduate students seem less interested in the technology-related majors, resulting in declining Information Systems (IS) program enrollments. With these existing challenges, IS educators and administrators must understand the factors affecting college major choice. Through extensive literature reviews, we collected important influencing factors and utilized these factors in our survey. This study provides insight into the identification of critical factors that may revitalize declining IS enrollments. The survey conducted as part of this research addresses condition, background, outcome, and interest factors relating to major choice. After the analysis of our survey data, the response differences between high school and college students and between male and female students are reported.*

**INTEGRATING SERVICE LEARNING PROJECTS INTO TECHNOLOGY COURSES:  
THE EXPERIENCE OF TWO PROGRAMS**

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Gary J. DeLorenzo, California University of Pennsylvania, delorenzo@cup.edu

Scott Mensch Indiana University of Pennsylvania smensch@iup.edu

Frederick G. Kohun, Robert Morris University, kohun@rmu.edu

*This paper details the experience of integrating service learning projects into technology programs within three universities: The Technology Support and Training program (BTST) at Eberly College of Business and Information Technology (ECOBIT) at Indiana University of Pennsylvania (IUP) and the Computer Information Systems (CIS) program within the Math and Computer Science Department at California University of Pennsylvania (CUP). Both departments have implemented policies requiring their students to complete service projects. This study explains the steps that have been undertaken by faculty members at both departments to inquire, select and implement service projects in their technology courses.*

**STUDENT-BASED IT FOR NONPROFITS –  
AN ALTERNATIVE TO DO-IT-YOURSELF IT**

Ted J. Strickland Jr., University of Louisville, ted.strickland@louisville.edu

*Among smaller nonprofit organizations, budget limits constrain IT investments and use. Many organizations rely on a combination of donated equipment, volunteers, and non-IT staff members to conduct large elements of their IT operations. The limitations of this “Do-It-Yourself” IT (DIY-IT) model make it less attractive as a long-term solution. An alternative model of providing IT services is proposed in which nonprofit organizations receive IT services through undergraduate information systems course projects and the activities of sponsored students. The proposed model is designed to be more affordable, more standardized, and more sustainable than the current IT practices of many small to medium-sized nonprofit organizations.*





## E-BUSINESS/E-COMMERCE/E-GOVERNMENT #4

Friday, October 3

10:00—11:00 a.m.

Franklin

Session Chair: G.M. Boff

### THE IMPACT OF BANNER AD STYLES ON INTERACTION AND CLICK-THROUGH RATES

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Gerald Braun, Xavier University, braun@xavier.edu  
Mark Sena, Xavier University, sena@xavier.edu

*Since the introduction of the first graphical web browser on the onslaught of web advertisement, academic and corporate researchers have been interested in studying factors that impact the effectiveness of advertising methods and banner ads in particular. The click-through rate of an ad has been the standard measuring stick for assessing the effectiveness of the ad. This study examines the effect of banner style, including size and orientation, on interaction and click-through rates. Three different styles were presented on two different web sites with over ten million total impressions. For the sites and styles that we used, results seem to contradict some of the established thinking in terms of commonly accepted standards for selecting size and orientation of banner ads.*

### USING GOOGLE KEYWORD STATISTICS TO EXPLAIN CHANGES IN TRAFFIC TO INTERNET SITES RELATED TO GLOBAL ENVIRONMENTAL MANAGEMENT

G. Kent Webb, San Jose State University, webb\_k@cob.sjsu.edu

*Google recently provided a keyword statistics tool to support its “AdWords” program that conducts a deep evaluation of individual web sites. It provides detailed information on the keywords in the site and an index of monthly and average statistics for these keywords over the past year for users of the Google search engine. The data is intended to help with the design of internet sites and to support bidding for keywords that when purchased become AdWords that draw traffic through the sponsored links of Google search. This paper describes an analysis of the traffic, keywords, and search rank results for a sample of internet sites related to global environmental management for March 2007 and March 2008. Surprisingly, the analysis shows absolutely no correlation between changes in traffic and changes in keyword statistics. There is only weak evidence that the Google search rank affects traffic. One interesting result was that highly trafficked sites received less traffic while less trafficked sites received more traffic, a regression to mean traffic.*

### AN AGENT BASED SIMULATION MODEL TO LOCATING SELLERS USING GEOGRAPHIC INFORMATION SYSTEMS

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Ali Bazghandi, Shahrood University of Technology, Shahrood, Iran, bazghandi@shahroodut.ac.ir

*In this paper, a generic model for locating sellers in a geographical area is presented. The proposed model is based on buyers’ side attributes including price, quality, distance, income and discount, which determine the location of the prospective sellers. The required information for the model is acquired from buyers and the geographic information system (GIS). It is assumed that the agents (sellers and buyers) transact in a multi agent system (MAS) environment. Buyer agents act according to the adjacency to market place, incoming level, quality of commodity, and buying mentality background. The advantage of the proposed model is that it combines agents’ behavior with GIS. While GIS enables us to model geographic space, MAS models the behavior of intelligent agents within a specific geographical space.*





## IT IMPLEMENTATION

Friday, October 3

10:00—11:00 a.m.

Telfair

Session Chair: Jensen J. Zhao

### SIX SIGMA INFORMATION SYSTEMS: A PAYROLL APPLICATION

Roger L. Hayen, Central Michigan University, roger.hayen@cmich.edu

*This research examines the application of the Six Sigma methodology to a business problem that emerges with an information technology (IT) solution as the best alternative. A Time/Leave Reporting Process, which supports the payroll function, is investigated using Six Sigma methodology. This case application serves to demonstrate the Six Sigma approach to business process problem solving. One advantage of an IT solution is that control is instantiated that makes it very difficult to deviate from the new IT-based solution. Six Sigma and traditional IT business problem solutions share many techniques that are compatible with one another. Their synergies should undergo further examination to determine how these two methodologies can better support each other.*

### INFORMATION AGE ORGANIZATION:

#### MOVING FROM INFORMATION TO KNOWLEDGE TO LONG-TERM SUCCESS

Honora M. Rockar, Robert Morris University, hmrst5@mail.rmu.edu

*This paper discusses the relationships among information technologies (IT), the organizations these technologies support, as well as the employees and all those who rely on the organizations for their living, products, or services. In addition, this paper relates the environmental and ethical issues that IT professionals should and must take into consideration when making decisions regarding IT implementations. IT professionals must incorporate a broader perspective and develop a better understanding of the consequences their decisions can have not only for their organization but also for all us who inhabit this good earth. Finally, this paper argues that IT professionals must take a leadership role within their organizations to ensure these issues are heard at all levels so that social and ethical responsibilities are addressed along with issues for short-term and long-term success. All of these issues must be addressed by working collaboratively to create and implement high-quality decisions. Drawing upon and extending this position, a hypothesis is presented that directs the future study of decision-making processes of groups within an organization with the objectives of identifying a methodology for successfully negotiating and solving complex problems and then applying this methodology to the development of technologies to support those collaborative efforts.*

### A FRAMEWORK FOR A GREEN PRODUCT LIFECYCLE MANAGEMENT SYSTEM

Amy J.C. Trappey, National Taipei University of Technology, Taiwan, trappey@ntut.edu.tw

Fataneh Taghaboni-Dutta, University of Michigan-Flint, fataneh@umflint.edu

Charles V. Trappey, National Chiao Tung University, Taiwan, trappey@faculty.nctu.edu.tw

*Product lifecycle management systems provide a platform for the management of data related to the creation and disposal of products. These systems assist the participants in the products' life cycle processes (manufacturers, suppliers, customers, and regulators) to use data efficiently for planning and control. However, most data collected do not resolve the environmental issues which arise when selling the products or arranging for the products to be replaced and/or disposed of. In this paper, An Integrated Green Parts Information Platform (IGPIP) framework is described. This system uses XML file transmission to improve the quality, cost and time-to market issues for green designs.*







## IS INSTRUCTION #1

Friday, October 3

10:00—11:00 a.m.

Pulaski

Session Chair: Allen D. Truell

### **AN EXPLORATORY STUDY OF USING PROFESSOR-DEVELOPED VIDEO TO TEACH WEB-BASED QUANTITATIVE METHODS COURSES**

Andrew A. Tiger, Southeastern Oklahoma State University, atiger@se.edu

Kitty Campbell, Southeastern Oklahoma State University, kcampbell@se.edu

Jennifer M. Fitzgerald, Southeastern Oklahoma State University, jmfitzgerald@se.edu

*In this paper, we present an exploratory study of student satisfaction and performance in online quantitative methods courses in which professor-developed video are a primary teaching vehicle. While video has been used extensively as a teaching tool, the literature review found little evidence of the use of professor-developed video in online quantitative methods courses. We propose that professor-developed video used in online courses offers some significant benefits such as enhanced learning, increased course satisfaction, increased faculty productivity, and intellectual property right protection. The benefits are enhanced for courses that teach spreadsheet-based analytical techniques or similar uses of software. Results from course evaluations and student surveys support our proposition of enhanced learning and increased course satisfaction.*

### **ADDING AUDIO TO A MICROCOMPUTER APPLICATIONS CLASS TO IMPROVE STUDENT LEARNING**

Sylvia Bemby, Winston-Salem State University, bembrys@wssu.edu

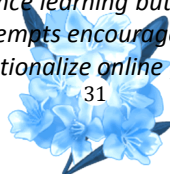
Carolyn Anderson, Winston-Salem State University, andersonc@wssu.edu

*Universities should become more directly engaged with and connected to the local, regional, state, national, and world clientele. Students should be educated to be personally and professionally successful in the 21st century and, in doing so, they will enhance their global competitiveness through the use of on-demand learning opportunities. Students are more engaged when using every day devices in class. More student engagement leads to better student learning. The use of audio and video should not be limited to just computer courses. Industry has found that seeing and hearing improves training. The same can be said for learning and on-demand instruction is the most efficient method in today's mobile world.*

### **STUDENT PERCEPTIONS OF THE IMPACT OF WEB-BASED HOMEWORK ON COURSE INTERACTION AND LEARNING IN INTRODUCTORY ACCOUNTING**

Christopher G. Jones, California State University, Northridge, christopher.jones@csun.edu

*According to Laurillard's Conversational Framework, teaching and learning are a dialogic activity in which the student attempts to re-construct the teacher's mental model of the material. An essential part of that dialog between teacher and student is the feedback teachers provide to help students adapt their understanding of the concepts presented. Providing this individualized feedback is time consuming and often beyond the resources available to faculty. To address the need for a more efficient and effective approach to offering feedback, textbook publishers, commercial vendors, and the open source community have developed web-based homework (WBH) systems that provide automated grading. This paper examines the use of a commercial web application (WileyPLUS) to automate grading of multi-part accounting exercises and problems in an introductory accounting course for business majors. Results indicate that web-based homework systems enhance learning but do not increase perceived course interaction levels. Immediate feedback and allowing for multiple attempts encourages practice with the material. Students are mixed on whether restructuring textbook problems to operationalize online grading adequately prepares them for exams.*







## CURRICULUM DESIGN/DEVELOPMENT #7

Friday, October 3

11:10 a.m.—12:10 p.m.

Forsyth

Session Chair: Gary J. DeLorenzo

### DETERMINING CRITICAL SKILLS AND KNOWLEDGE REQUIREMENTS OF IT PROFESSIONALS BY ANALYZING KEYWORDS IN JOB POSTINGS

Paul J. Kovacs, Robert Morris University, kovacs@rmu.edu

Gary A. Davis, Robert Morris University, davis@rmu.edu

*In a constantly changing job market, Information Technology (IT) practitioners must keep their skills up-to-date. Educational institutions with Informational Technology curricula must also keep current in course offerings and programs of study. One way to maintain relevance is to examine and identify what IT skills and competencies are in demand. Job positions, indicating current expertise needed by companies, are good indicators of the types of IT skills that current and future IT professionals should possess in order to be marketable in a competitive labor market. This paper analyzes keyword data from job postings of a regional trade association to determine what skill sets and competencies are essential.*

### PREPARING THE KNOWLEDGE WORKER: HOW CAN IS PROGRAMS MEET THE CHALLENGE?

Dr. Hala Annabi – Ohio University MIS Department - annabi@ohio.edu

Dr. Sean McGann - Ohio University MIS Department - mcgann@ohio.edu

*Information Systems across the world are challenged by the demand of a complex and ever changing global business environment. This business environment demands “self-regenerating” professionals who are able to address socio-technical problems in a complex business context. In this paper, we propose that IS programs adopt a constructivist philosophy in their curriculum to change the way students think and develop professionals who are more adept at learning and solving real world problems. The paper outlines the elements of constructivist pedagogy and provides suggestions to how IS curriculum can implement elements of such an education philosophy.*

### SYNCHRONIZING WITH INDUSTRY TO REVITALIZE THE INFORMATION SYSTEMS CURRICULUM

Rebecca J. Giorcelli, Fairmont State University, rgiorcelli@fairmontstate.edu

Tracie Dodson, Fairmont State University, tdodson@fairmontstate.edu

*This presentation reports experiences and findings from current efforts within the Information Systems (IS) department at Fairmont State University to revitalize the IS curriculum to meet the challenges of the 21st century. These efforts include a National Science Foundation-funded project aimed at reviewing computing-related academic programs, improving student recruitment to these programs, and creating smoother pathways for students into high technology fields. Specifically, this presentation includes: (1) the findings from an industry survey of companies in North Central West Virginia conducted to identify industry needs as reported by IT professionals; (2) results of various collaborative efforts between industry and faculty within the Information Systems department at Fairmont State University to create better learning experiences for the students (e.g., industry-based class projects, internships, faculty fellowships and overall guidance related to program and curriculum development); and, (3) the development of an industry mentor directory for faculty fellowship and student internship programs.*





## **E-BUSINESS/E-COMMERCE/E-GOVERNMENT #5**

Friday, October 3

11:10 a.m.—12:10 p.m.

Franklin

Session Chair: Gerald Braun

### **A CONCEPTION OF THE E-BUSINESS RECEPTION MODEL (EBRM)**

Zbigniew Pastuszak, Maria Curie-Sklodowska Univeristy, Poland, z.pastuszak@umcs.lublin.pl

*The reception of e-business solutions is one of the key issues for enterprises that operate in the new economy environment. This article presents a conception (an "exploratory" study) of the e-business reception model and fundamental research hypotheses for its verification. They are at the core of research scheduled for implementation in selected European countries in 2009.*

### **PURSUING TRUST IN E-COMMERCE: ARE VENDORS DOING ENOUGH TO BUILD CONSUMER CONFIDENCE?**

Donald R. Moscato, Iona College, dmoscato@iona.edu

Eric D. Moscato, Iona College, emoscato@iona.edu

*This paper presents several important factors that contribute to the building of trust between vendors and customers. It presents the results of a field study of over 400 web sites and discusses the degree to which their approaches to security contribute to the establishment of a trusting transactional environment.*

### **ASSESSING WEB SERVICE QUALITY DIMENSIONS: THE E- SERVPERF APPROACH**

Godwin J. Udo, University of Texas at El Paso, gudo@utep.edu

Kallol K. Bagchi, University of Texas at El Paso, kbagchi@utep.edu

Peeter J. Kirs, University of Texas at El Paso, pkirs@utep.edu

*This study examines the dimensions of web service quality based on e-customer's expectations and perceptions. We develop operationalized web service quality constructs and analyze their relationships with customer satisfaction and behavioral intentions in an e-business environment. The three identified dimensions of web service quality are perceived risk, web content and service convenience. Although perceived risk may lead to a favorable perception of web service equality, it does not necessarily translate to customer satisfaction or positive behavioral intentions. Individual PC skill sets may affect perception of service convenience but seems to have no influence on how customers assess web service quality, customer satisfaction or behavioral intentions to use the e-service. The indirect or mediating influence of satisfaction on web service quality and behavioral intentions is as strong, if not stronger than, as the direct influence of web service quality and behavioral intentions.*





## COURSE MANAGEMENT

Friday, October 3

11:10 a.m.—12:10 p.m.

Telfair

Session Chair: G. Kent Webb

### **MEASURING STUDENTS PERCEPTIONS OF BLACKBOARD USING THE TECHNOLOGY ACCEPTANCE MODEL: A PLS APPROACH**

Leila Halawi, American University of Dubai, drhalawi@gmail.com

Richard McCarthy, Quinnipiac University, Richard.mccarthy@quinnipiac.edu

*In this study, partial least square approach (PLS) is applied to investigate the determinants of students' perceived usage results in the framework of university online or hybrid courses. A total of 134 valid responses from students who have finished or are currently enrolled in at least one online or hybrid course at two universities were employed to inspect the structural model. Using a structure that is in theory grounded in the technology acceptance model (TAM) and tested through TAM, the analysis of results suggest that separate factors guide the students' usage choice.*

### **UNINTENDED BENEFITS OF INFORMAL LEARNING ON THE PREPARATION OF STUDENTS FOR ADVANCED DEGREE PROGRAMS**

M.A. Reese, EWA Services, Inc., mreese@services.ewa.com,

G.M. Boff, California University of Pennsylvania, boff@cup.edu

*On-line communities of practice (CoPs) are grass-roots, informal learning environments in which members discuss professional issues or gain information related to their profession. This exploratory research uncovered that participants of CoPs gain a dimension to their learning, however unintentional, that benefits them in their later pursuits of formal, advanced-degree education. These results not only point to the need and opportunity available to academia and industry to work together to better prepare students for their advanced-degree academic experience, but that, with increased participation in CoPs offering a better prepared student, the curriculum for formal education may be modified to allow for greater depth and/or breadth of study in the same amount of time.*

### **USING BEST PRACTICES TO INCREASE USAGE OF ADVANCED TOOLS AND FEATURES OF COURSE MANAGEMENT SOFTWARE**

Gary Baker, Sam Houston State University, garybaker@shsu.edu

David Taylor, Sam Houston State University, davidtaylor@shsu.edu

Gerald Kohers, Sam Houston State University, kohers@shsu.edu

*The use of course management software has increased exponentially over the past ten years. As the most widely implemented course management software, Blackboard's Academic Suite has over 1,900 U.S. higher education implementations. As an alternative to faculty developed web pages, this course management software offers a standard format for presenting materials online. In addition to providing a centralized location for posting instructional materials, the software includes a variety of Web-based tools designed to enhance communication and to evaluate or assess student progress. Previous studies have found high levels of usage by faculty for posting course documents, announcements and grades. However, advanced features such as discussion boards, electronic document submission and online testing have significantly lower levels of usage. This study will examine the use of best practices to increase the use of course management software's advanced tools and features.*





## IS INSTRUCTION #2

Friday, October 3

11:10 a.m.—12:10 p.m.

