2003 AAA-IS MidYear Conference
January 8 – 11, 2003
Holiday Inn on the Bay
San Diego, California

Program Information

Wednesday, January 8, 2003

6:00 p.m. – 8:00 p.m.	Doctoral Consortium Reception (Joint with MA section) **(Check hotel board for room)**

Thursday, January 9, 2003

7:00 a.m. - 8:00 a.m.	Doctoral Consortium Breakfast **(Pacific A)**
8:00 a.m. – 9:30 a.m.	Doctoral Consortium - Editor Panel **(Pacific A)** *Advances in Accounting Behavioral Research* - Vicky Arnold, University of Connecticut *International Journal of AIS* - Steve Sutton, University of Connecticut *Journal of Information Systems* - Dan Stone, University of Kentucky *Journal of Intelligent Systems in Accounting, Finance, and Management* - Dan O'Leary, University of Southern California *Journal of Emerging Technologies in Accounting* - Miklos Vaserhelyi, Rutgers University *Accounting and the Public Interest* - Jesse Dillard, University of Central Florida
9:30 a.m. - 10:45 a.m.	Developing a Research Plan **(Pacific A)** Jim Hunton, Bentley College
10:45 a.m. - 11:00 a.m.	Break **(Pacific A)**
11:00 a.m. - Noon	What to Expect Your First Year Out of a PhD Program - Panel **(Pacific A)** The Research Institution Perspective - Jake Rose, Montana State The Comprehensive Institution Perspective - Cynthia Frownfelter Lohrke, Samford
Noon - 1:30 p.m.	Lunch (Joint with MA section) **(Pacific C)**
1:30 p.m. – 5:00 p.m.	IS section Executive Committee Meeting **(Embarcadero)**
1:30 p.m. - 3:30 p.m.	Research Opportunities in AIS - Panel **(Pacific A)** Behavioral - Uday Murthy, University of South Florida AI/ET - Marilyn Greenstein, Arizona State West Archival - Jackie Reck, University of South Florida Auditing - Miklos Vaserhelyi, Rutgers University Design Science - Bill McCarthy, Michigan State University
3:30 p.m. - 3:45 p.m.	Break **(Pacific A)**

3:45 p.m. - 4:30 p.m. Getting Tenure - The Dance with the Mountain **(Pacific A)**
Dan Stone, University of Kentucky

4:30 p.m. - 5:30 p.m. Tips on Teaching AIS **(Pacific A)**
Faye Borthick, Georgia State University

2:00 p.m. – 6:00 p.m. Registration – Hotel Registration area **(Ballroom Foyer)**

6:00 p.m. – 8:00 p.m. Welcome Reception **(Porthole)**

Friday, January 10, 2003

7:30 a.m. – 5:00 p.m. Registration **(Ballroom Foyer)**

7:30 a.m. – 8:30 a.m. Continental Breakfast (Sponsored by Miami University's Department of Accountancy) **(Harborside)**

8:30 a.m. – 10:00 a.m. Welcome and Plenary Session **(Pacific A)**

Welcome and Introduction- Jim Hunton, Trustee Professor, Bentley College and President, IS section

Plenary Speaker - William L. Felix, Jr., PricewaterhouseCoopers Auditing Professor, University of Arizona and President-Elect, American Accounting Association

10:00 a.m. – 10:30 a.m. Coffee Break **(Pacific A)**

10:30 a.m. – Noon Research Paper Session **(Harborside)**
Session Moderator: Robert Nieschwietz, University of Colorado at Denver

Extending the Accounting Brand to Privacy Services
Authors: James E. Hunton, University of South Florida, and Marilyn M. Greenstein, Arizona State University West
Discussant: Scott Vandervelde, University of South Carolina

Negotiation Support Systems in Budget Negotiations: An Experimental Analysis
Authors: Christopher J. Wolfe, Texas A&M University, and Uday S. Murthy,
University of South Florida
Discussant: Marianne Bradford, Bryant College

Noon – 1:30 p.m. Luncheon **(Pacific A)**

1:30 p.m. – 3:00 p.m. Concurrent Research/Education Paper Session

Research Paper Session **(Harborside)**
Session Moderator: Siew Chan, University of Massachusetts - Boston

Information Transfer Among Internet Firms: The Case of Hacker Attacks
Authors: Michael Ettredge, University of Kansas, and Vernon J. Richardson, University of Kansas
Discussant: TBA

The Effect of Internet Security Breach Announcements on Shareholder Wealth: Capital Market Reactions for Breached Firms and Internet Security Developers
Authors: Huseyin Cavusoglu, Birendra Mishra, Srinivasan Raghunathan, University of Texas - Dallas
Discussant: Paul Steinbart, Arizona State University

Education Paper Session **(Harborside Foyer)**
Session Moderator: Hui Du, Bryant College

A Model for and the Effects of Information Request Ambiguity on Query Development
Authors: Micheal S. Axelsen, Horwath Business Technology Solutions, Faye A. Borthick, Georgia State University, and Paul L. Bowen, University of Queensland
Discussant: Elaine Mauldin, University of Missouri

The State of Accounting Curriculum: Where It Is and Where It Needs to Be -
Authors: Philip M. J. Reckers and Christian Ille Hastings, Arizona State University, and Lanny Solomon, University of Missouri - Kansas City
Discussant: Steve Sutton, University of Connecticut

3:00 p.m. – 3:30 p.m. Coffee Break – Outside meeting room

3:30 p.m. – 4:30 p.m. AIS Journal Editors Panel **(Pacific A)**
Accounting and Public Interest - Jesse Dillard, University of Central Florida
Advances in Accounting Behavioral Research - Vicky Arnold, University of Connecticut
International Journal of AIS - Steve Sutton, University of Connecticut
Journal of Information Systems - Dan Stone, University of Kentucky
Journal of Intelligent Systems in Accounting, Finance, and Management - Dan O'Leary, University of Southern California
Journal of Emerging Technologies in Accounting - Miklos Vaserhelyi, Rutgers University
Information and Organization - Jeffrey C. Bowker, University of California San Diego