Pulaski

Session Chair: Andrew A. Tiger

### THE SISTER CITIES PROJECT:

#### A TERM-LONG DESIGN AND DEVELOPMENT EXERCISE FOR THE DATABASE MANAGEMENT COURSE

Steven C. Ross, Western Washington University, [steve.ross@wwu.edu](mailto:steve.ross@wwu.edu)

Kraig K. Pencil, Western Washington University, [kraig.pencil@wwu.edu](mailto:kraig.pencil@wwu.edu)

*The Sister City Project gives students in the Business Database Management course a realistic experience. Teams develop a fully-functional application, including table and relationship design; data importation; and building views, forms, reports, menus, and user / developer documentation. The work is cumulative through the term.*

### AN EXPERIMENT IN TEACHING DATABASE CONCEPTS INDEPENDENT OF SOFTWARE PLATFORM

Matthew A. North, Washington & Jefferson College, [mnorth@washjeff.edu](mailto:mnorth@washjeff.edu)

*This paper examines Information Systems teaching, as opposed to training, in the context of a Database Concepts course. The course was developed using the IS 2002 model curriculum as a guide, with specific effort made to focus on teaching students fundamental concepts and techniques while using a branded RDBMS software package as a tool for instruction. The course was taught by the same instructor in three consecutive semesters using three different database software packages (Oracle, MS SQL Server, and MySQL). Student scores from these three offerings are compared statistically using ANOVA, revealing that the IS 2002 objectives for the database course can be achieved independent of the software package selected for use in instruction. Students taught in one environment were then tested on database skills in a different environment in order to determine whether or not their comprehension of database concepts and techniques transcended the software environment in which they were taught. Students achieved comparable, passing scores using different software packages, lending support to the position that if instruction is focused on teaching database concepts and techniques rather than training in one specific tool, students will be able to work effectively in various database software environments upon graduation.*

### PROBLEM FORMULATION ABILITY IS A STUDENT'S PROBLEM IN CS1!

Stanley T. Schuyler, Edinboro University, [sschuyler@edinboro.edu](mailto:sschuyler@edinboro.edu)

Robert Joseph Skovira, Robert Morris University, [skovira@rmu.edu](mailto:skovira@rmu.edu)

*At IACIS 2007 we presented a pilot research project titled *Is the Problematic in CS1 a student's Problem Solving Ability?* The acronym "CS1" refers to first courses in computer programming (and CS0 to a preparatory course). The symptom of the problem was that 40% of the students enrolled in CS1 courses worldwide withdrew, failed or performed poorly. Several studies suggested that a key factor might be that students lack problem solving ability. The pilot study administered three questionnaires, each with a free writing task, to quantify a student's ability to analyze and identify problems. The results identified one questionnaire that correlated with student's CS1 course grades and accounted for 60% of the variance final exam scores. That result motivated a more comprehensive study. The questionnaire was revised to focus on assessing Problem Formulation Ability. The results in this new study provide strong evidence that Problem Formulation Ability affects student performance and that it is one of the components that effectively predicts a student's CS1 course grade. The objective is to find an instrument to effectively place students in either a CS0 or CS1 course.*





## CURRICULUM DESIGN/DEVELOPMENT #8

Friday, October 3

2:00—3:00 p.m.

Forsyth

Session Chair: Steven C. Ross

### **CIS MINORS IN THE U.S.: AN ANALYSIS OF EXISTING CURRICULA**

Lissa Pollacia, Northwestern State University, pollacia@nsula.edu

William Lomerson, Northwestern State University, lomersonw@nsula.edu

Jack Russell, Northwestern State University, jrussell@nsula.edu

*The number of U.S. students who choose Computer Information Systems (CIS), Management Information Systems (MIS), or Computer Science (CS) as a major has declined significantly in the last seven years. For many computing departments, it is imperative to seek ways to increase the number of enrollments. One such option is to develop and offer a new type of multi-disciplinary minor that incorporate computer-centric courses taught by CIS and other departments throughout the university. This paper describes a review of CIS minors offered at institutions in the U.S. The results of the review focus on information such as the type of minor, the number of credit hours, and the types of courses that are required. It is our hope that this study will provide information to assist a department considering curriculum changes.*

### **IT GOVERNANCE, IT SERVICE MANAGEMENT AND THE ORGANIZING ROLE OF THE INFORMATION TECHNOLOGY INFRASTRUCTURE LIBRARY (ITIL)**

Barbara Jo White, Western Carolina University, whiteb@email.wcu.edu

*A gap exists between IT management topics important to CIOs and topics present in typical MIS texts. One way to bridge that gap and synchronize IT management knowledge between students, academics and CIOs is through the use of IT governance frameworks to organize introductory undergraduate MIS courses. The use of the Information Technology Infrastructure Library (ITIL) IT Service Management framework (version 2) is presented as a course organizing framework for both undergraduate business courses and upper level IS/IT courses for non-MIS majors. Student reaction is discussed.*

### **ANALYSIS OF CULTURAL EFFECTS ON BUSINESS CURRICULAR SUBJECT MATTER**

Vladimir Burčik, Comenius University, Bratislava, Slovakia burcik@ilern.sk

Gary J. DeLorenzo, California University of Pennsylvania, California PA, USA delorenzo@cup.edu

Frederick G. Kohun, Robert Morris University, Pittsburgh PA, USA kohun@rmu.edu

Robert Joseph Skovira, Robert Morris University, Pittsburgh PA, USA skovira@rmu.edu

*It has been argued that culture effects how individuals implement, understand, and teach the curriculum of business courses within a society's educational institutions. The curricula and their subject matter of business faculties reflect the societies in which the curricula are developed and taught. The essay presents a rubric for analyzing this curricular phenomena based on Hofstede and Hofstede's conception that a society's culture constituted in and presented in individuals' views and routines is determinate of professorial understandings and teachings of business subject matter. In particular, Hofstede's indices on Power Distance, Uncertainty Avoidance are applied to select business curricula from the Slovak Republic and the United States. The analysis includes, for purposes, a summary table of curricular attributes also from a convenience sample; this time of university business programs — two from the Slovak Republic and two from the United States. The overall purpose is to determine if Hofstede's original research is the same today in an era of educational globalization for three distinct populations.*





## GROUPS/TEAMS #1

Friday, October 3  
Session Chair: Mark Sena

2:00—3:00 p.m.

Franklin

### **EXAMINING THE EFFECTIVENESS OF VIRTUAL COMMUNITIES OF PRACTICE: A RESEARCH FRAMEWORK**

Dr. Sean T. McGann – Ohio University MIS Department - [mcgann@ohio.edu](mailto:mcgann@ohio.edu)  
Dr. Hala Annabi - Ohio University MIS Department – [annabi@ohio.edu](mailto:annabi@ohio.edu)

*The paper suggests a research framework focused on assessing the viability of virtual communities of practice (VCOP) as an effective means of knowledge management. While the dearth of current research on VCOP and knowledge management has suggested a need for personal contact in order to facilitate effective knowledge transfer, research in this area is limited. It is our contention that certain types of communities of practice can be successful without face-to-face contact, but additional research is needed to substantiate this claim. To promote this stream of research, the key foundational concepts of VCOP: communities of practice, virtual teams and knowledge management are reviewed and mapped to a framework designed to drive future research in the area of VCOP.*

### **DIVERSITY AND ITS IMPACT ON GROUPS**

Anil Aggarwal, University of Baltimore, [aaggarwal@ubalt.edu](mailto:aaggarwal@ubalt.edu)

*This paper studies diversity in the context of groups that work together and their effect on group performance. Specifically, the paper addresses the question whether diverse groups tend to perform better than non-diverse groups. An experiment was conducted and the results are reported. We found weak support that diverse group perform better than non diverse groups.*

### **THE MAJOR FIELD TEST IN INFORMATION SYSTEMS: WHAT IT IS AND AN EXAMPLE OF ITS USAGE IN ASSURING STUDENT LEARNING**

Ranida B. Harris, Indiana University Southeast, [rbharris@ius.edu](mailto:rbharris@ius.edu)  
Kenneth J. Harris, Indiana University Southeast, [harriskj@ius.edu](mailto:harriskj@ius.edu)  
David M. Eplion, Indiana University Southeast, [deplion@ius.edu](mailto:deplion@ius.edu)

*In higher education there is an increasing emphasis on accountability and providing evidence of student learning. The Major Field Test (MFT) in Business, which is given to students, can be utilized for this purpose. The test is comprised of nine components, one of which is the newly added information systems (IS) component. This IS component can be used to assess learning, improve instructional techniques, and serve other educational purposes.*







## INFORMATION MANAGEMENT

Friday, October 3

2:00—3:00 p.m.

Telfair

Session Chair: Christopher G. Jones

### **ENTERPRISE CONTENT MANAGEMENT: A USABILITY STUDY**

Robert L. Totterdale, Robert Morris University, robert.totterdale@accenture.com

*Over 90% of business records today are available in electronic form. With vast increases in electronic business content being generated and received daily, companies must now consider new approaches for organizing and categorizing their content (e.g., emails, documents, pdfs) to meet operational and compliance needs. Enterprise Content Management (ECM) Software has been suggested as a solution to address these needs. This paper develops a framework for the usability testing of a commercial ECM product being evaluated by a large professional services firm. Using this framework, the study assesses five key dimensions of usability including effectiveness, efficiency, satisfaction, ease of use and performance. The study is qualitative.*

### **EVALUATION OF DATA QUALITY IN PRACTICE: A LARGE-SIZED UNIVERSITY AND A MULTINATIONAL MANUFACTURER CASE STUDY**

Jing-Jing Wu, Central Michigan University, wu1j@cmich.edu

Hongjiang Xu, Central Michigan University, xu1h@cmich.edu

*It is critical for organizations to manage data quality (DQ) in their systems regardless of different industries. This paper presents results, practical insights, and lessons learned from two case studies. Both survey and interview methods are used in this study. The paper describes two case studies and shows how requirements necessary to maintain DQ were collected, quality metrics were defined, and human behavior affects the degree of the DQ, as well as what the well-developed software makes DQ stable. This paper proposes a DQ measurement accessible for any organizations.*

### **HOW DO CONCERNS ABOUT ORGANIZATIONAL FAIRNESS AND PROFILING AFFECT INDIVIDUALS' FEELING OF ALIENATION?**

Joseph S. Mollick, Texas A & M University-Corpus Christi; jsm6337@yahoo.com

*We survey an organization's customers who are subjected to information-intensive organizational processes to find out which of their concerns about organizational information management practices correlate with their feeling of alienation from an organization. Using data collected from students of a large university in the North Eastern USA, we find that students' concern about organizational fairness (X1) of information management practices in general and their concern about use of data for personal profiling (X2) correlate with their feeling of alienation (Y) from their university.*







## IS INSTRUCTION #3

Friday, October 3

2:00—3:00 p.m.

Pulaski

Session Chair: Sylvia Bembry

### **DISCOVERING EDUCATIONAL VALUE OF INTERACTIVE ANNOTATED EXAMPLES IN A BUSINESS PROGRAMMING COURSE**

Michael V. Yudelson, University of Pittsburgh, mvy3@pitt.edu

Natalya Goreva, Point Park University, ngoreva@pointpark.edu

Bryan A. Marshall, Georgia College & State University, bryan.marshall@gcsu.edu

Douglas Goings, Georgia College & State University, douglas.goings@gcsu.edu

*In this paper, researchers report the results of a study of interactive annotated examples (IAEs) in the context of a business programming course. Using code examples is a key element in most courses that cover programming, and providing students with as-needed assistance in the form of code annotations is extremely beneficial. In this experiment, a set of non-mandatory examples were made available to students for self-study. Students were able to access the examples at their own pace on their own time. This study confirms results from previous studies that students who browsed annotated coding examples were able to develop programming skill more readily. This paper contributes to the literature on programming pedagogy and traits of successful student.*

### **TEACHING A PROGRAMMING LANGUAGE FOR PROSPECTIVE TEACHERS**

Azad Ali, Indiana University of Pennsylvania azad.ali@iup.edu

*This paper is to identify the factors that influence the decision to select a programming language to teach at a graduate level course. The paper is used in a technology update course in a master's degree program in education. It first reviews the factors that make learning programming a difficult task. It then suggests remedies for these difficulties and recommends a specific programming language for this purpose.*

### **AJAX IN THE CLASSROOM**

Thom Luce, Ohio University, luce@ohio.edu

*The recent explosion of Web 2.0 applications has changed users' expectations regarding the web experience. Users now expect web pages to behave like desktop applications, reacting to mouse movements and individual key strokes and updating only small portions of the page at a time. While a number of technologies exist to create these rich internet applications, the most popular and widely used is AJAX. AJAX isn't a new technology but uses a number of existing technologies including JavaScript, XML and the XMLHttpRequest object to implement asynchronous browser-server communication and partial page updates. This paper explores some of the benefits of AJAX along with methods for implementing it and why it should be included in our curriculum.*





**DECISION MAKING #1**

Friday, October 3

3:20—4:20 p.m.

Forsyth

Session Chair: Carolyn Anderson

**EXECUTIVE INFORMATION FOR STRATEGIC DECISION MAKING**

Eugene Calvasina, Southern University, Baton Rouge, LA, ejcalvasina@cox.net  
 Mysore Ramaswamy, Southern University, Baton Rouge, LA, mysore@acm.org  
 Richard Calvasina, University of West Florida, Pensacola, FL, rcalvasi@uwf.edu  
 Gerald Calvasina, Southern Utah University, Cedar City, UT, calvasina@suu.edu

*The second half of the twentieth century saw the development of a new source of information within manufacturing organizations. The Information Age is characterized by the technology that accumulates large amounts of data and processes it into meaningful information for management. The accounting function continues to provide financial information. Two concepts became popular: Just-In-Time inventory management and Backflush accounting. The development of Backflush accounting has resulted in the accountant’s withdrawal from their former role in providing information. This can be a serious problem in the manager’s evaluation of the profitability of a supply chain or a value chain. This paper examines the various cost information processing mechanisms pertaining to Supply Chain and Value Chain evaluations in order to improve the management decision making process.*

**AN EXAMINATION OF DECISION CONFIDENCE AND ILLUSION OF CONTROL IN A GROUP SETTING**

Sathasivam Mathiyalakan, Winston Salem State University, mathiyalakansa@wssu.edu

*Decision confidence is a factor in indicating the acceptance and use of a DSS. Prior research has shown the presence of both over and under confidence resulting in DSS use; both could lead to disastrous outcomes for the organization. There are very few methodologies or strategies designed to address issues related to decision confidence and user calibration in a group setting. Achieving perfect calibration avoids the negative impacts on organizational performance that can occur in the presence of either over or under confidence. We present an incentive-based experimental approach for aiding in achieving the goal of high levels of user calibration in a business lending situation. The technique draws directly from economic literature. The technique described in this study is easy to implement and can be an additional mechanism in the DSS designer’s tool bag.*

**GROUP WISDOM SUPPORT SYSTEMS:**

**AGGREGATING THE INSIGHTS OF MANY THROUGH INFORMATION TECHNOLOGY**

Christian Wagner, City University of Hong Kong, iscw@cityu.edu.hk  
 Andrea Back, University of St. Gallen, andrea.back@unisg.ch

*Evidence from a variety of domains suggests that the “wisdom of crowds,” the aggregated insights and judgments of large groups of non-experts, can generate results that are equal or better to those of experts. Traditionally, aggregating the insights of many has been a tedious and often infeasible task. Even the group decision support systems of a few years ago were not ready for this challenge. They would usually only facilitate small or medium sized groups and not easily scale. Recent developments in ICTs, however have made the access to large groups of diverse individuals significantly more feasible, suggesting the feasibility of “group wisdom support systems” (GWSSs). Within this article we determine key requirements for a GWSS, based on the characteristics to be fulfilled for collective intelligence to successfully emerge. We then discuss specific system requirements for two types of systems, a Type 1 numeric belief aggregation system, and a Type 2 knowledge aggregation system.*





## GROUPS/TEAMS #2

Friday, October 3

3:20—4:20 p.m.

Franklin

Session Chair: Bryan A. Marshall

### **AMPLIFYING TEAMWORK ISSUES THROUGH THE USE OF SITUATIONAL VIGNETTES**

James J. Cappel, Central Michigan University, james.cappel@cmich.edu

*Information systems (IS) work takes place predominantly in a team-based environment. To simulate the work environment and develop teamwork skills in students, IS courses often use team-based projects. A common dilemma faced by IS instructors is how much emphasis to give teamwork in the classroom while working under tight time constraints to cover the other course content. This paper reports the results of an approach designed to promote better teamwork in an information systems course. Vignettes about teamwork issues were used early in a course to raise potential, salient team problems. The results of this study based on more than 130 participants suggests that this approach appears to be an efficient and effective way to address teamwork issues and set expectations for team member performance. This article presents guidelines for implementing this approach successfully.*

### **FRAMEWORK OF MEETING SCHEDULING IN COMPUTER SYSTEMS**

Goran Martinovic, J.J. Strossmayer University of Osijek, goran.martinovic@etfos.hr

*Development of computer technologies is a necessary but not the only precondition for solving problems by means of computer supported cooperative work (CSCW). The proposed framework for meeting scheduling encompasses parameters of group members, jobs they carry out, meetings as well as scheduling procedures. In addition to knowledge and experience required for the usage of today's powerful computer technologies, as well as for solving concrete problems, group members, i.e., humans, can be described by a series of individual and sociological properties which can represent an advantage but also a shortcoming of successful CSCW. For the purpose of enabling as successful cooperation intervals, i.e., meetings, as possible, organization, infrastructure and timing parameters of meetings are presented systematically. Jobs carried out at meetings of humans or their resources are adapted to implementation into a greater number of scheduling algorithms. The proposed framework is as such applicable to a wide range of CSCW problems, particularly in the sense of modern technologies and their influence on a human.*

### **A TECHNIQUE FOR PEER AND GROUP MEMBER EVALUATIONS OF TEAMWORK IN THE UNDERGRADUATE CLASSROOM**

Ranida B. Harris, Indiana University Southeast, rbharris@ius.edu

Kenneth J. Harris, Indiana University Southeast, harriskj@ius.edu

Kara L. Vaught, Indiana University Southeast, kavaught@ius.edu

*As the information systems (IS) world in which business occurs continues to change, teams are being utilized with even greater frequency. As a result, and to better prepare students for the working world, IS educators often utilize teamwork in their classes. Although benefits from working with others are widely known, there are also negative aspects of teamwork. One such problem relates to how individual efforts can be fairly and accurately evaluated in a team so that all group members do not receive the same grade unless they have actually earned it. This paper discusses a number of different issues related to current teamwork evaluations and provides an assessment tool that calculates an individual's grade by using the overall group grade and group member evaluations relative to the evaluations received by their other group members. Observed outcomes and feedback received are discussed.*





## NETWORKS #1

Friday, October 3

3:20—4:20 p.m.

Telfair

Session Chair: Richard McCarthy

### **A VULNERABILITY AUDIT OF THE U.S. STATE E-GOVERNMENT NETWORK SYSTEMS**

Dr. Jensen J. Zhao, Ball State University, [jzhao@bsu.edu](mailto:jzhao@bsu.edu)

Dr. Allen D. Truell, Ball State University, [atruell@bsu.edu](mailto:atruell@bsu.edu)

Dr. Melody W. Alexander, Ball State University, [malexand@bsu.edu](mailto:malexand@bsu.edu)

Dr. Rod Davis, Ball State University, [rdavis2@bsu.edu](mailto:rdavis2@bsu.edu)

*This study investigated the network vulnerability status of the e-government service portals of the 50 U.S. states and Washington, D.C. The findings indicate that most state e-government portals had their network information, such as portal's IP address, CIDR, and network range, publicly available on the Internet through the Google search. However, the state e-government portals had most of their ports filtered or behind firewalls with very few open ports—Port 80/tcp and Port 443/tcp. To further reduce the vulnerability of state e-government network systems, this paper recommended how to hide portal's IP address and how to secure open ports.*

### **ISSUES IN NETWORK ANALYSIS AND DESIGN: A CRITICAL EXAMINATION**

Someswar Kesh, University of Central Missouri, [kesh@ucmo.edu](mailto:kesh@ucmo.edu)

Sam Ramanujan, University of Central Missouri, [ramanujan@ucmo.edu](mailto:ramanujan@ucmo.edu)

*Communication networks now play a critical role in our lives. The failure of these networks can cause serious financial and other losses in our lives. Therefore, it is imperative that communication networks are properly planned and designed. In this paper, we use the Network Development Life Cycle (NDLC) to facilitate a critical review of some of the important aspects of network analysis and logical design. For the analysis of network requirements, we discuss how actors can be identified, the methodologies available for information elicitation, identifying the business as well as technical requirements and constraints, and flow analysis. For the logical design of networks we discuss two critical issues, viz., the hierarchical design of networks and IP addressing design issues. It is expected that the critical examination of these issues will spur further research in network analysis and design. This research is also important from a pragmatic as well as a pedagogical standpoint because practitioners and educators can use various concepts discussed in this paper.*

### **A SYMBOL SET FOR DIAGRAMMING NETWORKS**

Vladan Jovanovic, Georgia Southern University, [vladan@georgiasouthern.edu](mailto:vladan@georgiasouthern.edu)

Eric Stone, Georgia Southern University, [estone4@georgiasouthern.edu](mailto:estone4@georgiasouthern.edu)

*This paper presents academic requirements for a standardized symbol set to be used for network diagramming. The paper also illustrates use of a working prototype of the proposed language SANDS (Standardized Network Diagramming Symbols) implemented as a free stencil in Visio.*





## LEARNING #1

Friday, October 3

3:20—4:20 p.m.

Pulaski

Session Chair: Barbara Jo White

### **THE USE OF AN ACTION ITEM BASED SYSTEM TO IMPLEMENT AND DOCUMENT EMBEDDED ASSURANCE OF LEARNING ACTIVITIES IN SUPPORT OF A SCHOOL/PROGRAM'S STRATEGY ELEMENTS**

Orion Welch, St. Mary's University, [owelch@stmarytx.edu](mailto:owelch@stmarytx.edu)

Michele Kleckner, Elon University, [mkleckne@elon.edu](mailto:mkleckne@elon.edu)

*This paper describes the implementation of an action item based embedded assessment program to support assurance of learning in CIS/MIS programs based on school and program goals. The paper describes the instrument, the data flows, the implementation process, and the review system. The Action Item instrument is used to describe the vision elements supported, the learning objective, the success criteria, the recovery process for students not satisfying the success criteria, and the discovery component which identifies what the professor learned about curriculum and instruction as a result of the activity. It provides a very efficient and effective way to standardize an embedded assessment program while at the same time encouraging innovation.*

### **TOPIC INFLUENCES ON ELECTRONIC MEETING**

#### **RELEVANT COMMENTS**

Milam Aiken, University of Mississippi, [aiken@bus.olemiss.edu](mailto:aiken@bus.olemiss.edu)

Linwu Gu, Indiana University of Pennsylvania, [Linwu.Gu@iup.edu](mailto:Linwu.Gu@iup.edu)

Jianfeng Wang, Indiana University of Pennsylvania, [jwang@iup.edu](mailto:jwang@iup.edu)

Mahesh Vanjani, Texas Southern University, [vanjanim@tsu.edu](mailto:vanjanim@tsu.edu)

*Only rarely have researchers attempted to mathematically model the complex interrelationships of variables within an electronic meeting. Here, we show how topic-related measures can be used by an artificial neural network to accurately forecast the number of relevant comments generated by each person in these automated meetings. In comparison, naïve and multi-linear regression forecasts were significantly different from the actual numbers of comments.*

### **LEVERAGING ACADEMIC RESOURCES IN THE ABET ACCREDITATION PROCESS: AN OUTCOME ASSESSMENT INFORMATION SYSTEM**

Gina Boff, California University of PA, California, PA USA [boff@cup.edu](mailto:boff@cup.edu)

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Paul Sible, California University of PA, California, PA [sible@cup.edu](mailto:sible@cup.edu)

*The process of ABET accreditation is complex and time consuming. This process often has a larger affect on smaller universities who have limited resources. Small universities must often enlist the help of faculty members in the accreditation process, which reduces the time faculty has to devote to other commitments such as research and teaching. In an effort to circumvent this problem, the Computer Information Systems faculty at California University of Pennsylvania, a small state-system university in southwestern Pennsylvania, has developed an information system called CISaccred. CISaccred was developed to aide in the assessment portion of the accreditation process. This paper provides a follow-up to the original system which resulted from prior research by the faculty. It addresses the insight gained by the faculty from the usage of the application system over a one-year period and identifies those system enhancements that were implemented for the custom-developed assessment system. Also discussed is the analysis, development and design improvement that warranted the changed enhancements based on insight gained by the faculty.*





## DECISION MAKING #2

Friday, October 3

4:30—5:30 p.m.

Forsyth

Session Chair: Eugene Calvasina

### **BUILDING INTELLIGENT HIGHWAY SYSTEMS WITH EMERGING WIRELESS COMMUNICATION TECHNOLOGIES** Ruidong Zhang, University of Wisconsin – Eau Claire, zhangr@uwec.edu

*The intelligent highway systems use a range of advanced technologies to enhance mobility and traffic handling capacity, to improve the driving conditions and reduce the adverse environmental effect, and eventually to automate the existing surface transportation systems. With emerging wireless communication technologies, the process towards such intelligent highway systems can be accelerated.*

### **DECISION SUPPORT SYSTEMS IN HIGHWAY TRAFFIC CONTROL**

Joon-Yeoul Oh, Texas A&M University-Kingsville, joon-yeoul.oh@tamuk.edu

YoungJin Lee, Texas A&M University-Kingsville, young.lee@tamuk.edu

Richard A. Aukerman, Texas A&M University-Kingsville, richard.aukerman@tamuk.edu

*Traffic congestion occurs due to a temporary interruption, such as a traffic accident, work zone for repairs, poor weather, or other confirmed traffic systems that happen every day. This paper presents a Decision Support System applied in traffic management to avoid or minimize the traffic congestion. A program for the traffic control decision support system was made using the Java programming language, and an example case was tested to show the decision procedure.*

### **ENHANCING THE USE OF BIDSS/CI SYSTEMS: A PROPOSED FRAMEWORK**

Monica C. Holmes, Central Michigan University, monica.c.holmes@cmich.edu

Roger L. Hayen, Central Michigan University, roger.l.hayen@cmich.edu

Jie Zeng, Cleveland Clinic Foundation, jzeng102@hotmail.com

*Nowadays applications for Business Intelligence (BI) and Decision Support Systems (DSS) have been adopted by multiple organizations. BIDSS have become one of the most significant tools for managers. Big corporations as well as small enterprises annually spend billions of dollars for BIDSS software in order to improve design, manufacturing, service, marketing, management, and financial decision-making. However, purchasing and installing BI/DSS software is not a guarantee of the effectiveness and efficiency of their implementation. This research effort examines several problems that companies face with the implementation of BIDSS. The purpose is to determine the characteristics of those problems and provide an innovative solution for them. A case study that illustrates an application of BI/DSS in a chemical corporation is included.*







## PROJECT AND CHANGE MANAGEMENT #1

Friday, October 3

4:30—5:30 p.m.

Franklin

Session Chair: Kevin Lee Elder

### **PRACTITIONERS AS CHAMPIONS OF IS-ENABLED CHANGE IN THE HEALTH CARE INDUSTRY**

Elaine Winston, Hofstra University, [acserw@hofstra.edu](mailto:acserw@hofstra.edu)

*Currently, most medical information systems (IS) rely on a complex integration of database, internet and communications technologies. To achieve the expected benefits of critical system initiatives health care, organizations may employ a systems thinking approach. A key concern is to ensure that end user practitioners, who champion both the technology and ensuing changes, integrate IS strategy with business strategy. Multiple case studies were conducted with health care providers who work in the New York Metropolitan area and who are involved in the implementation of medical IS. Based on case study data the factors that influence the routinization of IS in their daily tasks are identified. A proposed model that incorporates a feedback loop captures the dynamic nature of these factors. This enables management to analyze health care organizations that change over time.*

### **PRIVATE SECTOR VERSUS PUBLIC SECTOR RESEARCH ON SOFTWARE PROJECT MANAGEMENT: AN EXPLORATORY STUDY**

Kevin Lee Elder, Georgia Southern University, [kelder@georgiasouthern.edu](mailto:kelder@georgiasouthern.edu)

Michael R. Garman, USAF

*Project managers typically set three success criteria for their projects: meet specifications, be on time, and be on budget. However, software projects frequently fail to meet these criteria. Software engineers, acquisition officers, and project managers have all studied this issue and made recommendations for achieving success. But most of this research in peer reviewed journals has focused on the private sector. Private sector project success depends on many elements. Critical success factors are those factors a project manager must properly handle to avoid failure; priorities influence which success criteria the project manager will most likely succeed in meeting. Through a survey of software project managers at two USAF software development organizations, our research discovered the following: Air Force and private sector projects share many of the same critical success factors for nonweapon systems, but there are still some sharp differences.*

### **ASSESSING STUDENTS' PERCEPTIONS OF PROJECT MANAGEMENT BEFORE AND AFTER COMPLETION OF A PROJECT MANAGEMENT COURSE**

Thomas Case, Georgia Southern University, [tcase@georgiasouthern.edu](mailto:tcase@georgiasouthern.edu)

Manouchehr Tabatabaei, Georgia Southern University, [mtabatab@georgiasouthern.edu](mailto:mtabatab@georgiasouthern.edu)

*Project management (PM) is increasingly important in both corporate and academic venues. University computing and engineering programs are being pressured by employers to better prepare students for project management positions and this has often resulted in student exposure to project management concepts in one or more courses. The present investigation focuses on how exposure to a project management course affects student perceptions of the overall importance of project management and the subject areas that project management subsumes. The results suggest that students exit the project management courses thinking that the subject matter is important and will contribute to career success. The results also suggest that the project management course has an especially strong impact on the perceptions of female students and that the course significantly increases the perceived importance of multiple "hard" and "soft" course-related topics.*







**NETWORKS #2**

Friday, October 3  
 Session Chair: Frank Andera

4:30—5:30 p.m.

Telfair

**A CASE STUDY: HUMAN RESOURCES, INFORMATION TECHNOLOGY, AND THE EFFECTS OF IMPLEMENTING A COLLABORATIVE APPROACH TO ENHANCE ACCESS CONTROLS**

Philip Kim, Robert Morris University, pxkst1@rmu.edu  
 Frederick G. Kohun, Robert Morris University, kohun@rmu.edu

*Information security is a growing concern within the financial services industry. Many information security breaches have come at the expense of well-known global financial service providers. Despite the growing importance of information security within the financial services industry, there appears to be a lack of empirical data on the effects of implementing an integrative approach to network security. This study seeks to investigate whether one financial services organization's decision to implement an integrative approach to network access controls will result in fewer policy violations, thus creating a more effective information security environment.*

**CARRIER SERVICE INFRASTRUCTURES:  
 ESSENTIAL COST ELEMENTS FOR GLOBAL E-COMMERCE**

Timothy V. Kelly, Elizabeth City State University, tvkelly@mail.ecsu.edu

*Companies seeking to engage in global E-commerce must partner with Network Service Providers (NSPs) to obtain the necessary network transport services for global E-commerce. NSPs are in the business of leasing the entire range of network transports, as needed, to their customers. The challenge is to keep pace with the increasing number of network types. Bandwidth options and competitive pricing models (always kept confidential) are typically used by both the customer company and their NSP to formulate a network design which makes the company a competitor in the E-commerce marketplace. The purpose of this exploratory research is to identify network transport options by their corresponding bandwidth, generalized cost-levels and Carrier Services Infrastructure (CSI) type. The relationship of global E-commerce to each of the CSIs and five leading NSPs will be examined.*

**UTILIZING NEURAL NETWORKS  
 TO ASSESS COMMUNITY-LEVEL VULNERABILITY TO THE METHAMPHETAMINE EPIDEMIC**

Cretson L. Dalmadge, Winston-Salem State University, dalmadgce@wssu.edu  
 Monica Cain, Winston-Salem State University, cainm@wssu.edu

*This study presents a practical framework for modeling community-level vulnerability to the methamphetamine epidemic. The study used 2003-2005 county-level methamphetamine laboratory seizure data and community characteristics as risk factors to develop a neural network model of the vulnerability to methamphetamine manufacture for each county in the United States. We categorized counties' meth problem as low ("0s"), intermediate ("1s"), and high ("3s") based on the number of seizures per year. Twenty community-level characteristics drawn from the Area Resource File (2004) are used as risk factors. We attained relative weightings for these factors and correctly classified 89.72 percent on the training data and correctly predicted 89.47 percent on the portion of the dataset reserved for testing.*



**LEARNING #2**

Friday, October 3

4:30—5:30 p.m.

Pulaski

Session Chair: Daniel T. Norris

**DO SELECTED VARIABLES SIGNIFICANTLY PREDICT AND EXPLAIN STUDENT HANDS-ON PERFORMANCE AND THEORY EXAM SCORES IN AN INTRODUCTORY INFORMATION SYSTEMS COURSE?**

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Melody Alexander, Ball State University, malexand@bsu.edu  
Jensen J. Zhao, Ball State University, jzhao@bsu.edu

*A focused review of the literature revealed few studies exploring student performance in information systems courses. Thus, this study sought to build upon this limited number of studies and explore the predictive and explanatory power of selected variables on student hands-on performance and theory exam scores in an introductory information systems course. Findings of the study indicate that the variables college GPA, computer liking, and computer systems test score were significant predictor and explanatory variables of student hands-on performance exam scores. By comparison, the variables college GPA, computer systems test score, and perceived computer confidence were found to be significant predictor and explanatory variables of student theory exam scores. Implications for instructional practice are offered.*

**INFORMATION SYSTEMS: PERFORMING APPLICATION-SPECIFIC ASSESSMENT OF STUDENT PERFORMANCE**

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Hillar Neumann, Northern State University, hnj@northern.edu  
Lu Zhang, Northern State University, luz@northern.edu

*This paper is an expansion of a previous study in which the authors described the results of using a simulated testing package to assess student performance in an advanced computer applications course. In the original study, a pre-test/post-test format was utilized in assessing whether the level of knowledge and skills possessed by students who completed the advanced course increased significantly when compared to the knowledge and skills the students possessed when entering the course. Faculty felt it was important to expand the original study by breaking down the pre-/post-test scores by software application (i.e., word processing, database applications, presentation software, spreadsheets, and Internet use/website development). This paper includes the breakdown of scores and the corresponding statistical analyses by topic area.*

**THE ROLE OF LEARNING TECHNIQUE ON STUDENT PERFORMANCE IN CS1 COURSES**

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Robert Joseph Skovira, Robert Morris University, skovira@rmu.edu  
A. J. Grant, Robert Morris University, granta@rmu.edu  
Timothy S. Meyer, Edinboro University, tsmeyer@edinboro.edu

*Using Eco's semiotic model, we created a conceptual framework that would incorporate three Learning Approaches described by Hughes and Peirsi. In order to integrate them into the framework, nine elemental Learning Techniques (denoted LTs) were identified. Using the framework, a strategy was developed for determining which Learning Techniques students use and which are effective for learning computer programming. This paper describes the research on these learning techniques and how they can be used to predict the performance of students in their first course in computer programming.*





**CULTURE #1**

Saturday, October 4

8:30—9:30 a.m.