4:30 p.m. - 5:00 p.m. Getting Published in *MIS Quarterly* **(Pacific A)**
Ron Weber, University of Queensland

5:00 p.m. - 5:30 p.m. Getting Published in *Information Systems Research* **(Pacific A)**
Chris Kemerer, University of Pittsburgh

6:00 p.m.– 8:00 p.m. Reception - **Star of India Maritime Museum** (Joint with MA section and Sponsored by McGraw-Hill Irwin)

Saturday, January 11, 2003

7:30 a.m. – 8:30 a.m. Continental Breakfast (Sponsored by John Wiley and Sons, Inc.) **(Harborside)**

8:30 a.m. – 10:00 a.m. Forum Papers **(Harborside)**

10:00 a.m. – Noon	Research Paper Session **(Pacific A)** Moderator: David Hayes, Louisiana State University
Carolyn *and*	*The Evaluation of Risky Info Technology Investment* Authors: Jacob M. Rose and Anna M. Rose, University of Tennessee, and Strand, Seattle Pacific University Discussant: Don Jones, Texas Tech University
	Valuing Strategic Flexibility in IT Investments: When Do Subjective Valuations Real Options Analysis Differ? Authors: Nancy Gustafason and Joan L. Luft, Michigan State University Discussant: Stacey Kovar, Kansas State University
	Estimating the BusinessValue of Investments in IT Authors: Mark Anderson, Rajiv D. Banker, University of Texas at Dallas, and Paul J. Hu, University of Utah Discussant: Del DeVries, University of Tennessee
Noon – 1:30 p.m.	Luncheon - (Joint with MA section) **(Pacific C)**
1:30 p.m. – 1:40 p.m.	Introduction to AIS Teaching Symposium - Julie Smith David, Arizona State University **(Pacific A)**
1:40 p.m. - 1:50 p.m.	Report of the AIS Educator Association - Stacy Kovar, Kansas State University **(Pacific A)**
1:50 p.m. - 3:00 p.m.	Education Paper Session **(Pacific A)**
	The Posh Hairdo Salon Case Authors: Melissa Walters, Stetson University, and Carol J. Normand, University of Wisconsin - Whitewater
	Linking Business Process and Transaction Cycles Authors: Marcia Weidenmier, Texas Christian University, and Bonnie K. Klamm, North Dakota State University
	BAK Company: A Classroom Simulation Vidya Awasthi and Sarah Bee, Seattle University and Kevin Kobelsky, University of Southern California
3:00 p.m. – 3:30 p.m.	Coffee Break **(Pacific A)**
3:30 p.m. – 4:30 p.m.	Education Paper Session **(Pacific A)** *e-HERMES: A Tool for Teaching the Use of XML* Authors: Andreas I. Nicolaou, Li Liu, and Patricia A. Essex, Bowling Green State University
	An XML Architecture for Operational Enterprise Ontologies Authors: Guido Geerts, University of Delaware

4:30 p.m. - 5:15 p.m.	AIS Teaching Panel **(Pacific A)** *How Are AIS Majors Different?* Panelists: Saeed J. Roohani, Bryant College, Jane Fedorowicz, Bentley College, and Barbara Lamberton, University of Hartford
5:15 p.m. - 5:30 p.m.	Closing Remarks - Jim Hunton, Trustee Professor, Bentley College and President, IS section **(Pacific A)**

Meeting Ends

AAA-IS Program Planning Committee:

2003 Meeting Coordinator - Nancy A. Bagranoff, Miami University
2003 Doctoral Consortium Coordinator - Stephanie M. Bryant, University of South Florida
2003 Manuscript and Program Co-Coordinator - Dan Stone, University of Kentucky
2003 Manuscript and Program Co-Coordinator - Julie Smith David, Arizona State University
2004 Meeting Coordinator - Stephanie M. Bryant, University of South Florida

Paper Forum Saturday 8:30 - 10:00 a.m.

(1) *Adoption Of Enterprise Systems And Longitudinal Firm Performance*
Andreas I. Nicolaou and Lawrence H. Bajor Bowling Green State University

(2) *An Analysis of the Impact of Technology on the Tax Practice*
Christine C. Bauman, University of Wisconsin-Milwaukee; Jon Davis and Kathy Hurtt, University of Wisconsin Madison

(3) *An Examination Of The Effects Of Webtrust And Company Type On Consumers' Purchase Intentions*
Steven E. Kaplan, Arizona State University and Robert J. Nieschwietz, University of Colorado at Denver

(4) *An Instructional Case for Legacy System Changes for Multiple State Agencies in New York*
Ingrid Fisher, The University at Albany-SUNY and Marianne Bradford, Bryant College

(5) *Antecedents of the Demand for Assurance Services Beyond the Financial Statement Audit: A Model for Analysis*
Stacy E. Kovar, Kansas State University and Elaine G. Mauldin, The University of Missouri – Columbia

(6) *A Postmodern Stakeholder Analysis of 'Telework'*
Anita Reed, University of South Florida and James E. Hunton, Bentley College

(7) *Appropriating Advanced Information Technologies (ERP Systems) in Accounting Education*
Robert Pinsker, Old Dominion University; Cindy LeRouge and Harold Webb, University of South Florida

(8) *Auditor Detected Misstatements: Causes, Detection And The Effect Of Information Technology*
Lizabeth Austen, Florida Atlantic University; Aasmund Eilifsen, Norwegian School of Economics and Business Administration; William F. Messier Jr., Georgia State University

(9) *Customer Invoicing: A Database Management System Case Using Microsoft Access*
Cynthia Heagy, University of Houston-Clear Lake and Joseph G. Donelan, University of West Florida

(10) *Do Cell Labels Improve Spreadsheet Outcomes?*
Diannne Whittle, Drake University and Diane Janvrin Iowa State University

(11) *Educational Case: Understanding End User Computing Risks*
Diane Janvrin, Iowa State University

(12) *Foreign Exchange Exposure and Organizational Arrangements For Its Management: An Exposition of a Staged Approach to the Specification of a Firm's Needs to Exposure Management Information Systems Developers*
Ernest Mudogo, Zayed University