Forsyth

Session Chair: Kamal Hingorani

**SOCIAL NETWORKING WEBSITES IN INDIA AND THE UNITED STATES:  
A CROSS-NATIONAL COMPARISON OF ONLINE PRIVACY AND COMMUNICATION**

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 Daniel T. Norris, University of South Carolina, dnorris@sc.edu  
 Natalya Goreva, Point Park University, ngoreva@pointpark.edu  
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*This study examined cross-national differences in the usage of social networking websites (SNWs) between university students in India and the United States. A total of 245 Indian university students and 241 American university students completed a survey about privacy attitudes and behaviors as well as communication patterns on SNWs. Many of the traditional propositions about cross-cultural values and related notions about trust and communication patterns did not explain differences in behavior between Indian and American students. In particular, Indian students, who are considered being from a collectivist society, and American students, who are considered being from an individualist society, exhibited many common communication patterns. When they did exhibit different communication patterns, Indian students reported communication behaviors considered significantly more individualist than the American students. This research suggests that additional cross-cultural research is needed about the usage of SNWs and other forms of computer-mediated communication.*

**INFORMATION TECHNOLOGY AND BUSINESS PROCESS OUTSOURCING TO INDIA:  
IMPLICATIONS AND CHALLENGES**

Kamal Hingorani, Alabama State University, khingorani@alasu.edu

*India has emerged as the 'nerve-centre' for Information Technology – Business Process Outsourcing (IT-BPO) with over two-third of the Fortune 500 and a majority of the Global 2000 firms now sourcing global service delivery from India. The top four Indian IT-BPO companies have attained global stature and now have a combined market capitalization of \$72.67 billion, which dwarfs many of their US-based competitors. The purpose of this paper is to analyze the competitive advantage that Indian IT-BPO companies have over similar U.S. companies. Extensive research was conducted using both public disclosures provided by these companies to the Securities and Exchange Commission and the public data available on the Internet. The challenges faced by the Indian companies have been enumerated and implications for US based companies and our educational system are discussed.*

**OUTSOURCING: DATA SECURITY AND PRIVACY ISSUES IN INDIA**

Nipul Patel, Purdue University North Central, npatel@pnc.edu  
 Susan E. Conners, Purdue University Calumet, conners@calumet.purdue.edu

*The paper discusses security and privacy issues with companies outsourcing IT to India . The questions examined are if India has adequate security measures and does the Indian legal system offer similar privacy and security protections other countries. The measures taken by India and cyber laws in India, the United States, and the United Kingdom are reviewed. The findings discuss the steps India has taken to compete in the global outsourcing market.*





## PROJECT AND CHANGE MANAGEMENT #2

Saturday, October 4

8:30—9:30 a.m.

Franklin

Session Chair: Monica Holmes

### **(AN INVESTIGATION INTO WHETHER) THE AD-HOC NATURE OF PROJECT ENVIRONMENTS INCREASES THE NEED FOR STRONG PROJECT LEADERS**

Lambi C. Hubbard, PMP, Argosy University, lhubbar2@chi.stu.argosy.edu

*Project environments are ad-hoc, unique undertakings that experience more change than operational environments. There is an immediate change to the environment when a project is initiated. A project manager's ultimate task is to successfully change the environment. These managers of change require vital leadership skills to ensure progress and prevent chaos. Therefore, project environments require strong leaders. The overriding concept is that the field of project management needs to place greater emphasis on leadership. Having its roots in the engineering and mathematical sciences, project management tends to emphasize management and prescriptive processes, rather than informing practitioners on how to inspire people to accomplish goals by providing them clear purpose, direction, and motivation.*

### **EFFECT OF MANAGEMENT CHANGE ON R&D/IA AND STOCK RETURN IN IT COMPANIES**

Yun-Chia Yan, University of New Orleans, yunchiayan@gmail.com

Hua-Wei Huang, SUNY College at Old Westbury, hhuang@oldwestbury.edu

Hsiao-Wen Huang, Chang Jung Christian University, victoria@mail.cju.edu.tw

*Compared with others, IT companies could be seen as relatively more rapid innovatively and are defined by intense competition. This study explores whether management change in information technology (IT) companies promotes research and development (R&D) as well as improvements in intangible asset (IA) performance. Our study provides evidence of R&D/IA performance on stock returns for new IT management and reinforces the notion that efficiency improvements occur through the turnover of existing managers.*

### **THE WORLD OF DROP-SHIP ETAILING: EFFECTIVE WAY TO USE E-BAY**

Jack D. Shorter, Texas A&M University-Kingsville, jackshorter@hotmail.com

Karen A. Forcht, North Carolina A&T State University, kaforcht@ncat.edu

Alicia Aldridge, Appalachian State University, alicia@appstate.edu

Susan E. Kruck, James Madison University, kruckse@jmu.edu

*This paper explores the use of the Internet for home-based and small businesses to expand and reach a larger customer base. This process is referred throughout the paper as eTailing. New opportunities are available using this technological method of reaching customers. At the same time, there are some downsides as the face-to-face contact with customers is absent. The logistics, legal issues, and mechanics of using eTailing are discussed throughout the paper.*





## WORK AND TRAINING

Saturday, October 4  
Session Chair: Hyo-Joo Han

8:30—9:30 a.m.

Telfair

### **A STUDY OF WORK AND HOME ENVIRONMENTS AS THEY IMPACT ORGANIZATIONAL BEHAVIOR, WORKER ATTITUDES, COMMUNICATIONS, AND TURNOVER PATTERNS**

Dennis L. Mott, Oklahoma State University, [dennis.mott@okstate.edu](mailto:dennis.mott@okstate.edu)

*The research annals consistently report the impact between work and family constructs. Only a few studies have examined the dimensions of work-family conflict as it impacts the overall quality of work and job continuity. Individuals who view work as a central thrust for their lives exhibit a stronger overall commitment to work demands than do employees who are more inclined to favor family relationships over work.*

### **AN ANALYSIS OF THE DRIVERS OF JOB SATISFACTION FOR INFORMATION SYSTEMS PERSONNEL: A COMPARISON TO OTHER SERVICE PROFESSIONALS**

David S. Taylor, Sam Houston State University, [davidtaylor@shsu.edu](mailto:davidtaylor@shsu.edu)  
Gary Baker, Sam Houston State University, [garybaker@shsu.edu](mailto:garybaker@shsu.edu)  
Gerald Kohers, Sam Houston State University, [mis\\_gk@shsu.edu](mailto:mis_gk@shsu.edu)

*For over 50 years studies of voluntary turnover have focused on the relationship between job satisfaction and the turnover decision. Job satisfaction has been measured either as a global attitude or as the result of a multifaceted system of beliefs. This paper presents the results of a study that compared the relative weights of ten facets of job satisfaction with an overall measure of job satisfaction to determine the differences in attitudes between Information Systems personnel and those of another service oriented profession, teaching. Samples of 135 IS and 228 teachers are compared using PLS Graph structural equation modeling software. The results empirically show the differences in attitude between these two groups.*

### **SYNCHRONIZING KNOWLEDGE IN MILITARY DECISION MAKING: A RESEARCH APPROACH FOR EXPLORING THE EFFECTS OF ORGANIZATIONAL CULTURE**

Larry George, Robert Morris University, [lxgst3@rmu.edu](mailto:lxgst3@rmu.edu)  
Robert Joseph Skovira, Robert Morris University, [skovira@rmu.edu](mailto:skovira@rmu.edu)  
A. J. Grant, Robert Morris University, [granta@rmu.edu](mailto:granta@rmu.edu)  
Ann D. Jabro, Robert Morris University, [jabro@rmu.edu](mailto:jabro@rmu.edu)

*Decision making in such high stress environments as a military operations center requires synchronization of available knowledge and information systems capabilities. Investigating the effects of organizational culture on the military decision making process can be difficult due to limited access to participants and security classification issues. A qualitative approach for exploratory research in this environment based on an information landscape model and textual analysis methods is presented.*





## IT ADOPTION

Saturday, October 4

8:30—9:30 a.m.

Pulaski

Session Chair: Matthew J. Wills

### **IS IT ADOPTION A KEY FOR SUCCESS FOR HISPANIC ENTREPRENEURS? A CASE STUDY**

Isaura B Flores, The University of Texas at Tyler, iflores@uttyler.edu

*This paper examines the role IT adoption plays in Hispanic-owned business success and the impact on the economic development in the area. Small businesses are an integral part of every economy and provide jobs to the area. Two hundred seventy-five (275) small businesses from the East Texas area participated in this research. Surveys were administered to those small businesses that participated in several small business seminars at the University of Texas during a four-year period. These entrepreneurs lacked management skills and capital necessary for success. They faced a number of problems, most of which were of a startup nature. In many cases, Hispanic entrepreneurs didn't have an interest in technology due to lack of training and understanding of IT benefits to their businesses. This study shows how IT adoption helped to increase their profitability, outreach and reduce costs. Also, this paper shows the main barriers Hispanic entrepreneurs face in terms of IT adoption based on their social norms and the Hispanic entrepreneur attitude towards technology in general.*

### **GROWING COMPUTER ADOPTION SUPPORTS INFORMATION SYSTEMS IN NONTRADITIONAL SETTINGS.**

Jean S. Adams, jeanadams@surfmk.com

*Traditional organizations, those with computer based information systems, have seen benefits from the continued adoption and integration of information systems into their business processes. There are still gaps in the research when looking at smaller nontraditional organizations usage of automated information systems. One reason for these gaps is the unique and individual needs of these organizations which make them difficult to study in mass. This paper compares the results of a 2007 study of information systems on Pennsylvania small farms to previous research conducted on the computer based information systems of large farms. The end result will begin to establish trends of adoption of computer based information systems in a nontraditional setting.*

### **A QUALITATIVE STUDY OF CUSTOMER SATISFACTION FROM AN ELECTRONIC COMMERCE PERSPECTIVE**

Laurence Mukankusi, University of North Dakota, laurence.mukankusi@mail.business.und.edu

Fred Celimene, Universite des Antilles et de la Guyane, fred.celimene@martinique.univ-ag.fr

Loucius Michel, Canadian University College, lmicheel@cauc.ca

Assion Lawson-Body, University of North Dakota, assion.lawsonbody@mail.business.und.edu

*The purpose of this study is to continue to fill a gap in the literature by investigating the impact of website-supported customer relationships on customer satisfaction. The study used content analysis to analyze the interview data obtained from a sample of 22 executives and webmasters of eight (8) IT companies in Quebec, Canada to test the hypotheses. The results show that three of the four website-supported customer relationships (partnerships, empowerment, and understanding customer expectations) have a positive impact on customer satisfaction. However, the impact of the website-supported trust on customer satisfaction is negative because the use of website-supported trust does not affect the level of customer satisfaction or dissatisfaction. That means customers may be satisfied with the electronic relationships but they do not necessarily trust the company which used website support to build trust with its customers.*







**CULTURE #2**

Saturday, October 4  
 Session Chair: Isaura B Flores

9:40—10:40 a.m.

Forsyth

**ANALYZING POWER AS INFORMATION IN ORGANIZATIONS:  
 THINKING ABOUT HOW TO DO IT!**

Robert Joseph Skovira, Robert Morris University, skovira@rmu.edu

*Understanding the power dimension of information use is important in developing and implementing information systems. The essay is a description of a research model for conceptualizing the politics of information within organizations. The essay presents a perspective on organizational culture as an information landscape, its dimensionalities, and the political frame of information use. In introducing the political frame of power as information, the paper summarizes a conception of information frames. The politics of information is about the use of information and information resources as sources of power and control within an organization. The political frame of information use consists of several possible domains. These are the technological, the monarchist, the feudalist, the federalist, and the anarchist. The paper presents a view of quantitative and qualitative field research for the purpose of understanding the nature of information governance and control in organizations.*

**TECHNOLOGY AND CULTURE: FIVE ORTHODOXIES**

AJ Grant, Robert Morris University, granta@rmu.edu  
 Robert Joseph Skovira, Robert Morris University, skovira@rmu.edu

*This paper explores contemporary perspectives on the relationship between technological innovation and culture. The paper reviews works that explore the relationship between culture, understood as human groups that exhibit “stable and enduring systems of meanings shared,” and technology, the mechanical and digital extensions of human beings into the physical world for survival and control. In the paper we identify five typical ways that humans have attempted to articulate the relationship between these two complex realities.*

**AN ETHNOGRAPHIC STUDY COMPARING RESTRICTED AND OPEN ENGINEERING LABS  
 FOR INFORMATION CONTROL**

Lee J. Steen, Robert Morris University, ljsst8@rmu.edu  
 Robert J. Skovira, Robert Morris University, skovira@rmu.edu

*Advanced Rocket Research Corporation (ARRC) is an engineering company that specializes in doing research and development for the Pentagon. ARRC has open laboratories for research that any employee can access and work in. ARRC also has restricted or closed laboratories that only employees with cleared access can use. This paper takes an ethnographic study comparing each of the labs. From the study, patterns that appear will be identified and theories will be proposed when applicable. The main theories use Hofstede and Hofstede’s [3] five dimensions of culture, security models, communication with the aid of a system model, and emotional knowledge to explain information control.*







## UNIVERSITY AND INFORMATION SYSTEMS

Saturday, October 4

9:40—10:40 a.m.

Franklin

Session Chair: Dennis L. Mott

### **A CLUSTER ANALYSIS OF CAMPUS PORTAL IMPLEMENTATION**

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Wallace A. Wood, Bryant University, [wwood@bryant.edu](mailto:wwood@bryant.edu)

*This study investigates the status of portal implementation in the academic world. A two-stage cluster analysis was used to divide the sample colleges and universities into three groups (Internal Focus Implementers, External Focus Implementers and Starters) based on the portal features implemented by each school. The differences among the three groups were assessed based on the type of school and their status of portal adoption, implementation and evaluation. The results as well as challenges faced by the colleges and universities will be presented.*

### **INFLUENCING STUDENTS TO JOIN THEIR AITP STUDENT CHAPTER**

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Jessica L. Russ, Appalachian State University, [jr58078@appstate.edu](mailto:jr58078@appstate.edu)

*The Association of Information Technology Professionals (AITP) is a professional organization that offers students, especially those majoring in Computer Information Systems (CIS) and related majors, a number of opportunities and benefits. We have discovered that a majority of CIS majors at our university, as well as other schools, have not joined their local AITP student chapter. To better understand why some students have not joined AITP, we first conducted interviews with CIS majors, both AITP members and non-AITP members, to elicit their perceptions and opinions about AITP. Based upon the findings from the interviews, we then surveyed 105 CIS students at our institution. We tested for significant differences between AITP members and non-AITP members. We used the Theory of Planned Behavior, along with Cognition and Affect constructs, to determine what factors significantly influence students' intentions to join or remain an AITP student member.*

### **ONLINE COLLEGE TEXTBOOK PURCHASING ON U.S. CAMPUS – AN EMPIRICAL STUDY**

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Li Cheng, Georgia College & State University, [chengli725@hotmail.com](mailto:chengli725@hotmail.com)

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*This paper is a part of an ongoing research effort to investigate the current issues and development of online college textbook market, as the Internet has provided more options for college students across the nation in terms of buying and selling their textbooks in recent years. The primary data for this study are collected through a comprehensive website evaluation and testing, and a questionnaire survey from a selected campuses. The objectives of this research are: (1) to investigate the marketing strategy of current online college textbook business in terms of: price, leadtime, availability, and the likes; (2) to identify major issues and challenges for online college textbook websites in promoting online textbook sales; and (3) to examine college students' preference in their textbook buying decision regarding online textbook sale options.*





**SAP/ERP**

Saturday, October 4  
 Session Chair: Nipul Patel

9:40—10:40 a.m.