(13) *Problem-Based Learning in Accounting Information Systems*
Constance M. Lehmann, Cyntia D. Heagy, and Wong Hoi Hui, University of Houston - Clear Lake

(14) *Teaching Penetration Auditing As Part Of An Information Systems Auditing Course*
Martin J. Coe, Western Illinois University

(15) *The Relationship of Accounting Majors' Cognitive Style and Technological Proficiency: Are Students Prepared to Enter an Increasingly Knowledge-Based Profession?* Lewis Shaw, Suffolk University

(16) *Using ACL and IDEA in the Classroom*
Marcia L. Weidenmier, Texas Christian University and Terri L. Herron, The University of Montana

(17) *XML Alphabet Soup*
Dale L. Lunsford and Pascal Bizarro, University of Alabama

Biographies - Invited Speakers

WILLIAM L. FELIX

William L. Felix, Jr., President-elect of the American Accounting Association, is the Eller Professor of Accounting at the University of Arizona. He has served on faculties at the University of Montana and the University of Washington. His teaching has been primarily in the area of auditing both at the undergraduate and Ph.D. levels. His research is also in the area of auditing, focusing on auditor decision making and the role of the internal auditor in the external audit. He has published articles in *The Accounting Review*, *The Journal of Accounting Research*, *Auditing: A Journal of Practice and Theory* and other academic journals.

Professor Felix received the American Accounting Association's Notable Contribution to Accounting Literature Award in 1985, the Outstanding Accounting Educator Award in 1991, and the Innovation in Accounting Education Award 1993. He is a member of the American Accounting Association, the American Institute of CPA's and the Institute of Internal Auditors. He is President Elect of the American Accounting Association and has served as the editor of *Auditing: A Journal of Practice and Theory.*

CHRIS F. KEMERER

Dr. Chris F. Kemerer is the David M. Roderick Chair in Information Systems at the Katz Graduate School of Business, University of Pittsburgh. Previously, he was an Associate Professor at MIT's Sloan School of Management. He received the B.S. degree *magna cum laude* from the Wharton School at the University of Pennsylvania and the Ph.D. degree from Carnegie Mellon University.

Dr. Kemerer's current research interests include management and measurement issues in information systems and software engineering, and he has published articles on these topics in a number of professional and academic journals, including *Communications of the ACM*, *IEEE Computer, IEEE Software, IEEE Transactions on Software Engineering, Information and Software Technology, Information Systems Research, Management Science*, *Sloan Management Review*, and others, as well as editing two books. Dr. Kemerer serves or has served on the editorial boards of the Annals of Software Engineering, Communications of the ACM, Empirical Software Engineering, IEEE Transactions on Software Engineering, Information Systems Research, the Journal of Organizational Computing, the Journal of Software Quality, and MIS Quarterly, and is a member of INFORMS, ACM, and the IEEE Computer Society. He is the immediate past Departmental Editor for Information Systems at *Management Science*, and the current Editor-in-Chief of *Information Systems Research*.

RON WEBER

Ron Weber is Professor of Information Systems in the School of Business and Research Director for the Faculty of Business, Economics and Law at the University of Queensland. In 1981 he was appointed Professor of Commerce at The University of Queensland, and in 1988 he was the inaugural appointment to the GWA Chair in Commerce, which he held until 1993. During periods of leave from The University of Queensland, he has been a Visiting Professor at the University of Minnesota, New York University, the University of British Columbia, the University of Alberta, the University of Otago, Nanyang Technological University, and City University of Hong Kong.

Ron teaches and researches in the information systems and accounting areas, and he has published extensively in both Australian and international journals. He has also consulted widely on information systems matters, especially the control and audit of computer systems and has won many awards for his excellence in teaching and scholarship. Many students and practitioners use his book, *Information Systems Control and Audit*, internationally. In 1999 he won a University of Queensland award for excellence in teaching. From 1987 to 1989 Ron was Australian President of the Accounting Association of Australia and New Zealand. In 1994 he won one of four Silver Jubilee Awards given worldwide by the Information Systems Audit and Control Association for contributions to the profession and the discipline of information

systems auditing. In 1996 he was also President of the Association for Information Systems. Ron has worked on many editorial boards. He is a past senior editor for the *MIS Quarterly*. On 1 January 2002, he commenced a three-year term as Editor-in-Chief of the *MIS Quarterly*. This is the first occasion in the history of the *MIS Quarterly* in which a non-U.S. person has held the Editor-in-Chief's position.

Main Paper Abstracts:

A Model for and the Effects of Information Request Ambiguity on Query Development

Micheal S. Axelsen MIS, CPA
BDO Kendalls

A. Faye Borthick, DBA, CISA, CMA, CPA
Georgia State University

Paul L. Bowen, PhD, CPA
The University of Queensland

The increasing reliance of organizations on information technology to improve effectiveness, efficiency, and competitiveness is compelling professional and technical employees to satisfy many information needs through database queries. Because natural language is inherently ambiguous and because the people making the information requests and the query developers attempting to satisfy the requests do not share identical experiences, vocabularies, and world views, information requests may be ambiguous. This paper develops and tests a model of the effects of information request ambiguity on query development performance. The model identifies seven ambiguity types: lexical, syntactical, inflective, pragmatic, extraneous, emphatic, and suggestive. Query development performance was measured by the number of query errors, the time required to prepare and execute queries, and self-reported confidence in query correctness.

Overall, the presence of ambiguity significantly degraded query development performance with respect to the number of query errors, time to develop queries, and confidence in query correctness. Syntactical and extraneous ambiguities significantly increased the number of query errors and the time required to formulate queries. Confidence in query correctness was significantly degraded by extraneous ambiguity. Further investigation is warranted into the effects of the other ambiguity types. Some possibilities for attenuating the effects of ambiguity in information requests at individual, group, and organization levels are explained under the assumptions that knowledge is a significant organizational resource and that a productive strategy for organizations is for them to develop their capabilities for creating and applying knowledge.