Telfair

**THE VALUE MAXIMIZATION OF THE INVESTMENTS IN SAP R/3 SYSTEMS**

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 Vigdis Boasson, Central Michigan University, boass1v@cmich.edu  
 Monica Holmes, Central Michigan University, monica.c.holmes@cmich.edu

*Investment in Enterprise Resources Planning (ERP) systems such as SAP R/3 typically requires an organization to commit its resources and manpower on a long-term basis. However, few organizations have a clear idea what the return on investment and market-value-added are on this big-ticket investment item and how to measure the value of their investments. Using a sample of Fortune 1000 SAP user companies from various industries and around the world, we examine from a shareholder’s perspective the market value maximization and risk and return performance of those companies investing in SAP systems across time and space. In addition, we propose a methodology on measuring the value of IT investments using publically available information.*

**SALARY COMPARISON STUDY OF SAP VS. NON-SAP BUSINESS GRADUATES**

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 Amanda Dittmer, Central Michigan University, amanda.dittmer@cmich.edu  
 Katherine Soave, Central Michigan University, katherine.soave@cmich.edu

*SAP is an enterprise resource planning information system (ERP) and is a comprehensive, packaged software integrating a complete range of business processes and functions in order to provide a broad view of business within a single information system. Today, over 850 of the Fortune 1000 run SAP as their ERP system. In 1997 Central Michigan University (CMU) signed an alliance with SAP becoming one of the first universities to begin educating its students about ERP by using the SAP software to support various business courses. CMU has offered more than eighteen different SAP supported business courses in its business curriculum as well as offering the SAP Certification Academy to its business students. This study surveyed CMU’s business graduates on three separate occasions over the past eight years to determine if there was a difference in starting salaries for those who had taken one or more SAP supported classes versus those business graduates who had not taken any SAP classes. The results of the study indicates business graduates with SAP classes received substantially higher starting salaries than business graduates who had not taken any SAP classes. The average starting salary of SAP business graduates was \$4,056 greater than non-SAP business graduates, and for some business majors, the differential was as great as \$9,562.*

**ERP SYSTEMS AND INTERNAL AUDIT**

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 Bruce Koch, Seattle University, kochb@seattleu.edu  
 Robert Tucker, University of Florida, robert.tucker@cba.ufl.edu

*From an internal audit perspective, enterprise systems have created new opportunities and challenges in managing internal as well as external risks. In this work, we report results of a survey that examines internal auditors’ ability to identify and manage operational, financial, technological, compliance and other risks as the organization migrates to an ERP environment. Our findings show that the internal auditors perceive a reduction in financial and operational risk and an increase in technical risks. These effects are somewhat mitigated by their ability to assess and manage these risks. We also find that internal audit departments satisfied their needs for ERP skills not by outsourcing but by providing staff with in-house training.*





**NATIONAL CULTURE AND TECHNOLOGY ACCEPTANCE:  
THE IMPACT OF UNCERTAINTY AVOIDANCE**

Peter W. Cardon, University of South Carolina, pcardon@sc.edu

Bryan A. Marshall, Georgia College & State University, bryan.marshall@gcsu.edu

*This study combined the results from 95 TAM articles to examine the impact of uncertainty avoidance on national culture and technology acceptance. This meta-analysis was based on 342 reviewed TAM articles, of which 95 met the selection criteria of both reported statistics and national culture. Each article was coded for national culture based on the rankings from the works of Hofstede and GLOBE. Overall, hypotheses about uncertainty avoidance practices (UAP) were supported for each correlation. High-level UAP confidence intervals were significantly lower than for the medium-level and low-level UAP groups for each of the TAM construct correlations.*

**EXAMINING HEALTHCARE PROFESSIONALS' ACCEPTANCE OF  
ELECTRONIC MEDICAL RECORDS USING UTAUT**

Matthew J. Wills, Dakota State University

Omar F. El-Gayar, Dakota State University

Dorine Bennett, Dakota State University

*With the growing demand for digital information in health care, the electronic medical record (EMR) represents the foundation of health information technology. It is essential, however, in an industry still largely dominated by paper-based records, that such systems be accepted and used. This research evaluates registered nurses', certified nurse practitioners and physician assistants' acceptance of EMR's as a means to predict, define and enhance use. The research utilizes the Unified Theory of Acceptance and Use of Technology (UTAUT) as the theoretical model, along with the Partial Least Square (PLS) analysis to estimate the variance. Overall, the findings indicate that UTAUT is able to provide a reasonable assessment of health care professionals' acceptance of EMR's with social influence a significant determinant of intention and use.*

**USING THE TASK TECHNOLOGY FIT MODEL AS A DIAGNOSTIC TOOL  
FOR ELECTRONIC MEDICAL RECORDS SYSTEMS EVALUATION**

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*Electronic Medical Records (EMR) systems offer health care organizations numerous potential benefits. However, it can be difficult to ascertain whether users are satisfied with such systems, and if not, where concerns exist. The researchers selected the Task Technology Fit (TTF) model and its associated instrument as a diagnostic tool to evaluate the implementation of the first phase of an EMR at a university hospital. A survey was administered and an analysis of the data found that the EMR system users, both physicians and nurses, were generally very pleased with the EMR implementation, and therefore, it could be deemed a success. Based upon this study the TTF model and its associated instrument appears to be a useful diagnostic tool for evaluating a health care IS implementation.*





**SOCIAL NETWORKS**

Saturday, October 4  
 Session Chair: Jiaqin Yang

11:00 a.m.—12:00 p.m.

Franklin

**E-SOCIAL BEHAVIOR:**

**ARE ACADEMIC CLASS AND IDENTITY THEFT FACTORS?**

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*E-socializing is growing in popularity in the business world. Little research, however, has been conducted to examine the e-social group behavior of the soon-to-be business professionals, the undergraduates. This study, therefore, was conducted to empirically investigate student behavior and perceptions. Results suggest that e-socializing is common among students and varies by academic class. Moreover, there is a disparity between student indication of importance and level of activity. Finally, student worry about identity theft varies by academic class and e-social activity.*

**CORPORATE SOCIAL NETWORKING**

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 Mark Sena, Xavier University, sena@xavier.edu

*Social networking web sites such as Myspace and Facebook have become an extremely popular method of communication, particularly among younger people. Recently organizations have recognized the potential value of using social networking applications within a corporate environment. This study examines the current state of corporate use of social networking by examining existing academic and practitioner literature on this subject and suggests that future research focus on the commonalities and differences between social networking in organizations and the body of research that has focused on group decision support systems and related research areas.*

**SOCIAL PRESENCE, PERSONALITY TYPES,  
 AND IT-SUPPORTED TEACHING METHODS**

Kamal Hingorani, Alabama State University, khingorani@alasu.edu

*The purpose of the study is to examine how students manifest social presence in IT-supported teaching methods. Specifically, the research examined how students’ psychological type, as measured by the Myers-Briggs Type Indicator, affects their perception of social presence in a specific IT-supported teaching method. Findings revealed that extraverts felt a higher perception of social presence than introverts. A similar difference was found on the personality dimension of thinking/feeling. These findings have implications for both educators and students as the world moves towards teaching and learning through increased use of IT-supported teaching methods.*





## INFORMATION SYSTEMS ISSUES

Saturday, October 4

11:00 a.m.—12:00 p.m.

Telfair

Session Chair: Emil Boasson

### **FROM ADOPTION TO ACTION: MAPPING TECHNOLOGY ADOPTION CONSTRUCTS FOR THE SMALL TO MEDIUM ENTERPRISE INNOVATION SUCCESS**

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*This paper proposes an action learning centered interpretation of technology adoption variables as they relate to small and medium enterprises (SMEs). The hypothesis of this proposal is that the psychometric constructs used to predict adoption success can be mapped to four actionable change management categories, thus providing a plan for a successful change. Since this hypothesis does not lend itself at this stage to precise analytical techniques a Delphi technique is proposed using a sample of 25 senior managers from information intensive SMEs. The results will be analyzed to provide a philosophical foundation. The technology adoption constructs chosen for this research are from the eight most widely cited technology adoption theories. The effectiveness of these theories to explain adoption of technology is widely established in prior research.*

### **DIFFERENCES IN GENDER AND LECTURE MODES IN KNOWLEDGE OF COMPUTER CONCEPTS PRIOR TO COMPUTER CLASSES**

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Tom Case, Georgia Southern University, [tcase@georgiasouthern.edu](mailto:tcase@georgiasouthern.edu)

*A computer concepts test was used to assess student computing concepts knowledge levels in traditional face-to-face and online sections of an introductory computing course. This assessment was conducted during the first semester of the course in order to measure the depth and breadth of student knowledge of computing when they first enter the course. More specific objectives of this study were to investigate whether there is a difference in the level of computer concepts knowledge between (1) students enrolled in online classes and students enrolled in traditional face-to-face classes and (2) male and female students. The results of this study indicate that students with higher computer concepts knowledge levels are more likely than students with lower levels of computer concepts to enroll in an online section. This paper provides an overview of the major computer concepts areas on which students were tested and includes summary of the analyses performed to test the investigation's hypotheses.*

### **USING FIELD COCITATION ANALYSIS TO ASSESS RECIPROCAL RELATIONSHIPS AMONG COLLEGE OF BUSINESS SUBDISCIPLINES**

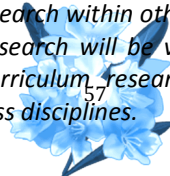
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*This study utilized bibliometric tools and methodologies (namely, field co-citation analysis) in order to analyze the relationship between Information Systems (IS) and College of Business (COB) disciplines. A multidimensional scaling technique was used to plot the major field-defining journals for each of the fields. Results of this research identified the level of integration of Information Systems research within other business fields as well as the overlap of influence across all College of Business disciplines. This research will be valuable to cross-discipline faculty and researchers interested in curriculum redesign and cross-curriculum research. Faculty can identify topics, researchers and publication outlets for collaborative research across disciplines.*







# REFEREED CONFERENCE PROCEEDINGS







## **A CASE STUDY: HUMAN RESOURCES, INFORMATION TECHNOLOGY, AND THE EFFECTS OF IMPLEMENTING A COLLABORATIVE APPROACH TO ENHANCE ACCESS CONTROLS**

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Frederick G Kohun, Robert Morris University, kohun@rmu.edu

*Information security is a growing concern within the financial services industry. Many information security breaches have come at the expense of well known global financial service providers. Despite the growing importance of information security within the financial services industry there appears to be a lack of empirical data on the effects of implementing an integrative approach to network security. This study seeks to investigate whether one financial services organization's decision to implement an integrative approach to network access controls will result in fewer policy violations, thus creating a more effective information security environment.*

**Keywords:** Information security, collaborative approach, and access controls.

### **INTRODUCTION**

The development of Information Technology (IT) in the financial services industry has brought with it a rapid increase in the use of shared network systems and the Internet used to provide a wide array of financial services [1]. As more users are becoming technologically savvy, companies are increasingly relying on their IT systems to provide competitive products and services. This in turn has increased the need of providing secure and stable computing environments for both customers and internal employees. The awareness of information security threats continues to increase as more companies have experienced information security breaches [2].

### **IMPORTANCE OF ACCESS CONTROLS**

Access controls can mitigate information security risk by restricting unauthorized access to classified data. In light of increasing attacks on corporate networks, an organization's ability to implement adequate access controls becomes critical to securing confidential information [3]. The challenge of managing access controls is to balance protecting information and allowing enough access for workers to effectively conduct their job duties [4]. Often, this issue becomes problematic because the department that is requesting access to the information (Business Unit) is not in direct communication with the department (IT) that is responsible for granting and securing the information. Due to its role in hiring, notification, and initial request of network access, the common bridge between the Business Unit and IT departments is often the Human Resources (HR) department.

### **DATA GATHERING AND FINDINGS**

The study reviewed a recent integration of the Human Resources (HR) department into the network access control process controlled by the IT department. The data gathered included archival network access log files and management's procedural changes in efforts to reduce unauthorized access. The conclusion shows that a more integrative approach to implementing network access controls can significantly lower the risk of unauthorized access to confidential corporate resources. A teamwork approach by both departments (HR and IT) has enabled the organization achieve stronger access controls.

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## **A FRAMEWORK FOR THE ASSESSMENT OF DATA MINING PROJECTS: DESIGN SCIENCE PERSPECTIVE**

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Sharne Koung Chung, National Chengchi University, Taiwan, kchou@nccu.edu.tw

*This paper applied the design science perspective to synthesize what was known about business value and guide future research. Assessment of data mining projects is integral to continued funding and development of both future and existing undertakings. Meanwhile, this paper was to propose a framework, which was based on the existent knowledge of data mining projects and design science methodology. The framework can be used as a template for such evaluation by researchers and educator both before, during and after the completion of these projects. Our research examined this three-dimensional framework for the assessment of data mining projects. The three dimensions are design, domain and assessment levels.*

**Keywords:** Data Mining, Health Care, Design Science, Case Study

### **RATIONALE AND OBJECTIVES**

The projects of data mining have received increased prominence and attention over the last few years [1][2][3]. In spite of the current research and application developments, not much was known about the integrations of data mining technology, method and domain interdependence. Hybrid mining [4] underlies a novel design but systems are resisted by stakeholders. It is so important to clarify these complex relations that can decrease the nature of obstacle in the application. The objective of this paper was to propose a framework, which was based on the existent knowledge of data mining projects and design science methodology [5]. In the mean time, this study integrated the domain knowledge in healthcare management to identify the structure, data process and validity problems to validate the framework.

### **METHOD**

After the literature review, our research reviewed and analyzed the data mining masters' theses which collected from healthcare domain by context. Then a case study and interviewing with different stakeholders was used.

### **RESULTS**

The research found that most errors or problems of mining had happened in the data cleaning and assessment stages, both related with the domain issues. Learning of the healthcare data process was very time consuming because the disciplinary is more easy misunderstanding for the students or the researchers. Besides, the validity of mining is also struggle in the structure issues as they made mistakes in choosing variables among the three healthcare stages. Hybrid method is useful to solve the research or application issues, but hard to persuade the traditional users who relied on the cause-result.

### **CONCLUSIONS**

The framework for the assessment of data mining projects can be used as a template by researchers and educator. The paper also explained and demonstrated how to improve the data mining projects under the influence of the framework. This three-dimensional framework was composed of design, domain and assessment levels. According to it, the design process should synchronize with the others or unable to implement in the real world.

### **REFERENCES**

Available upon request.





## A STUDY OF FXDB SYSTEM DESIGN TECHNIQUES FOR SEMANTIC INFORMATION RETRIEVAL

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*With rapid increase of web users and contents, intelligent information system and web service including semantic web to provide semantic information is getting more important. In this paper, we propose FXDB(Fuzzy Xml DataBase) system design techniques for semantic information retrieval and suggest the method to generate semantic information and give them to users in real time through the web. In this paper, we apply XML and fuzzy techniques so that we can interpret metadata in databases semantically and automatically. If it is possible, we can enable XML-based web services for that. Thus this paper can make a contribution to automate interpretation of metadata more and enhance this interpretation to be more intelligent. Web users also can make a faster decision with more abundant semantic information and semantic web searching will be possible.*

**Keywords:** Semantic Information, Fuzzy Xml DataBase, Metadata, Semantic Web Service.

### INTRODUCTION

XML is used as a most basic markup language for semantic web and is foundation of newer semantic web technology such as RDF or RSS. As we see, web is in rapid change. This new trend of the web is often referred as Web 2.0. For Web 2.0, it is important to represent and provide information in more semantic manner. Diverse ideas for doing so are widely and lively researched in various fields. The web stops being just for use in a business environment. The web should be something that public users can easily understand. "Information to search" is no longer enough. Information should be "semantic information." Internet Blog, RSS, and Ajax are typical examples. Users use these media actively and aggressively.

### THE ARCHITECTURE OF THE FXDB SYSTEM

The FXDB system is for semantic web services and semantic information retrieval. FXDB saves and manages XML documents and the dictionary of fuzzy data. It also includes the module for automatic generation of fuzzy data. This module is along with the triggers. Since FXDB extracts metadata needed from XML documents directly, it can generate semantic information in real time.

### THE METHODOLOGY OF AUTOMATIC GENERATION OF SEMANTIC INFORMATION

This paper introduces a certain methodology enabling automatic generation of semantic information from extracted numerical data. According to this methodology, we should extract metadata from XML documents, store it in database, and generate fuzzy data automatically. The fuzzy data generated should be stored in the dictionary of fuzzy data. Information in fuzzy dictionary can be served in the form of XML documents. The module generating semantic information also generates saving procedures and stores these procedures in database. These procedures make semantic information by using fuzzy data. If there were any insertion of new metadata, these procedures are invoked by a trigger and generate semantic information and new fuzzy data.

### IMPLEMENTATION AND EXPERIMENT

We show the results of the experiment, which has been enabled by implementation of semantic web service system based on the FXDB system design. The proposed system can use XML documents containing information of products under real web environment.

### REFERENCES

Available upon request.





## **A STUDY OF WORK AND HOME ENVIRONMENTS AS THEY IMPACT ORGANIZATIONAL BEHAVIOR, WORKER ATTITUDES, COMMUNICATIONS, AND TURNOVER PATTERNS**

Dennis L. Mott, Oklahoma State University, dennis.mott@okstate.edu

*The research annals consistently report the impact between work and family constructs. Only a few studies have examined the dimensions of work-family conflict as it impacts the overall quality of work and job continuity. Individuals who view work as a central thrust for their lives exhibit a stronger overall commitment to work demands than do employees who are more inclined to favor family relationships over work.*

**Keywords:** Attitudes, work-family centrality; work-family conflict, organizational retention

### **INTRODUCTION**

Personal values are resilient and are subject to the conflicting aspects of rapid change that occurs on a continuous and accelerated basis. Individuals possess varying dimensions of these personal values that become more important during an evaluation of acceptable work-family centrality.

### **WORK-FAMILY CENTRALITY—AN ANALYSIS**

Individuals who consider family relationships more central to life and living are likely to consider work and professional demands as contrary to overall personal happiness. The generational mix of professional workers reflects attitudinal differences as they apply to the acceptance of work demands and professional commitment.

Supervisors and managers who are able to properly assess the dimensions of the work-family construct will more clearly recognize the differences in basic employee orientation. This will assist them in recognizing, understanding, and reacting to the conflicting impact of work and home environments. The degree of success that supervisors and managers experience will manifest itself in improved organizational attitudes and less turnover.

### **REFERENCES**

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## **AN ANALYSIS OF THE DRIVERS OF JOB SATISFACTION FOR INFORMATION SYSTEMS PERSONNEL: A COMPARISON TO OTHER SERVICE PROFESSIONALS**

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Gary Baker, Sam Houston State University, garybaker@shsu.edu

Gerald Kohers, Sam Houston State University, mis\_gk@shsu.edu

*For over 50 years studies of voluntary turnover have focused on the relationship between job satisfaction and the turnover decision. Job satisfaction has been measured either as a global attitude or as the result of a multifaceted system of beliefs. This paper presents the results of a study that compared the relative weights of ten facets of job satisfaction with an overall measure of job satisfaction to determine the differences in attitudes between Information Systems personnel and those of another service oriented profession, teaching. Samples of 135 IS and 228 teachers are compared using PLS Graph structural equation modeling software. The results empirically show the differences in attitude between these two groups.*

**Keywords:** job satisfaction, structural equation modeling, PLS Graph

### **INTRODUCTION**

Employee turnover is one of the most studied topics over the last 50 years. Academic research has been from two directions. “Push” theories focused on work-related perceptions and job attitudes and “pull” theories focused on job alternatives. IS research has followed traditional models while highlighting differences in personal characteristics.

### **SIGNIFICANCE OF TOPIC**

There is always a need to avoid “dysfunctional turnover” (loss of employees that you can least afford to lose). Additionally the replacement costs of IS personnel average \$35,000. When an employee leaves the organization there is a loss of investment in training, interruption to the projects the person is working on, teambuilding is disrupted, knowledge and skills leave with the person, and even a loss of customers that are loyal to departing employees. Understanding the departure motivations for IS personnel can provide the basis for building loyalty and retention.