An XML Architecture for Operational Enterprise Ontologies

Guido L. Geerts
University of Delaware

An enterprise model defines the conceptual schema for a specific business entity. An enterprise ontology defines an architecture existing of enterprise concepts and information structures that can be applied across enterprise models. An ontology becomes operational when the enterprise model and enterprise ontology are explicitly represented and are used as part of applications. Generic, ontology-based, scripts can then be developed that use these extended, knowledge-intensive, descriptions for tasks such as information retrieval. Benefits of an operational enterprise ontology include interoperability and a common theoretic framework for enterprise systems. This paper explores how XML technologies can be used in support of operational enterprise ontologies. The Resource-Event-Agent model [17] is used as enterprise ontology.

BAK Company: A Classroom Simulation for Helping Students Learn the Impact of Different Types of Information Technology on Business Processes and Performance

Vidya N. Awasthi and Sarah Bee
Seattle University

Kevin Kobelsky
University of Southern California

The past forty years have witnessed a rapid rise in the use of information technology (IT) to enhance manufacturing performance. Returns obtained on IT investments are high enough on average to warrant the significant investments made, but they also vary enormously. This is in part because different ITs have different effects on business processes and performance.

Despite their importance, differential impacts of different types of IT on performance have been the subject of very limited systematic research and are not addressed in teaching materials. Further, since most students lack work experience in manufacturing settings, having students fully appreciate the nature and importance of these different types of ITs is challenging. To address this we propose using simulation as an active learning strategy. The objective of the BAK simulation is to enable students to distinguish between impacts of communication IT and automation IT on business processes and performance. This objective is achieved by letting the students experience for themselves that teams which are allowed to have better communication (a surrogate for investment in communication IT) work differently and can be more productive than the teams which add another worker or "robot" (a surrogate of automation IT).

The simulation encourages students to work in groups, requires their active participation in learning, and allows them to learn on their own. This simulation would be useful in any introductory AIS, MIS, or management accounting course, and can be used with any textbook. We have used the simulation in graduate and undergraduate level AIS courses and have received positive student comments.

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e-HERMES: A Tool For Teaching The Use Of XML In The AIS Course

Andreas I. Nicolaou
Li Liu
Patricia A. Essex
Bowling Green State University

This paper explores the use of the eXtensible Markup Language (XML) for web-based electronic commerce, presents a generalized process for XML-based electronic commerce, and describes the development of an XML-based system, called e-Hermes, suitable for use in the classroom. e-Hermes simulates the capabilities of a web-based system to handle purchasing transactions and to apply both document structure (data format) validations and application (data content) validations. This system can be a useful tool for instructors of accounting information systems and can be used also to conduct laboratory experiments that simulate electronic commerce environments.

Students in Accounting Information Systems (AIS) courses can use the e-Hermes system to learn how XML schemas are written and used and enhance the XML code in the system for additional functionality. New modules can be added to this modular system or existing modules can be extended for more complete transactions. Students can simulate buying behavior using e-Hermes. Specific data

validations can be discussed and related to assurances in an electronic commerce environment. The database experience for AIS students also can be enhanced through the use of e-Hermes by examining its database structure and enhancing existing SQL routines in order to answer new and relevant inquiries. The system is flexible in supporting AIS instruction in all of these respects. e-Hermes could also be used for research purposes in a laboratory environment, where data validations and assurances could be manipulated to demonstrate the importance of assurances in electronic commerce data exchanges. This paper, therefore, presents significant contributions for both educational and research objectives in the field of accounting information systems.

Estimating the Business Value of Investments in Information Technology

Mark Anderson*
Rajiv D. Banker
Nan Hu
The University of Texas at Dallas

Studies relating the market value of firm assets to information technology (IT) capital or spending have specified business value ratios, such as Tobin's q, as linear functions of IT intensity. Implicit in this linear specification is an assumption that returns to IT spending do not diminish as IT intensity increases. We model the business value of IT spending using an alternative functional form with a concave term representing IT benefits and a linear term representing the cost of IT. We show that if this specification were appropriate, estimates of the business value of IT made using a linear model would be biased. We estimate empirical versions of the valuation model and find support for our hypothesis that the valuation benefits of IT spending are concave in IT spending intensity. We employ the valuation model to test hypotheses that firm IT spending is valued relative to IT spending by industry peers and that differences in the market valuation of IT spending vary across firms based on the business role IT plays in the firms' industries.

Extending the Accounting Brand to Privacy Services: An Empirical Investigation

Marilyn Greenstein
Arizona State University – West

James E. Hunton
Bentley College

The primary purposes of this study are to identify and validate a list of necessary skills required to ensure good data privacy protection for organizations, recognize potential privacy service providers, compare the perceived skill levels of potential providers, and test the efficacyimpact of an educational brochure developed by the AICPA designed to communicate how and why members of the accounting profession are qualified to conduct privacy engagements. A total of 82120 corporate managers representing 278 companies participated in a randomized between-subjectsn experiment where they responded to skill-related items either before orand after reading the privacy brochure (within-subjects), only before reading the brochure (between-subjects) or only after reading the brochure (between-subjects).

Factor analysis of 17 skill items resulted in four factors: technical, legal, control/assurance and strategic. The following potential service providers were identified: law firms, CPA firms (both Big-5 and non-Big-5),

security consultants and eBusiness consultants. Study findings suggest that all four of the skill constructs are highly necessary in providing good data privacy protection. Before reading the brochure, the highest construct index means (potential providers) were as follow: technical (CPA firms and eBusiness consultants), legal (law firms), control/assurance (CPA firms and security consultants) and strategic (security consultants). After reading the brochure, CPA firms moved evensignificantly higher on technical, legal and strategic skills and higher on strategic skills; additionally, CPA firms were ranked among the highest service providers in all areas except legal skills, where law firms continued to predominate.

Information Transfer among Internet Firms: The Case of Hacker Attacks

Michael Ettredge and Vernon J. Richardson
University of Kansas

This study focuses on the stock market reaction to denial of service attacks against certain well-known Internet firms in February 2000. Investors appear to have used several heuristics in deciding which firms were 'similar' to those attacked, and thus predicted that they were also likely to be attacked themselves in future. The primary heuristic employed appears to have been similarity in reliance on the Internet to conduct operating activities (i.e., the set of Internet firms). We find negative mean abnormal returns among Internet firms not actually attacked (i.e., information transfer). This occurred both within Internet industries in which some firms were attacked, and within Internet industries in which no firms were attacked. A secondary heuristic appears to have been that Internet firms similar in size to those attacked (i.e., relatively large) were more likely to be attacked in future. In contrast to all other Internet industries, providers of Internet security products and services experienced positive mean abnormal returns.