### **JOB SATISFACTION**

Most studies of voluntary turnover relate job satisfaction with the quitting decision. Job satisfaction is measured either with an overall global measure of satisfaction or is decomposed into facets (usually 5 to 10) to increase explanatory power. In this study the authors generated a list of 98 items from the literature, employee satisfaction surveys and interviews with employers. The list was narrowed down to 10 categories after conducting a number of focus groups with IS personnel.

### **THE STUDY**

Questionnaires were administered to a sample of IS personnel and a sample of classroom teachers. The study results reflect the weight of each facet of satisfaction as a determinant of overall satisfaction and also the strong differences in personal characteristics between the two groups.

### **REFERENCES**

Available upon request.





# Refereed Proceedings

## **ADDING AUDIO TO A MICROCOMPUTER APPLICATIONS CLASS TO IMPROVE STUDENT LEARNING**

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Carolyn Anderson, Winston-Salem State University, andersonc@wssu.edu

*Universities should become more directly engaged with and connected to the local, regional, state, national, and world clientele. Students should be educated to be personally and professionally successful in the 21st century and, in doing so, they will enhance their global competitiveness through the use of on-demand learning opportunities.*

**Keywords:** Audio, on-demand learning, and podcasts

### **INTRODUCTION**

Students matriculate through college and graduate to commence a career in their chosen endeavors. Business students usually complete four years of liberal arts education where they are proficient in hard skills (math, English, social studies, technology and science) and soft skills (communication, critical thinking, problem solving). In the corporate world, students become employees where they are expected to make the transition from college to work. Corporate America has used seminars for training its new employees with the new expectations. Today many of the same companies are using webinars and other forms of on-demand training around the globe [4]. In academia similar concepts are being successfully used in a Microcomputer Applications course. Data are gathered to make and share comparisons of the past pedagogies and relating them to current students in today's universities.

### **IMPORTANCE OF AUDIO**

Corporate America [3] and universities are preparing employees and students to be a part of a mobile workforce. Many are offering on-demand training [2], on-line courses, distance education and many more off-site options. However, on-site education is also changing. As a result, professors/facilitators are developing materials so that they can be delivered on mobile technologies in and out of the classroom. Audio on-demand reviews of key concepts help prepare students for the next lecture and aid in reading assignments.

### **METHODOLOGY**

Our university has installed smart boards for professors/facilitators in several of its classrooms and more are expected soon. These classrooms also provide access to DVD players and sound systems, allowing professors to project images and information as well as videos. Students bring headsets, mp3 players, iPods [1] all of which may be combined to provide interesting learning devices.

By incorporating technology in the classroom that is in demand today, it gives the students an opportunity to use familiar resources out of class. Students prepare podcasts which are uploaded and then critiqued, thus improving oral communications. Audio notes are provided that may be downloaded to mp3 players to enhance out of class activities. Videos are used to provide real world training that simulate on the job webinars.

### **SUMMARY**

Students are more engaged when using every day devices in class. More student engagement leads to better student learning. The use of audio and video should not be limited to just computer courses. Industry has found that seeing and hearing improves training. The same can be said for learning and on-demand instruction is the most efficient method in today's mobile world.

Available upon request.

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# Refereed Proceedings



## **AUTOMATED DERIVATION OF LESSONS LEARNED BY MACHINE REASONING ABOUT MILITARY STORIES**

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*The Military Analogical Reasoning System (MARS) is a prototype performance support system and decision aid for commanders in Tactical Operations Centers. MARS enhances and supports the innate human ability for using stories to reason about tactical goals, plans, situations, and outcomes.*

**Keywords:** performance support, decision support, automated reasoning, analogical reasoning, tactical stories

### **INTRODUCTION**

MARS operates by comparing many instances of stored tactical stories, determining which include analogous situations and thus lessons learned, and then returning a description of the relevant lessons learned. The returned description of the lessons learned is at a level of abstraction that can be generalized to a range of tactical situations. The machine-understandable story representation is based on a military operations data model and associated tactical situation ontology. Thus each story can be thought of, and reasoned about, as an instance of an unfolding tactical situation.

### **BACKGROUND**

Analogical reasoning appears to be a cognitively easy task for human beings, yet is known to be very difficult to automate, or to accomplish in software. We have worked towards enabling two kinds of automated analogical reasoning. In the first kind, we would like to be able to compare two stories (two structured representations, which we refer to, following Gentner and Forbus (1), as base and target). We seek to answer the question “What does this story tell me about that one?” We refer to this as simple story comparison. It is simple in that it compares only two stories, both stored rather than live. In the second kind of automated analogical reasoning, we search through a (potentially large) corpus of stories and answer the questions “Which among these many stories can tell me something useful about this unfolding target story?” and then “What do these few selected base stories tell me about this unfolding target story?” We refer to these two examples of the second kind of automated reasoning as story selection and advanced story comparison. Advanced story comparison differs from simple story comparison in that it compares multiple stories, and the target story is live and unfolding rather than stored. We consider both kinds of reasoning analogical, and we accomplish them by drawing analogies from structured, formal representations of stories.

### **APPROACH**

Our analogical reasoning algorithm is based on Gentner's (2) Structure Mapping Theory. Consider the following two stories. In the first, a U.S. platoon in Viet Nam diverts around a minefield and subsequently comes under ambush from a large hill overlooking their new position. In the second, a U.S. task force in Iraq diverts around a biochemical hazard and subsequently comes under ambush from the roof of an abandoned building. MARS recognizes these stories as analogical, and derives the following abstraction: When enemy-placed obstacles force us into an unplanned route, beware of ambush from elevation or concealment. In this paper we describe the MARS interface, military operations data model, tactical situation ontology, and analogical reasoning algorithm.

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## **BUILDING INTELLIGENT HIGHWAY SYSTEMS WITH EMERGING WIRELESS COMMUNICATION TECHNOLOGIES**

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*The intelligent highway systems use a range of advanced technologies to enhance mobility and traffic handling capacity, to improve the driving conditions and reduce the adverse environmental effect, and eventually to automate the existing surface transportation systems. With emerging wireless communication technologies, the process towards such intelligent highway systems can be accelerated.*

**Keywords:** Intelligent highway systems, emerging wireless technologies.

### **INTRODUCTION**

Intelligent highway systems, also called intelligent vehicle highway systems or intelligent transport systems, like automobile or aircraft industries, represent a country's level of technological advances, integrations and applications. These intelligent highway systems are defined as a collective approach to enhance mobility and traffic handling capacity, and to improve the driving conditions and reduce the adverse environmental effect, and eventually automating the existing surface transportation systems, through the application of a range of advanced technologies (Kamali, 1996). An intelligent highway system may consist of the following five subsystems: 1) An advanced traffic management system; 2) an advanced traveler information system; 3) A commercial or fleet vehicle operations support system; 4) Advanced vehicle control system; and 5) An advanced public mass transportation system.

### **THE STATUS QUO**

Over the last 10 years, due to advances in computing and communication technologies, we have seen the applications of many advanced technologies in each of these five subsystems of an intelligent highway system. For example, vehicle location and tracking systems, GPS to support for average drivers, ABS and Stability Control System for better vehicle controls. Moreover, it has been commonly recognized that communications systems are essentials to modern intelligent highway systems (Lin, 2005). This study will focus on the first subsystem, i.e. the advanced traffic management system, and discuss about the applications of currently emerging wireless communications to support traffic management for modern highway systems.

### **THE EMERGING WIRELESS TECHNOLOGIES AND APPLICATIONS**

Among the emerging wireless communications technologies, the WiMAX (IEEE802.16d and IEEE802.16e) technologies and the WiFi mesh technologies will be focused.

The fixed WiMAX and mobile WiMAX technologies, which have the advantages of larger coverage range, high data transmission rate and TCP/IP support, are believed to be able to support highway pure IP traffic video monitoring over long distances, as illustrated in the picture below. On the other hand, the emerging IEEE802.11s technologies support the creation of a cheaper wireless network with less expensive WiFi access points and more powerful antenna technologies. This paper will study and compare these two emerging wireless technologies and their potential applications in modern intelligent highway traffic monitoring and management. In addition, an intelligent highway traffic monitoring and management system based on these two types of wireless communication technologies will also be proposed.

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# Refereed Proceedings



## COMPUTER LITERACY IN THE COLLEGE OF BUSINESS CURRICULUM

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*This study looks at some of the ways in which computer literacy is being addressed by College of Businesses in the U.S. With the ever increasing use of computers in K-12, and the presumed increase in computer literacy of incoming freshman, are colleges adjusting the way they look at computer literacy? Before any consideration is made on if a person is computer literate, there needs to be an agreed upon definition of how that particular group is defining computer literacy. Interviews are conducted in order to obtain individual faculty's perceptions of computer literacy and what their college is doing in regards to computer literacy. Student surveys are also taken in order to measure their perceived level of computer literacy.*

**Keywords:** computer literacy, undergraduate curriculum

### INTRODUCTION

The importance of today's college graduate, specifically college of business graduates, being computer literate is well documented.<sup>1</sup> Graduates are better able to compete in today's market place if they are computer literate. This raises the question as to what is meant by computer literacy. Our definition is most likely different from others. Definitions have ranged from someone who is able to browse the Internet and send email, to someone who understands the inner workings of the computer and is familiar with a computer programming language. Bill Stewart discusses problems with many definitions that are currently in use.<sup>2</sup> The definition of "computer literacy" has evolved. Even today, there is not an agreed upon definition of computer literacy. Definitions often times are "group" specific. What is computer literacy for a particular major (i.e., someone in education, the sciences, or in business)? Before someone can determine computer literacy, a particular definition needs to be stated.

Many undergraduate programs are dropping the number of hours required for graduation to 120 hours. In order to drop to 120 hours the computer literacy course, common in many undergraduate course requirements, is being considered. One of the options that colleges are following is to give the student a computer literacy exam to test out of the course. These tests, like the definition of computer literacy, range from knowing how to format to actual problem solving. What is best for today's student?<sup>3</sup> The Association to Advance Collegiate Schools of Business (AACSB) does not require a specific computer literacy course in the curriculum. The use of information technology is included as one of the required learning experiences in the degree program.

The purpose of this study is to investigate what various colleges of businesses are doing with regards to computer literacy. How are they defining computer literacy? Do they have a required computer literacy course? If so, how rigorous is the course? If not, how are they meeting the information technology requirement of AACSB? Is computer literacy and critical thinking/problem solving tied together? What is the difference between "knowing that" and "knowing how?" Information will be gathered by conducting interviews and sending out surveys to numerous AACSB accredited college of businesses.

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## **COMPUTER SECURITY RISK FACTORS AND READINESS: THE NIGERIAN STUDENTS' PERSPECTIVE**

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*Insecurity of computers is driven by viruses and illicit intrusions into computer systems. In 2007 companies lost more than \$14 million dollars in court costs and loss of productivity for each breach occurrence [1]. This paper explores the preparedness of Nigerian university students about their knowledge of and importance of information security risk factors.*

**Keywords:** Information security, Computer risk factors, Nigerian university students, NIDTA.

### **INTRODUCTION**

Computer information security is of paramount importance to establishments because of incessant loss of dollars and man-hours due to disruptions arising from computer breaches. A breach of computer security may be intentional or unintentional and may come from internal [2] or external sources to the establishment. Students are the next group of professional who will be employed in corporations [3] across the country and it is proper to determine how savvy and ready they are to embrace issues affecting information security. This study will also provide insight into the preparedness instructors give students before letting them loose on the corporate world.

### **PURPOSE OF THE STUDY AND METHODOLOGY**

The purpose of this study is to determine computer information risk factors and security readiness of Nigerian university students. A 5-point Likert type questionnaire was used to solicit information from Nigerian students who regularly use computers at work, home or on campus. Some of the security issues explored were: familiarity with and purpose of sophisticated password creation and use, the necessity of changing passwords often, daily system scan, email attachment scan, use of firewalls, use of anti-virus software, use of biometric technology, placing password on email attachments, etc.

### **FINDINGS**

A large percentage (70.9%) and 4.9% of respondents are familiar with "the use of simple passwords" and the "use of sophisticated passwords" respectively to protect computer systems. The percentage of respondents familiar with "placement of passwords on email attachments" before sending is only 13.4% while about 1% is familiar with "functions of multifaceted authentication systems".

### **CONCLUSION**

The Nigerian Federal Executive Council approved a National Information Technology Development Agency (NITDA) in 2001 [4] to bring information technology closer to the people by ensuring that "the entire citizenry is empowered with information technologies through the development of a critical mass of IT proficient and globally competitive manpower." The foregoing statement therefore makes this study necessary in order to ensure that Nigerian university students understand the ramifications of IT security and risk factors associated with computer usage in the modern era. As findings indicate, Nigerian university students need to expand their knowledge and sophistication of computer information security and safety to be competitive in the global economy.

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## DECISION SUPPORT SYSTEMS IN HIGHWAY TRAFFIC CONTROL

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*Traffic congestion occurs due to a temporary interruption, such as a traffic accident, work zone for repairs, poor weather, or other confirmed traffic systems that happen every day. This paper presents a Decision Support System applied in traffic management to avoid or minimize the traffic congestion. A program for the traffic control decision support system was made using the Java programming language, and an example case was tested to show the decision procedure.*

**Keywords:** Decision Support Systems, Traffic Management, User Interface, Shortest Path, Decision Algorithm

### INTRODUCTION

A well developed decision support system (DSS) has characteristics such as ease of use, flexibility, accuracy. Since the condition of traffic is changed so quickly, the DSS applied in traffic management should have these characteristics. A computer program satisfying the characteristics was developed and tested. The program is based on the Dijkstra's algorithm. This paper explains the background of the program and the step by step procedure showing how the program works.

### SHORTEST PATH ALGORITHM

There are many algorithms to find a route from one spot to another. However, the Dijkstra algorithm is known as the best technique for finding the shortest paths from a point to many other destinations. Since the traffic control system also has a similar structure, the Dijkstra algorithm is used in the program.

### DECISION PROCEDURE IN TRAFFIC MANAGEMENT

#### Test Problem

The following diagram is an example to demonstrate the user interface, input, and the output for the traffic management decision support system. This test case has 7 nodes including the starting point (source, O) and the ending point (destination or termination, T). The characters, A, B, C, D and E, are the intermediate nodes. The numbers shown on the line connecting each node are the traveling time between the nodes. The objective of this problem is to find the shortest route from the source node (O) to other nodes (A, B, C, D, E and T).

### USER INTERFACE AND INPUTS

The authors will present the interface at the conference. First the user enters the number of nodes to create a table. The user enter the values selecting start node and end node and enter weights for the nodes. The user may search the route by selecting specific start and end nodes, changing the entry for start node and end node. By default, the program shows all shortest routes from source (O) to any other nodes.

### OUTPUTS

The output section demonstrates the starting point, ending point, the value (traveling time) of the shortest path, and the path. If the user wants to change the value on a path due to the traffic congestion, the user can select start and end nodes and enter a new value on the weight text box on the second section. After entering the new value, the user clicks the search route button to get the updated result.





## DISTANCE LEARNING: SOME ADVANTAGES AND DISADVANTAGES

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*Universities are now offering on-line degrees at all levels. In online courses, not only does the educational process happen by means of a computer system, generally over the Internet, but instructions occur through the computer as well. This paper discusses the advantages and disadvantages of online learning. Online learning has the ability to provide virtual learning environment (VLE). The author hopes that this paper provides valuable insights disclosing the concepts of advantages and disadvantages of on-line learning.*

**Keywords:** On-line learning, Information Technology, Distance Learning, Advantages, Disadvantages

### INTRODUCTION

Online distance learning has attained acceptance in many work environments. The future of e-learning looks promising, but it may not be a solution for all organizations. Distance learning, often used interchangeably as online learning, web-based learning, computer-based learning, or, and E-learning. Distance education was known as far back as the mid-19<sup>th</sup> century- when it was referred to as “correspondence courses” [1]. It is obvious that there are advantages and disadvantages to online education.

### ADVANTAGES AND DISADVANTAGES

Factors	Advantages	Factors	Disadvantages
Location free	X	No face to face interaction	X
Lower cost	X	Complex concepts	X
Additional university income	X	Feedback issues	X
Bring disparate students	X	Interruption	X
Bad weather	X	Computer Fail	X
Latest information technology	X		
Force interaction	X		
Any time take break	X		

Table-1: Advantages and Disadvantages

### CONCLUSIONS

Online learning permits educators and students to exchange ideas and information, work together on projects, around the clock, from anywhere in the world [2]. The online learning environment is just another learning environment, in some ways similar and in some ways different than traditional classrooms. As we develop the environment, we adjust our teaching methods. This is true for online learning. The real question how far can we go with online learning? Would you go to a physician that received an online MD degree? Would you employ a computer programmer that received online degree? Would you go to school that the professors/teacher have received on-line degree? From the authors’ point of view, there is no doubt that we should use online learning in higher education. The question is how many courses within an undergraduate/graduate program?

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## DIVERSITY AND ITS IMPACT ON GROUPS

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*This paper studies diversity in the context of groups that work together and their effect on group performance. Specifically, the paper addresses the question whether diverse groups tend to perform better than non-diverse groups. An experiment was conducted and the results are reported. We found weak support that diverse group perform better than non diverse groups.*

**Keywords:** Diversity, Group decision making

### INTRODUCTION

Diversity is defined as differences among various factors like ethnicity, gender, culture, sexuality and anything that makes two entities different and creates a heterogeneous environment. Diversity, typically, has been desired by universities, professional societies and international organizations to bring balance to work place, campuses and organizations. It has been rooted in human resource department that attempt to comply with government, social and ethical norms. Diversity is also becoming a norm for the organizations as they outsource work creating heterogeneous working environment. Diversity has tremendous potential for outsourcing as organization can tap expertise of diverse workforce at lower costs and spend their time on mission critical applications. A team may consist of members from many different continents. It is necessary to study group interaction among diverse groups. This research is an attempt in that direction.