Linking Business Processes and Transaction Cycles

Bonnie K. Klamm
North Dakota State University

Marcia L. Weidenmier
Texas Christian University

Information technology has enabled companies to move from functional-managed, cycle-based organizations to process-managed organizations. Despite this change in the business environment, business classes continue to be organized as distinct functions and do not do not provide an overall, integrating framework (Walker and Ainsworth 2001). As a result, students do not understand business processes and the relationship between business processes and accounting transaction cycles. This paper presents a tutorial for a fictitious pizza delivery company developed to help students understand business processes and link them with accounting cycles. Designed for a first semester accounting information system class, this comprehensive, step-by-step tutorial uses definitions, data flow diagrams, flowcharts, and resources, events, and agents (REA) examples. The
tutorial includes review questions and exercises. Teaching notes and solutions follow the tutorial section.

Negotiation Support Systems in Budget Negotiations: An Experimental Analysis

Christopher J. Wolfe DBA, CPA
Texas A&M University

Uday Murthy Ph.D, ACA
University of South Florida

This paper investigates the differences between budget negotiations conducted on an electronic negotiation support system (NSS) and those conducted face-to-face with its focus on whether an NSS can ameliorate negotiation impasse. We find that face-to-face negotiators demand payoff fairness more so than do negotiators using an NSS. Further, this demand for fairness creates arousal in face-to-face budget negotiations when supervisor expectations are incongruent with subordinate performance capability. In instances of incongruent expectations, we find that face-to-face negotiators reach impasse at a higher rate than negotiators using an NSS. Impasse did not affect post-negotiation subordinate performance except in a few severe negotiation breakdowns where subordinates simply refused to produce after the negotiation. We do find that dyads at impasse had significantly stronger negative impressions of the negotiation than did dyads at consensus. Our results indicate that budget negotiations done on an NSS can reduce impasse rates over those done face-to-face, and the results suggest that firms with high conflict budget negotiations should consider electronic budget negotiations.

Technology and the Accounting Curriculum: Where It Is and Where It Needs to Be

Christian Ille Hastings and Philip M. J. Reckers
Arizona State University

Lanny Solomon
University of Missouri – Kansas City

This study looks at various aspects of systems and technology coverage in accounting programs throughout the country. Much of the study focuses on the results of a mail questionnaire that was sent to two groups: directors of accounting programs and practicing professionals, with the professionals being sampled from the corporate arena, consulting firms, large public accounting firms and mid-tier public accounting firms. The results indicate that some sizable differences exist with respect to current and desired coverage of selected topics, and with respect to educator and practitioner preferences. The study also queries program directors on various impediments to technology implementation at their respective schools, along with how programs cover technology and systems at the graduate level (i.e., in required or elective courses).

The Effect of Internet Security Breach Announcements on Market Value: Capital Market Reactions for Breached Firms and Internet Security Developers

Huseyin Cavusoglu, Birendra Mishra, and Srinivasan Raghunathan
The University of Texas at Dallas

Assessing the value of information technology (IT) security to firms is a challenging task because of difficulties in measuring costs associated with security breaches. Indirect methods such as an event study that uses market valuations can offer some guidance about the magnitude of these costs. We employ the event study to assess the impact of Internet security breaches on the market value of the breached firms. We

also study the information transfer effect of security breaches, namely the effect security breaches on market values of firms that develop security technology. The results of our study show that the announcement of an Internet security breach is negatively associated with the market value of the announcing firm. Breached firms, on average, lose approximately 2.1% of their market values within two days surrounding the events. This translates into $ 1.65 billion average loss in market capitalization per incident. We find that firm type, firm size, and time are important factors that explain the cross-sectional variations in abnormal returns. Our results also show that the effects of security breaches are not restricted to breached firms. The market values of security developers are positively associated with the disclosure of security breaches by other firms. Each security developer, on average, gains an abnormal return of 1.36%. This translates into, on average, a total gain of $ 1.06 billion over a two-day period. The study suggests that in the minds of investors, the cost of poor security is very high.

The Evaluation of Risky Information Technology Investment Decisions

Anna M. Rose and Jacob M. Rose, Montana State University
Carolyn Strand, Virginia Commonwealth University

Decisions made under risk are influenced by personal risk preferences and the decision domain (i.e., gain versus loss domain). Decisions to invest in information technology (IT) are often high risk, and are subject to decision biases common to high- risk decisions. Existing research has not examined the evaluation processes employed by managers when evaluating risky investment decisions, or whether evaluation processes can mitigate the decision biases prevalent in risky decisions. This research proposes that the risk preferences of decision evaluators and the decision frame faced by decision makers influence evaluations in systematic ways. Using an experiment with 136 experienced MBA students, we find that performance evaluators rely on personal risk preferences and consider the decision domains faced by decision makers when evaluating the decision maker's decisions. Our results indicate that evaluations of IT investment decisions exhibit typical outcome effects, and providing information about the decision frame and the risk preferences of evaluators systematically influence the evaluations. Further, we find that evaluations of IT investment decisions exhibit some characteristics that differ from the evaluations of other risky decisions.

The Posh Hairdo Salon Case

Melissa Walters
Stetson University

Carol J. Normand
University of Wisconsin - Whitewater

The Posh Hairdo Salon (PHS) case is designed as a practical research exercise for use in an upper-level undergraduate accounting information systems (AIS) course. In this case, students are asked to critically evaluate the appropriateness of popular accounting software applications and application service provider (ASPs) solutions for a rapidly growing small business. To complete the case requirements effectively, students must possess a basic understanding of business processes, transaction cycles, and accounting reporting systems. Students must also use the Internet to research and familiarize themselves with the functionality and features of the accounting software options; study readings from the professional literature; construct a written system requirements analysis and a comparative software options evaluation; and adequately justify a final recommendation. Teaching notes and potential case

extensions are presented in the latter sections of the paper; one possible grading key and an alternative case scenario are also included as appendices.

Valuing Strategic Flexibility in Information-Technology Investments: When Do Subjective Valuation and Real Options Analysis Differ?

Nancy Gustafason and Joan Luft
Michigan State University

Strategic flexibility is an important part of many information-technology investment decisions, and real-options analysis can be used to value this flexibility. Research, however, has yielded mixed results on whether managers subjectively value this flexibility in the same way real options analysis does. This study examines the effects of two factors, uncertainty and market structure, on subjective valuation of information-technology real options. Expected utility theory and regret theory provide the basis for making predictions about how individuals will value deferral (delaying an investment decision until uncertainty about the technology's value is resolved) and growth options (a small initial investment that will make a larger investment possible later). We find that the deferral option is valued more highly under high uncertainty than low uncertainty, consistent with option pricing theory; but growth options are valued more highly under low uncertainty than high uncertainty, counter to option pricing theory. Thus, other things equal, increased uncertainty tends to slow down investment in new information technology to a greater degree than would be predicted by option pricing theory. An increase in potential competition, however, acts as a countervailing force, speeding up investment in new information technology. Individuals expect potential competitors to invest more aggressively than conventional economic analysis would predict, and they respond with excessively aggressive investment themselves. In consequence, competition increases the subjective valuation of the growth option and decreases subjective valuation of the deferral option.

Forum Paper Abstracts

Adoption of Enterprise Systems and Longitudinal Firm Performance

Andreas I. Nicolaou and Lawrence H. Bajor
Bowling Green State University

Past research findings indicate that the successful adoption of information technology to support business strategy can help organizations gain superior financial performance versus their competitors. The recent wave of enterprise-wide resource planning systems adoption is considered a strategic investment decision because it represents a significant commitment of resources and has a dramatic effect on all business processes. These strategic investments influence a firm's performance over a long-term time horizon. This study therefore examines the effect of adoption of enterprise systems on a firm's long-term operational performance. For this purpose, a large-scale data identification and collection methodology was employed, utilizing annual report disclosures and announcements in business newswires. A resulting initial sample of 463 firms adopting enterprise systems between 1990 and 1998 was identified. Financial data of these companies and of a matched control group of firms were compared both cross-sectionally and across different time periods before and after adoption. The results from a multivariate analysis of performance differences across time periods has shown that firms adopting enterprise systems have exhibited a significantly higher differential performance in their second year after the completion of the system than the control group. In addition, implementation length, used as a proxy for the quality of the change management process, was identified to operate as a significant moderator in affecting the ability of ERP adopting firms to realize performance outcomes in a shorter period of time after system completion. These results provide important insights that complement extant research findings in this area.

An Analysis of the Impact of Technology on the Tax Practice

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Extensive research has been conducted about the effects of technology on audit practices, but little attention has focused on the interplay of technology with a tax practice. This paper uses survey and phone interview data to analyze the impact of technology on the tax practice and to suggest future research in the area. Fifteen professionals comprised of chief knowledge officers, partners, senior managers, and staff from the four largest multinational public accounting firms participated in the study. In addition to providing detailed insights into the state of technology and tax practice, the results of this paper can be used to stimulate research, better instruct accounting students, apprise academic colleagues of recent changes, and educate the professional accounting community. The study offers a descriptive analysis of four key technology areas in the tax practice including knowledge management systems, client relationship management systems, technology and expertise, and technology and human resources.

An Examination of the Effects of Webtrust and Company Type on Consumer's Purchase Intentions

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This study examines the effects of both WebTrust and company type on purchasing intentions in a B2C E-Commerce setting. While past studies have focused on the incremental effects of Web assurance services on Web sites, this study extends research by exploring whether WebTrust strengthens purchasing intentions for both known, and unknown, companies. Professional literature suggests that Web assurance seals such as WebTrust will primarily benefit unknown companies.

A second contribution of the paper is to propose and test a model of how WebTrust and company type each leads to greater purchasing intentions. Based on a mediation model, WebTrust is expected to influence purchasing intentions through assurance beliefs. Alternatively, company type is expected to influence purchasing intentions through the formation of trusting beliefs. Under our model, because each works through a separate mediating variable, WebTrust and company type are not substitutes for each other.

The results support the proposed model showing that WebTrust is mediated by assurance beliefs and company type is mediated by trusting beliefs. These results have important practical implications as they show that all companies, not just the unknown, can benefit from displaying a WebTrust seal. Thus, the results from our study suggest that the potential market for Web assurance services should include all B2C E-commerce companies.

Antecedents of the Demand for Assurance Services Beyond the Financial Statement Audit: A Model for Analysis

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This paper presents a framework for assessing the antecedents that will ultimately influence demand for assurance services. The framework suggests that, to determine demand for assurance services, it is necessary to assess the business setting and the sources of information risk within that setting to determine the need for assurance about information reliability, information relevance and/or systems quality. Then, to determine ultimate demand for a specific assurance service, the characteristic of assurance delivery and potential alternatives to assurance must be examined. A series of propositions related to the need and demand for assurance in a B2B e-commerce situation are developed, demonstrating the usefulness of the framework and also providing guidance for research in this area.

An Instructional Case for Legacy System Changes for Multiple State Agencies in New York

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This case can be used in an undergraduate or graduate AIS class to enhance students. learning of some of the issues organizations face when replacing accounting legacy systems with ERP systems. The case chronicles the steps that each New York State agency made with regards to ERP, and how the decisions they made impacted the success of each project. Not only does the case lend insight into ERP adoption, design, and implementation issues, but more importantly it hints at how crucial it is for organizations to plan for systems projects in an integrative manner. By allowing each individual state agency to choose an ERP system or continue to use the legacy application developed by one of the agencies, at the end it appeared that New York State systems were still fragmented, and information could not easily be shared. Agencies spent millions of dollars (in taxpayer money) and many months planning for a financial management system (FMS), which would eventually be augmented by other ERP modules, and were left with little or no functionality. When interviewed, agency representatives, who were members of the ERP project team(s), were quick to blame the consultants. Although the case describes the problems agencies experienced with their consultants, insightful students should also question the wisdom of embarking upon expensive systems projects without an overarching strategic vision.