### EXPERIMENT

The study was conducted an urban public university in the Mid-Atlantic area. The university is an upper-division university and has a non-traditional, commuter student population. Like any urban university, the university has diverse student population. A study was conducted to assess group's outcome in an online course in the graduate program. For group assignments, class was divided in a group of 4 or 5 students. Students were divided based on their past experience and familiarity with the subject matter to provide parity among groups. There were seven groups in the course. A case study was used to study the impact of diversity on groups.

### PRELIMINARY RESULTS & LIMITATIONS

SPSS was used to analyze results. The study provides weak support to existing literature that diverse groups perform better than non-diverse groups. However results must be interpreted with caution due to the small sample size and one time experiment. This study needs to be replicated over time across different classes and group sizes.

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## **EVALUATION OF DATA QUALITY IN PRACTICE: A LARGE-SIZED UNIVERSITY AND A MULTINATIONAL MANUFACTURER CASE STUDY**

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*It is critical for organizations to manage data quality (DQ) in their systems regardless of different industries. This paper presents results, practical insights, and lessons learned from two case studies. Both survey and interview methods are used in this study. The paper describes two case studies and shows how requirements necessary to maintain DQ were collected, quality metrics were defined, and human behavior affects the degree of the DQ, as well as what the well-developed software makes DQ stable. This paper proposes a DQ measurement accessible for any organizations.*

**Keywords:** Data Quality (DQ), Quality Control, Quality Evaluation, Information Products,

### **INTRODUCTION**

The focus of managing DQ is changing from system to information control. To control DQ, the supreme strategy is to manage the data itself. Poor quality data could have severe impact to organizations. These impacts can result in from purely inconvenient operation, to misleading decision-making, which may sequentially cause competition advantage decrease and even business operation disorder [1, 2]. Although the awareness of poor DQ has grown over the past two decades, the control over DQ has not yet been achieved in many enterprises. Findings of a survey to 650 organizations reveals 75% of investigated organizations had no strategies to improve DQ; 56% of organizations did not apply DQ assessment to improve DQ; and 39% of organizations did not standardize data in systems [3].

### **PURPOSE OF THE STUDY**

This paper describes two case studies in DQ assessment. The purpose of this research is to evaluate DQ of the systems selected from two organizations: a large-sized university and a multi-national manufacturer. The objectives for the organizations selected are to investigate their DQ control problems, management strategies, and overall satisfaction. In addition, the study attempts to compare the similarities and differences of DQ control between these two organizations. Then, this study also attempts to explore the potential factors that impact on DQ in practice and the methods how organizations evaluate DQ.

### **METHODOLOGY**

Survey and interview methods were used in this study. The instruments were developed based on the DQ literature. The questionnaires were used to receive the overall DQ problems and the overall satisfaction with the system. Then, based on the problems that were mentioned in questionnaires by participants, follow-up interviews were conducted. Participants were selected from different levels of staff in and cross different sections.

### **FINDINGS**

Case study findings from this research show there is a close relationship between human factors, systems/DQ expectations, and overall satisfactions. Some DQ dimensions are affected by human expectation, the biggest factor in this study. When the expectation increases, the DQ degree will relatively decrease. Also, such dimensions as Accessibility, Believability, and Timeliness are more stable regardless of DQ degree. It is acceptable for both cases that a new system has more DQ problems in the early implementation, but there should be continuous improvement efforts. Human related factors need to be taken into consideration when managing new systems implementation and DQ controls.

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## IS IT ADOPTION A KEY FOR SUCCESS FOR HISPANIC ENTREPRENEURS? A CASE STUDY

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*This paper examines the role IT adoption plays in Hispanic owned business success and the impact on the economic development in the area. Small businesses are an integral part of every economy and provide jobs to the area. Two hundred seventy-five (275) small businesses from the East Texas area participated in this research. Surveys were administered to those small businesses that participated in several small business seminars at the University of Texas during a four-year period. These entrepreneurs lacked management skills and capital necessary for success. They faced a number of problems, most of which were of a startup nature. In many cases, Hispanic entrepreneurs didn't have an interest in technology due to lack of training and understanding of IT benefits to their businesses. This study shows how IT adoption helped to increase their profitability, outreach and reduce costs. Also, this paper shows the main barriers Hispanic entrepreneurs face in terms of IT adoption based on their social norms and the Hispanic entrepreneur attitude towards technology, in general.*

**Keywords:** IT Adoption, Entrepreneurship, Hispanic, Small Business, IT Training

### INTRODUCTION

There is an increased interest in entrepreneurship by institutions of higher education. A variety of programs have been developed in order to provide information and assistance to the small businesses. In general, according to Ren (1999) assistance programs to small businesses have not only generated benefits for its owners, but also they may generate secondary benefits to the economy in the area. However, research has shown that small businesses, especially those owned by minorities, may lack the experience and skills for success. The Hispanic population has had an economic significance for understanding the expansion and growth of ethnic-owned and operated businesses, not only because they increase the demand for ethnic goods, but because Hispanic entrepreneurs have proven to be highly industrious in finding alternative ways of earning a livelihood, including informal self-employment. (Raijman & Tienda, 2004; Light & Gold, 2000). Among many barriers for success, a technology adoption barrier is also present in Hispanic-Owned businesses. Differences in business operations, cultural values and technology are embedded in those operations, affecting their profitability (Dean, Feldman & Koberg, 1991).

### METHOD

A telephone survey was determined to be the most reliable data. Two hundreds and seventy (275) small businesses participated in the survey, starting October 2007. The survey was carefully developed, tested and translated into Spanish. The questionnaire included questions related to: Type of business, size, training or seminar attended, before and after questions related to technology adoption, and personal demographics. The sample size was 87 out of 275, representing a 32% response rate.

### DISCUSSION

This study shows several factors most Hispanic small businesses, centers and higher education institutions are interested in addressing.

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# Refereed Proceedings

## **MODELING AND SIMULATION EDUCATION - DO WE REALLY NEED IT?**

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*This contribution discusses the underlying philosophy of simulation education; the skills needed by the user to simulate. Authors put forward the view that simulation is more of an art than a science and that this viewpoint has major consequences for its pedagogy and conclude that modeling and simulation should be educated in order to improve students' thinking and learning processes.*

**Keywords:** Simulation, Mathematical Modeling, Thinking, Problem Solving, Simulation Education

### **INTRODUCTION**

The growth of simulation applications in industry, government and especially in the military led to a growing demand for simulation professionals. Academic programs were introduced and standardization efforts undertaken, moreover new organizations have been established to maintain different aspects of simulation. Europe follows these trends with a short delay and this fact calls for action and international efforts to introduce changes based on the Bologna principles [1].

### **CURRENT EDUCATION OF MODELING AND SIMULATION**

A brief survey of some important simulation methodologies and software tools are discussed from the point of view of the current market demand. Simulation can be seen as a three-step process of building a model of a system, computing/evaluating the model on a digital computer, and transferring the model solution back to the system under investigation. Analyzing the three-step process of simulation, we conclude that in different phases of modeling and simulation, different scientific or artistic characteristics are predominant. Authors view that simulation is more of an art than a science and therefore, modeling and simulation should be educated to improve students' thinking and learning processes [2].

### **FUTURE NEEDS AND POSSIBLE SOLUTIONS**

We provide a modeling and simulation program for "simulationist" professionals [3], [4] and some suggested curricula solutions for business and engineering/science programs. Finally, quality assurance and international credit transfer issues will be addressed.

### **SAMPLE CURRICULA**

Two detailed examples of business and science curricula will be presented to demonstrate the principles discussed above. Experiences collected over the years and changes and impact of them will also be briefly addressed.

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# »» Refereed Proceedings



## **NEW SPACES FOR TEACHING AND LEARNING: THE VIRTUAL CAMPUS OR COME GET YOUR SECOND LIFE!**

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SL is an online virtual world. Users download the SL program to their computer, then log in and create an avatar – a unique character that represents them in the virtual world. Avatars can travel through the virtual world of SL, interacting with each other and with objects in world. Although SL shares some characteristics with Massively Multiplayer Online Role Playing Games (MMORPGs), SL is not a game. Once a user is in SL, there is no task to complete, no “quest” to perform. Instead, users are free to travel, to interact, and to explore the virtual world. SL is probably best thought of as a space for social interaction of all kinds, rather than a game.

One obvious application of SL is its use in online teaching. Students and faculty can create avatars and meet, interact, and collaborate on projects in SL. Of course, there are currently available technologies that enable online interaction in real time. However, virtual worlds like SL add an extra dimension to that interaction by giving users a sense of “presence”, of being in a (virtual) place with others who are also there, in the same space at the same time. This can increase the sense of engagement and allow for richer interactions among faculty and students. Many universities (e.g., Princeton, MIT, Harvard, Ohio University, Bowling Green) host virtual campuses where students, faculty, alumni, and prospective students meet and interact from locations around the globe.

In addition, within SL, users can create objects, build structures, and shape the environment in order to create their own unique worlds. Many universities and other institutions are already taking advantage of the opportunities in this virtual world to create learning spaces and opportunities that extend the physical boundaries of the classroom. SL is home to virtual art museums, clinics, theatres, and planetariums, all created by the “residents” of SL. In SL, it is possible to explore a replica of the Sistine Chapel or Frank Lloyd Wright’s “Fallingwater” house. At NASA’s site, users can visit a model of the lunar surface. The NOAA island hosts a virtual Science on a Sphere. Numerous international sites host users from around the globe.

In addition to its educational applications, SL is also currently used by many businesses. Companies such as Nike and Dell have virtual stores in SL where avatars can purchase products. Still others, such as IBM, use SL as a meeting space to facilitate collaboration among their employees worldwide.

This Second Life demonstration will illustrate how to get your Second Life avatar and communicate, move (teleport), create landmarks, manage friends, join groups and modify your appearance.





## **PRACTITIONERS AS CHAMPIONS OF IS-ENABLED CHANGE IN THE HEALTH CARE INDUSTRY**

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*Currently, most medical information systems (IS) rely on a complex integration of database, internet and communications technologies. To achieve the expected benefits of critical system initiatives health care organizations may employ a systems thinking approach. A key concern is to ensure that end user practitioners, who champion both the technology and ensuing changes, integrate IS strategy with business strategy. Multiple case studies were conducted with health care providers who work in the New York Metropolitan area and who are involved in the implementation of medical IS. Based on case study data the factors that influence the routinization of IS in their daily tasks are identified. A proposed model that incorporates a feedback loop captures the dynamic nature of these factors. This enables management to analyze health care organizations that change over time.*

**Keywords:** IS Strategy, Healthcare Industry, IS enabled-change, Case Study, Systems Thinking

### **INTRODUCTION**

Currently, most medical information systems (IS) rely on a complex integration of database, internet and communications technologies. In order to achieve the expected benefits of critical system initiatives health care organizations may employ a systems thinking approach. A key concern is to ensure that end user practitioners, who champion both the technology and ensuing changes, integrate IS strategy with business strategy.

In response to periods of rapid technological change and increased government regulation end users embrace new business processes, which are made possible only through new medical IS initiatives. Health care organizations that support change and innovation may find that they have a hidden source of valuable knowledge in health care practitioners who play a role as strategy-makers.

The presentation of this study begins with a review of literature on topics that include: IS strategy in the health care industry, end-user participation in IS implementation and change management. The literature survey identifies key IS implementation factors that impact end user resistance and acceptance of technology in the medical industry. Next the methodology and findings from the data analysis are discussed. A proposed model that incorporates a feedback loop captures the dynamic nature of factors that impact the implementation quality of medical IS. Managerial implications and suggestions for future research are provided.

### **CASE STUDY**

Multiple case studies were conducted with health care providers who work in the New York Metropolitan area and who are involved in the implementation of medical IS. Based on case study data factors that influence the routinization of IS in their daily tasks are identified. The process used to shape and affect IS implementation quality is explored.

### **SYSTEMS THINKING**

The qualitative case investigation is combined with a systems thinking approach to better understand the direct and indirect effect of medical IS on the end user's health care practice. This process helped to explain the conditions that motivate health care personnel to become facilitators of IS-enabled change. Additionally, these influences and conditions provide clues for management on how to formalize policies that encourage health care practitioners to become creative and develop innovative practices. These practices may add significant value to health care organizations.

Available upon request.





## **PURSUING TRUST IN E-COMMERCE: ARE VENDORS DOING ENOUGH TO BUILD CONSUMER CONFIDENCE?**

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*This paper presents several important factors that contribute to the building of trust between vendors and customers. It presents the results of a field study of over 400 web sites and discusses the degree to which their approaches to security contribute to the establishment of a trusting transactional environment.*

**Keywords:** Identity Theft, E-commerce, Trust, Security

### **INTRODUCTION**

This paper examines the existing research on consumer trust and explores over 400 e-commerce web sites across several industries in order to determine the specific actions taken by organizations to convince their customers that it is safe to engage in online shopping.

### **SUMMARY AND CONCLUSIONS**

The results from this study support earlier research by Moscato that there does not seem to be an adequate or acceptable level of awareness on the part of companies engaged in e-commerce to the security needs of the online shopper [1, 2]. This pattern seems to persist over time even in the face of increasing threats to trust in the online business to consumer marketplace. There appears to be a significant difference among e-commerce industries regarding the inclusion of a hotlink to the security statement on the firm's homepage. Often the security statement is embedded within the privacy statement and this adds to the difficulty of locating the statement that specifies the security policy in place on the firm's web site. There appears to be a significant difference among the various e-commerce industries regarding the level of detail that was presented in their security statements. Perhaps the most troubling finding from this study is the significant absence across most online web sites reviewed of an explicit statement on the dangers of identity theft. Finally, the results of the study report that the overwhelming number of the web sites visited (76%) did not have a third party security icon displayed on the web site.

The literature is replete with research on consumers' need for an overall sense of security and trust while shopping online. However, it does not appear that vendors are doing enough to gain the trust of their customers.

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## **SYNCHRONIZING WITH INDUSTRY**

### **TO REVITALIZE THE INFORMATION SYSTEMS CURRICULUM**

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As one of the largest and most dynamic industries in the United States, the information technology (IT) industry continues to have a revolutionary impact on the economy and society [Greenspan, 2005, Bernanke, 2005]. The demand for people with a bachelor's degree in a computing discipline is increasing at a 27% or more annual growth rate through 2014 [BLS, 2005]. According to Information Technology Association of America (ITAA) President and CEO Phil Bond, "Every high school graduate should know that IT employment is at its strongest in four years and spending forecasts signal a continued climb for demand in the US market." [ITAA, 2007]

Despite a thriving employment field, a shortage of qualified talent in the U.S. has been cited as the greatest human capital challenge facing information technology companies [ITAA, 2006]. Henry Steininger, managing partner for Grant Thornton and Vice Chairman of ITAA, stated: "Companies are struggling to find enough people in the U.S. with the right mix of talent to meet the market's needs. America's education system and immigration policies just have not kept pace with the changing economy. Many of the best and brightest from the U.S. and elsewhere around the world are choosing other fields or working for our competitors overseas."

As is the national trend, in direct contrast to the growing need for high tech workers in West Virginia, there is an overall shortage of workers to meet the needs of businesses that offer careers in science, math and technology fields. The Center for Entrepreneurial Studies and Development, Inc. performed the North Central West Virginia Workforce Assessment for the West Virginia High Technology Consortium Foundation [CESD, 2004]. Thirty-three high-technology companies participated in the assessment that focused on current and future employer needs. The results of the survey indicated that the leading reason that companies have difficulty hiring was "too few qualified applications." The challenge West Virginia faces is that the accessible workforce lacks the necessary skills to perform many of the technology-oriented jobs. This lack of skills forces existing and incoming businesses to recruit out-of-state workers, incur immense training costs for workers who are hired, or worse yet, find alternate business locations.

This presentation reports experiences and findings from current efforts within the Information Systems (IS) department at Fairmont State University to revitalize the IS curriculum to meet the challenges of the 21st century. These efforts include a National Science Foundation-funded project aimed at reviewing computing-related academic programs, improving student recruitment to these programs, and creating smoother pathways for students into high technology fields. Specifically, this presentation includes: (1) the findings from an industry survey of companies in North Central West Virginia conducted to identify industry needs as reported by IT professionals; (2) results of various collaborative efforts between industry and faculty within the Information Systems department at Fairmont State University to create better learning experiences for the students (e.g., industry-based class projects, internships, faculty fellowships and overall guidance related to program and curriculum development); and, (3) the development of an industry mentor directory for faculty fellowship and student internship programs.

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## TEACHING A PROGRAMMING LANGUAGE FOR PROSPECTIVE TEACHERS

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*This paper is to identify the factors that influence the decision to select a programming language to teach at a graduate level course. The paper is used in a technology update course in a master degree program in education. It first reviews the factors that make learning programming a difficult task. It then suggests remedies for these difficulties and recommends a specific programming language for this purpose.*

**Keywords:** Intro Programming, Programming for teachers, Programming for high schools

### INTRODUCTION

Learning to program is considered to be a difficult task for many students. It is estimated that approximately 25 to 80 percent of students drop out in first programming courses [3]. A number of studies [1], [2], [4] noted similar difficulty to learning how to program. This paper analyzes the factors that make learning to program a difficult task; it suggests steps to address the difficulty in learning to program and how they were included in the design of a course taught at a master degree for education (M.ed).

### LEARNING TO PROGRAM – DIFFICULTY POINTS

It is well established among computer educators that learning to program is considered to be a difficult task. Some attempted to address this by changing the language they teach, the textbook they use or the method for teaching the language. Despite all these attempts, the difficulty persisted. Most realized that the difficulty may lay in the nature of programming itself and analyzed factors that added to this difficulty. Kelleher and Pausch [4] attributed this difficulty to three factors: rigid syntax and commands, confusing names and learning how computers work. Others [2] noted that four factors: Fragile mechanics of program creation, particularly syntax; the inability to see the result of computation as the program runs, the lack of motivation for programming and the difficulty of understanding compound logic and techniques.

### LEARNING TO PROGRAM – SIMPLIFYING THE PROCESS

Analysts suggested a number of steps that address these difficult points of learning to program and simplify their learning process. Adams [1] explained that in order to solve the problem with first programming courses, educators must include examples that are engaging to capture the imagination of today's student. Dann, Cooper and Pausch [2] suggested the use of visual objects in the syntax and the use of metaphors in the programming examples as a way to stimulate the learning process of the programming language.