Learning strategies/objectives of the case include:

1. Decentralized versus centralized (top down) approach to systems selection.
2. The relationship between .stakeholder orientation. and superior organizational performance.
3. The tradeoffs between customizing software code and changing business processes to mirror best practices in the software.
4. How to manage consultants in a large-scale systems implementation, including how to draft contracts to protect the interests of the company.
5. What ROI means in the IT world. What types of benefits are derived from IT, including tangible, intangible and strategic. How to calculate ROI from ERP.

A Postmodern Stakeholder Analysis Of 'Telework'

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Telework is one of the fastest growing forms of work both within the U. S. and globally. The International Telework Association and Council's most recent survey indicates that in 2001, approximately 20% of U.S. workers over the age of 18 were involved in some form of telework, including at personal homes, call centers, satellite offices and travel locations. Telework also occurs when organizations outsource work across national boundaries and use dispersed work teams in different time zones to essentially conduct business around the clock. In addition, many accounting firms have implemented telework arrangements to provide flexibility and support for employees, particularly women, who are seeking to balance career and family. Another issue that has arisen of late is the need to disperse workers to reduce the risk to employees from terrorist acts (Zbar 2001).

The increased incidence of telework and novel methods of integrating this relatively new work paradigm into the international business environment create new, ever evolving issues surrounding the ethical treatment of workers and other affected parties. Modern ethical analyses are frequently too narrow to include and adequately consider all relevant parties involved in telework. As a step in this direction, we provide a review of extant literature examining the ethical nature of telework arrangements. Then, utilizing a framework of ethical reasoning (Yuthas and Dillard 1999), we examine telework within the expanded bounds of a postmodern stakeholder enabling perspective.

Appropriating Advanced Information Technologies (ERP Systems) in Accounting Education

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Advanced information technologies (AITs), such as enterprise resource planning (ERP) systems, are quickly becoming commonplace in accounting classrooms. The nature of software, industry involvement, and academe impact the integration of advanced technologies into the accounting educational process. Appropriating these systems in an academic setting involves a great deal of change, which if not carefully considered, could cause failure to achieve mutually beneficial outcomes for students, the academic institution and industry stakeholders. Adaptive structuration theory (AST) provides a highly conceptual change model that the authors believe well captures the change process. In order to better understand and test the processes at the center of AST, the authors incorporate theory from the concerns-based adoption model (CBAM). The authors integrate these two theories into this contextual setting to provide a theoretical framework for studying the utilization of AITs for accounting education purposes. Additionally, the authors suggest propositions for future study derived from the framework.

Auditor Detected Misstatements: Causes, Detection and The Effect of Information Technology

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This paper presents descriptive information on the incidence, cause and detection of misstatements by auditors and the effect of information technology upon them. Misstatement data has not been gathered since the late 1980s. During the intervening period there have been significant changes in information technology, possibly altering the error generation and detection process. We examine four research questions related to the accounts where misstatements occur, their causes, and the audit procedures that detected the misstatements. The six largest public accounting firms in Norway provided data on misstatements from a sample of 58 engagements. We find that when compared to prior research: (1) the occurrence of

misstatements in terms of accounts, direction, and magnitude is similar, (2) the reported causes of the misstatements indicate an increased prevalence of control problems, (3) overall, attention-directing procedures detected fewer misstatements and tests of detail detected more misstatements, (4) there are significantly more misstatements caused because appropriate controls are missing in computerized business processes than non-computerized business processes and (5) analysis and review, checks for mechanical accuracy, and expectations from prior year were more likely to detect misstatements in computerized business processes. These findings have important implications for both audit practitioners and researchers.

Customer Invoicing:A Database Management System Case Using Microsoft Access

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The purpose of this case it to reinforce database and transaction cycle concepts learned in undergraduate accounting information systems classes. This case guides students through the process of building a Microsoft Access invoicing system, thereby reinforcing revenue cycle concepts. In addition, the case assignment includes Accounting Software Integration Notes that can be used by instructors who include QuickBooks, Peachtree, or other accounting software in their curriculum.

The case is more than a step-by-step, "click here, then click there" manual. The assignment provided detailed instructions to get the students started. But as the case progresses, students take more and more responsibility for working the assignment on their own, resulting in an active and creative learning experience. The case assignment also includes brief reviews of many important database and revenue cycle concepts.

Do Cell Labels Improve Spreadsheet Outcomes?

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In the past two decades, the use of end user computing applications has grown exponentially. Unfortunately, prior research indicates that many applications, including spreadsheets, contain errors. This study examines whether cell labels can improve spreadsheet outcomes by lowering error rates, increasing concept retention, and increasing user satisfaction without negatively impacting development time.

Results indicate using cell labels may lower spreadsheet error rates. Additionally, subjects employing cell labels would use them again in future spreadsheet development. Finally, cell labels do not negatively impact development time.

One goal of accounting information systems research is to explore the implications of technology for professional accounting and business practice. This study suggests that using cell labels in spreadsheet development may reduce accountants' concerns about the integrity of end user computing applications.

Educational Case: Understanding End User Computing Risks

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In the past two decades, end user computing, the hands-on development, use, and control of computer-based information systems by users, has increased dramatically throughout the professional accounting and business community. Unfortunately, prior research indicates that many end user computing applications contain difficult to detect errors. These errors may lead to materially inaccurate financial decisions. This case identifies factors influencing end user computing risks, discusses how firms manage these risks, and provides a hands-on activity illustrating the difficulty of detecting end user computing errors. One goal of accounting information systems education is to encourage the exploration of technology implications in professional accounting and business practices. This case increases students' understanding of the implications (both positive and negative) of end user computing applications on our profession.