### ALICE PROGRAMMING LANGUAGE

Lately, a new programming language has been developed to simplify learning how to program. Alice was developed by Carnegie Mellon University and it has a number of features that contribute the simplification of learning to program: It has a visual interface that enables using buttons and visual objects rather than syntax. It also has a large collection of objects that simplify the use of metaphors and motivate students to learn. The department of Technology and Training (BTST) at Indiana University of Pennsylvania adopted using this language in their course for students enrolled in their master degree of education (M.ed) in the summer of 2007. Students are satisfied with this selection and enrollment in this course has increased since we introduced Alice into this course as art of other topics in technology updates.

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## **THE INFLUENCE OF INCOMING STUDENT CAPABILITIES ON THE DESIGN OF INFORMATION SYSTEMS PROGRAMS**

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*Many common approaches to information systems curriculum development ignore the interests and capabilities of the students likely to enter the programs being designed. This can lead to unrealistic student expectations, employment mismatches, and high program failure rates. A model is proposed that encourages information systems program developers to consider the strengths and weaknesses of the incoming students along with appropriate stakeholder expectation, faculty capabilities, and environmental factors as curricula are being created and revised. Programs designed for the success of the incoming students will be more attractive to potential students and may lead to increased enrollments in information systems.*

**Keywords:** curriculum development, information systems skills, student capabilities

### **INTRODUCTION**

For many years, academic and professional Information Systems organizations developed model curricula and guidelines for bachelors degree programs [2]. Recently, these guidelines became the basis for accrediting IS programs through ABET. While most IS programs have not yet sought ABET accreditation, there is clearly more impetus for creating a more homogeneous IS student that possesses a standardized set of skills and knowledge. Stakeholders then have a better idea of what can be expected of those possessing an IS degree.

However, given the large differences in typical student skills and capabilities between universities, skills required for different careers within the IS field, and the need to develop large numbers of researchers to support the field, one may suspect that a standardized set of student skills may be unrealistic and not in the best interest of the field.

### **IS CURRICULUM BUILDING MODEL**

The suggested IS curriculum building model consists of four factors described in separate sections below: Incoming student skills and abilities. Programs that attract students with good logical thinking skills may be able to produce large numbers of system developers while programs at institutions with relatively low admissions standards may find it impossible to train systems developers at a level at which they will be competitive in the job market. IS career skills needed by stakeholders. Several studies detailing needed IS career skills are available [1]. The needs of critical stakeholders must be weighed in addition to the general needs described in research. Faculty capabilities and interests. While general curriculum perspectives by faculty members may be found in the literature [3], IS program developers will often need to build programs around existing faculty strengths. Environmental factors. Other information technology-related programs within the institution and external competitive programs are among the environmental factors to be considered.

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## **THE MAJOR FIELD TEST IN INFORMATION SYSTEMS: WHAT IT IS AND AN EXAMPLE OF ITS USAGE IN ASSURING STUDENT LEARNING**

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*In higher education there is an increasing emphasis on accountability and providing evidence of student learning. The Major Field Test (MFT) in Business, which is given to students, can be utilized for this purpose. The test is comprised of nine components, one of which is the newly added information systems (IS) component. This IS component can be used to assess learning, improve instructional techniques, and serve other educational purposes.*

**Keywords:** Assurance of Learning, IS education, Business MFT

### **INTRODUCTION**

Throughout the years there been an increasing emphasis on accountability, and more specifically, on assuring that students learn the material they are taught in classes [1]. Not only is this taking place at the university or system level, but increasingly schools and departments are being called upon to demonstrate learning [1, 3]. One objective method that the School of Business at Indiana University Southeast (IUS) utilizes to help provide overall evidence of learning is by administering the Major Field Test (MFT) in Business from the Educational Testing Service. Traditionally, the Business MFT was composed of eight components (e.g., Accounting, Economics, and Finance). However, in the Fall of 2006, Information Systems (IS) was added as a ninth component.

### **THE BUSINESS MFT AND THE IS COMPONENT OF THE TEST**

In total, the MFT in Business has 120 multiple-choice questions. There are nine components, one of which is the IS component. The IS component comprises 10% of the overall Business MFT, or approximately 12 questions [2]. The goal of the IS component, as well as all other components, is to adequately and accurately assess students' knowledge in the area.

### **HOW THE IS COMPONENT OF THE BUSINESS MFT CAN BE USED BY MIS EDUCATORS**

The results from the overall Business MFT, and the IS component in particular, are important and their results can be utilized in a number of different ways. First, institutions can utilize their results on the IS component to assure student learning [4]. A second utilization relates to detecting potential sub-standard instruction. A third usage is to take correction action if scores are consistently low on this component as well as all or certain others (e.g., accounting and finance). A fourth way that the IS component can be used by the institution relates to publicizing high scores. A final way for institutions to utilize the results relates to performance-based funding.

### **CONCLUSION**

As there is a growing trend and need toward assurance of learning, we present the Business MFT as a way to help achieve this goal. In particular, these tests can be used to evaluate the learning in each of the business disciplines. With the recent addition of the IS component, we suggest that this test can be employed to assess levels of learning.

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## **THE ROLE OF OBJECT-ORIENTED METHODOLOGIES IN THE IMPLEMENTATION OF COMPUTER-AIDED SOFTWARE ENGINEERING (CASE) TECHNOLOGY**

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Object-oriented Systems Analysis and Design (OOSAD) approach has recently been finding enthusiastic reception in systems development and in the market. This paper is an attempt to empirically establish if there exists a relative advantage of OOSAD over the structured approach, in the implementation of CASE technology.

**Keywords:** Object-oriented Systems Analysis and Design, Structured Methodology, CASE technology.

### **INTRODUCTION**

OOSAD is gradually replacing the structured approach alternative for conducting user requirements, analysis, and design for a variety of systems. The number of MIS professionals using OOSAD was in its infancy at the close of the last century. This has steadily grown in the last several years to significant proportions [1].

### **IMPORTANCE OF OOSAD**

The earlier structured approach is criticized for the apparent disconnection between analysis and design – diagrams and representations from analysis phase do not readily map into design constructs. However, the newer OOSAD methodology which is based on the notion of objects (encapsulation of data and processes) continues to hold real promise.

### **FEATURES OF OOSAD**

OOSAD is the process of converting real-world problem into a model using objects and classes as the modeling constructs [3]. The objects identified from OOSAD are called semantic objects since they have meaning in the problem domain. OOSAD using UML (OOSAD/UML) in particular focuses on the concepts and techniques necessary to effectively use system requirements captured using cases to drive the development of a robust design model.

### **EXAMPLES**

An example of the application of object-oriented techniques to the entire software life-cycle is Objectory – which is a complete environment for the development of large software systems [2]. The particular object-oriented approach relies on three independently developed techniques – all three carrying the major characteristics of object-orientation, namely: data abstraction, encapsulating inheritance, and polymorphism. OOSAD has been used in a variety of application settings including a UML-based Modeling Language for Model-Driven Security, Precise modeling with UML and Core Meta-Modeling semantics of UML.

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## **THE SISTER CITIES PROJECT: A TERM-LONG DESIGN AND DEVELOPMENT EXERCISE FOR THE DATABASE MANAGEMENT COURSE**

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*The Sister City Project gives students in the Business Database Management course a realistic experience. Teams develop a fully-functional application, including table and relationship design; data importation; and building views, forms, reports, menus, and user / developer documentation. The work is cumulative through the term.*

**Keywords:** pedagogy, lab projects, database, team

### **THE SISTER CITIES PROJECT**

Professional design and development projects have significant magnitude, are often iterative and include messy, evolving requirements, and require interaction with clients, users, and other designers and developers. For a professor, the challenge is to structure a course project to contain a realistic set of exercises. For our database class, we have developed a project that small teams complete in nine weekly assignment cycles. The project's design challenges parallel the lecture topics; it requires data transformation/ importation; it involves development of client interface tools for data management; it stresses quality assurance and regular client review; and it employs modern systems development techniques. Once the development is complete, students prepare user and developer documentation.

**The Client** is a volunteer "sister cities" organization (modeled after real organizations) that manages relationships with six foreign cities. This organization uses spreadsheets to track member data – all "personal" data is fictitious.

**The Product** is an Access 2007 database. The final deliverables include an E-R diagram; 15-17 tables; appropriate relationships (associative, supertype/subtype, unary, binary, ternary, strong and weak); numerous database objects for the user interface (views, action queries, forms, reports, and menus); a user manual and developer notes.

**The People.** Students work in teams of three or four. The instructor advises each team as the client and as a technical advisor. The students act as the project team leaders (business analysts), designers, developers, quality assurance analysts and technical writers. Student roles are fluid, not rigidly assigned.

**The Process.** Teams employ iterative development techniques. Each week's assignment builds on earlier deliverables. During the nine weekly iterations, the teams receive new data sets (e.g., a list of committee officers), analyze the data and design an appropriate data structure, build tables and relationships, transform/import the data, and develop user-interface objects (e.g., views, forms and reports). The first assignment is at <http://www.cbe.wwu.edu/misclasses/mis421s08/Assignments/421lab01.asp>. Links to subsequent assignments (handouts) are at the bottom of the page.

### **CONCLUSION**

The Sister City Project provides a realistic experience for students in a senior-level database management course. The project includes goes beyond lab manuals by (1) combining design and development; (2) teaching realistic teamwork throughout; (3) being iterative and requiring quality assurance at each stage; and (4) injecting realistic, messy data and evolving requirements.





## THE VALUE MAXIMIZATION OF THE INVESTMENTS IN SAP R/3 SYSTEMS

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*Investment in Enterprise Resources Planning (ERP) systems such as SAP R/3 typically requires an organization to commit its resources and manpower on a long-term basis. However, few organizations have a clear idea what the return on investment and market-value-added are on this big-ticket investment item and how to measure the value of their investments. Using a sample of Fortune 1000 SAP user companies from various industries and around the world, we examined from a shareholder's perspective the market value maximization and risk and return performance of those companies investing in SAP systems across time and space. In addition, we propose a methodology on measuring the value of IT investments using publically available information.*

**Keywords:** SAP system, ERP system, IT investments, financial performance, risk-adjusted returns, market-value-added

### INTRODUCTION

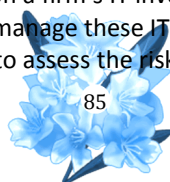
IT investment is one of the biggest capital budgeting decisions in any organization. The main objective of IT investments is to improve an organization's operating efficiency and profitability so as to maximize shareholder value. This study focuses on measuring the value maximization of IT investments in Enterprise Resource (ER) planning systems such as SAP R/3 systems. SAP claims that "Organizations of all sizes can use SAP solutions to reduce costs, improve performance, and gain the agility to respond to changing business needs." The problem is: how do we measure and quantify these benefits from SAP investments? In addition, investors in the capital market have had a hard time determining the value and the return on IT investments because IT expenditures are never disclosed on an organization's Income Statement or Balance Sheet. This poses a constant challenge for both investors and researchers to value a firm's IT investments. As investments in SAP systems require a nontrivial sum of financial resources and human capital, IT/IS managers are under increasing pressure to demonstrate and justify their SAP investments.

### RESEARCH MOTIVATION

A number of researchers have examined the payoffs from IT investments and the results are mixed. While some studies find a positive relationship between IT investments and firm performance, others find an absence of a positive relation between spending on IT and productivity or profitability. As suggested by Tanriverdi and Ruefli (2004), most IS/IT studies on IT investment fail to incorporate risk in their performance measurements. This study contributes to this debate by looking specifically at the investment in SAP systems. We develop several market-based risk-adjusted financial performance measurements of the return on SAP investment. We collected each company's data on stock returns, financial statements, as well as company characteristics for the period of March 1990 to March 2008. We matched each SAP user company with its industry peers. We first compared and contrasted the financial characteristics of those SAP adopting firms versus their non-SAP adopting industry peers. We then identified the value drivers for the SAP adopting firms. We hypothesize that since SAP system could help companies cut costs and improve operational efficiency, investments in SAP should generate positive returns and market value added on a risk-adjusted basis for shareholders.

### RESEARCH IMPLICATIONS

Our study focuses on valuing the investments in SAP R/3 systems from a shareholder or stock market perspective. We contributed to the IT investment literature by developing a market-based method on how to measure the market value-added and financial return on IT investments on a risk-adjusted basis and how investors can use publicly available information to gage the risk and return on a firm's IT investments. Our study results could provide useful guidelines and implications for IT/IS managers to manage these IT investment assets in such a way as to maximize shareholder value and for stock market investors to assess the risk and return on a firm's IT investments.



# Refereed Proceedings



## USING BEST PRACTICES TO INCREASE USAGE OF ADVANCED TOOLS AND FEATURES OF COURSE MANAGEMENT SOFTWARE

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*The use of course management software has increased exponentially over the past ten years. As the most widely implemented course management software, Blackboard's Academic Suite has over 1,900 U.S. higher education implementations. As an alternative to faculty developed web pages, this course management software offers a standard format for presenting materials online. In addition to providing a centralized location for posting instructional materials, the software includes a variety of Web-based tools designed to enhance communication and to evaluate or assess student progress. Previous studies have found high levels of usage by faculty for posting course documents, announcements and grades. However, advanced features such as discussion boards, electronic document submission and online testing have significantly lower levels of usage. This study will examine the use of best practices to increase the use of course management software's advanced tools and features.*

**Keywords:** Course Management Software, Best Practices

### INTRODUCTION

Blackboard began operations in 1997 to market an internal online learning system used at Cornell University to universities and schools in the US and Canada. Since the initial implementations of CourseInfo in 1998 to the acquisition of WebCT in 2006, the number of software licenses has grown from 26 to 4,800. While Blackboard has an offering of enterprise software applications for education institutions, this paper will focus on the Academic Suite. It isn't simply the magnitude of the use of course management software, Blackboard and WebCT that has experienced a major change; it is the nature of the use as well.

### IMPORTANCE OF COURSE MANAGEMENT SOFTWARE

At a WebCT users conference an administrator who indicated that his institution had done a review of campus systems and decided that WebCT was their second most mission critical system - next only to payroll. This reflects an amazing change. Only a year or two ago, educational technologies were pieces of software that faculty members could make use of in their teaching [2]. They were chosen or not by individuals for their own use. They did not have a campus presence - only a class presence. If they were not available for a day or two due to some catastrophe or another, it was not a big deal. However, in most installations this is no longer the case. These systems have to be available 24 X 7. Faculty and students rely on them for exams, grade maintenance, content, communication, and often as their only means of access to their courses and peers [3]. These pieces of software have moved into the class of software occupied by large accounting systems, HR systems, and student information systems on campus. Enterprise-class expectations and demands are being made of this software. This study will examine the use best practices for advanced tools to increase the usage of features such as discussion boards, electronic document submission and online testing.

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## USING FIELD COCITATION ANALYSIS

### TO ASSESS RECIPROCAL RELATIONSHIPS AMONG COLLEGE OF BUSINESS SUBDISCIPLINES

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*This study utilized bibliometric tools and methodologies in order to analyze the relationship between Information Systems (IS) and College of Business (COB) disciplines. Field co-citation analysis was used to identify areas of impact and overlap between IS and the following COB fields: Accounting, Entrepreneurship, Finance, Management (including Production and Operations Management), and Marketing. A multidimensional scaling technique was used to plot the major field-defining journals for each of the fields. Results of this research identified the level of integration of Information Systems research within other business fields as well as the overlap of influence across all College of Business disciplines. This research will be valuable to cross-discipline faculty and researchers interested in curriculum redesign and cross-curriculum research. Faculty can identify topics, researchers and publication outlets for collaborative research across disciplines.*

**Keywords:** College of Business, bibliometrics, information systems

## INTRODUCTION

Information systems is defined as a “field that studies the use of information in business—what information is needed, how to get it, and how to use it” (Chapman & Brothers, 2006). Information systems provide the data infrastructure for every academic discipline in education, every major industry in the world, and every political and military system. Information systems are a critical component in maintaining competitive advantage in any field as well as the key to advancing in the 21st century. The importance of information systems cannot be overstated.

## SIGNIFICANCE

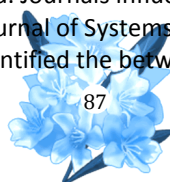
This research provides both significant theoretical and practical contributions. From a theoretical perspective, the proposed research is the first of its kind with regards to scale and discipline. Limited research has been conducted in the area of cocitation analysis applied to business disciplines. The last comprehensive mapping of the IS literature was conducted in the late 1980s (Culnan, 1986, 1987). Eom (2000) investigated the impact of information systems science on the decision support systems (DSS) sub-specialties (e.g., user interface, model management and group DSS. Chao, Jen Chi and Lin (2007) used cocitation analysis to identify the research trend in customer relationship management. This type of research was first conducted successfully by Sugimoto, Pratt and Hauser (under review) using two fields: Library and Information Science and Information Systems. Applying the same methodologies to multiple disciplines simultaneously will greatly extend our field of information systems research.

## METHODOLOGY

We used bibliometric tools and techniques to assess the interactions within and between College of Business fields. The most commonly used technique within bibliometrics is citation analysis. Sugimoto, Pratt and Hauser (2008) introduced field cocitation analysis. They used fields as producers of written communication, for which the aggregate level of “field” was operationalized by using representative journals of each field as the units of analysis.

## RESULTS

We identified and then aggregated the top 25 journals in each field, based on published research rankings. Both citation- and perception-based rankings were used. Journals influencing all or multiple College of Business disciplines were identified (e.g., Harvard Business Review, Journal of Systems Management, Management Science). We then graphically mapped field-defining journals and identified the between- and within-field relationships of the top COB and IS publications.







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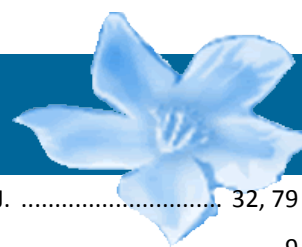
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