Foreign Exchange Exposure and Organizational Arrangements For Its Management: An Exposition of A staged Approach to The Specification of A Firm's Needs to Exposure Management Information Systems Developers

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This article discusses a staged approach to the specification of a firm's needs to foreign exchange exposure information systems (FEEMIS) developers. It is argued that information systems derived from today's accounting models lead to conflicting results in foreign exchange exposure management (FEEM). Inadequate organizational arrangements to support FEEM constitute the second problematic. Organizational arrangements provide the context within which FEEM decisions are made. Thus, the first objective of the article is to develop a more adequate categorization of the effects that exchange rate changes may have on firms' future cash flows as opposed to accounting translation effects. The second objective is to discuss organizational arrangements for managing the exposure problem. The article identifies FEEM strategy, FEEM knowledge management, and FEEM coordination as essential organizational issues in FEEM. Being able to specify a firm's business needs to systems developers is an important step in the systems development life cycle (Romney and Steinbart,1999: 657). In a field where current research has not fully identified the distinctive factors of foreign exchange exposure (FEE) and pertinent organizational response mechanisms, the specification should be of interest to managers, information systems (IS) specialists in business software, present and prospective IS researchers. The article outlines future directions toward a fully specified FEEMIS development.

Problem – Based Learning in Accounting Information Systems

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Many accounting researchers (e.g., Albrecht and Sack 2000, Bonner 1999, Knechel 1992) recommend the use of integrated teaching methods in accounting courses. The problem-based learning approach (PBL), in which class discussion evolves from the students' solutions to "real world" cases, has been implemented

successfully in universities around the world (e.g., Schmidt et al. 1996, Jones 1996, Wehlen-Berry 2000). To this end, we implemented the PBL approach in an undergraduate accounting class traditionally taught in a lecture format. Comparison of the percentage of correct answers to common exam questions indicates no significant differences in performance between the lecture-approach semesters and the PBL-approach semester. This finding is consistent with prior research, which indicates that improvement in performance is observed after more than one semester in a PBL-based curriculum (Schmidt et al. 1996). The results of a survey administered at the end of the PBL semester suggest that students find the PBL approach helped them understand the chapter concepts and increased their satisfaction with the course.

Teaching Penetration Auditing As Part Of An Information Systems Auditing Course

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Companies are constantly faced with threats against their computer systems. Unfortunately, the advantages of open systems such as the Internet carry some significant risks that companies must mitigate. This paper discusses actions companies can take to protect themselves from attacks. In addition, this paper discusses one specific action companies can take to evaluate their state of readiness, penetration tests. This paper is intended to serve both academic and practitioner audiences. Penetration tests are misunderstood. A penetration test is usually performed to uncover technical weaknesses in a computer installation. Consequently, the test results contain technical implications that may not be easily understood unless they are put into context and explained in business terms. Many companies have trouble finding the connection between technical findings and business risks. Hence, penetration test results must be presented in a way that connects the technical findings and information technology risks with the business risks.

A penetration test is often confused with a hacking or a cyber attack. To the uninformed, it appears to be a random attack on a computer facility. Actually, it is quite the opposite. It is a carefully planned engagement with strict rules. The key distinction is that there are rules that are developed and communicated before a simulation is performed. In practice, a penetration test or a vulnerability assessment is a simulation of real-world attacks that discover and exploit system vulnerabilities.

This paper provides a penetration testing process that attempts to remove some of the confusion and mystery surrounding penetration tests. The penetration audit process discussed in this paper focuses on control and security of a company's Internet, internal and direct dial connections and has four phases: the Internet attack; the dial-up network attack; repeat the attacks after gaining some network knowledge; test the internal network's ability to withstand an attack by a knowledgeable person. Given the fact that a strong business case exists for penetration audits in business, it is appropriate that penetration auditing concepts be covered as part of an information systems auditing course. Adding penetration auditing to an information systems auditing course also increases the "fun factor" for students. Perhaps it is the natural curiosity that people have to understand crimes or the fact that many students have heard of hacking cases, but students do seem to enjoy studying penetration auditing. The author suggests a four-step approach to teaching penetration auditing as part of an information systems auditing course: discuss the need for penetration auditing; discuss basic hacking concepts; discuss the four-phase penetration auditing approach; perform a penetration auditing exercise.

The Relationship of Accounting Majors' Cognitive Style and Technological Proficiency: Are Students Prepared to Enter an Increasingly Knowledge-Based Profession?

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The increasingly knowledge-based economy has generated technological innovations that demand different competencies for accounting practitioners. In particular, professional service firms such as public accounting practices depend on converting individual expertise into codified knowledge shared within firms and with customers. A key to this knowledge conversion cycle is proficiency with a number of technological tools. Further, individuals who can successfully participate in the creation and transfer of knowledge may have distinct cognitive style characteristics. One important question is whether cognitive style is related to technological proficiency.

This study examines the cognitive styles of a group of undergraduate accounting majors at several U. S. universities to examine any patterns in their cognitive style characteristics. This study further explores the relationship between cognitive style and technological proficiency. Results indicate that accounting students are predominantly linear-thinking (Concrete Sequential), consistent with prior literature. However, those who have stronger proficiency with computers and technology fit into a different cognitive style group. Implications for the accounting profession and accounting education are discussed.

Using ACL and IDEA in the Classroom

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Auditors increasingly use audit software to improve the efficiency and effectiveness of audits. Moreover, in many automated environments, audit software may be necessary to conduct an audit (Gelinas et al. 2001). This paper offers guidance for tailoring computer audit software projects to specific curricular needs. In particular, this paper compares the two primary computer audit software packages available on the market – Audit Command Language (ACL) and Interactive Data Extraction & Analysis (IDEA). The paper describes each package and how the packages are used in two different courses to help students develop their technological and critical-thinking skills. The software is compared along the following dimensions: provided teaching tools and update frequency, ease of implementation, cost, required additional preparation, teaching environment, and software functionality. The paper concludes with an overall evaluation of ACL and IDEA and a list of additional resources available to instructors. Student exercises (with answer keys) are provided in the appendix.

XML Alphabet Soup

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This paper introduces the Extensible Markup Language (XML), XML Schema definitions, and the Extensible Stylesheet Language (XSL). These three technologies offer accountants opportunities to more easily exchange data and present information on the World Wide Web. They also serve as foundation technologies for the Extensible Business Reporting Language (XBRL) project that accountants are actively advancing as a means of exchanging financial information. As a result, accountants need to understand XML, XML Schemas, and XSL.