ICIS Conference Committee 2003

Conference Chairs
Joe Valacich, Washington State University
Len Jessup, Washington State University

Program Chairs
Anne Massey, Indiana University
Sal March, Vanderbilt University

Doctoral Consortium
Joey George, Florida State University
John Mooney, Pepperdine University

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Mark Fuller, Washington State University

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Mauricio Featherman, Washington State University

Exhibits
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Publicity
Pratim Datta, Washington State University

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Local Arrangements
David Croasdell, Washington State University

Doctoral Consortium Local Arrangements
Craig Tyran, Western Washington University

Volunteer Coordinators
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Proceedings
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Samantha Spears, Georgia State University

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ACM SIGMIS
Welcome to ICIS 2003 and Seattle

Welcome to the 2003 International Conference on Information Systems. Our theme is “IT is Everywhere: Impacts on Life, Work, and Learning” and we believe this theme captures how information technology has quickly evolved into a natural part of our daily lives. Seattle is a perfect city for this theme, given that it has become a center for software and technological innovation throughout the world. Today, we live in a global, interconnected society where ubiquitous technologies enable instant communication and global commerce. As information systems researchers and teachers, we play an important role in not only creating new understanding, but also disseminating this knowledge to our community and to our students. We are very proud to be hosting ICIS in this beautiful city and hope that you have a wonderful time while you interact with old and new friends at the conference.

The Program Committee has worked very hard for almost a year to put together an extraordinary set of sessions in eight tracks. Six present research and research-in-progress papers, one presents panels and debates, and one presents teaching cases. We would like to acknowledge Anne Massey and Sal March for their hard work, dedication, and professionalism. We would also like to acknowledge the track chairs and the hundreds of reviewers who so willingly volunteer their time and expertise to make ICIS the premier information systems research conference in the world. Thank you all.

The Doctoral Consortium was held at the Woodmark Hotel, on the east shore of Lake Washington in Kirkland, and is the only hotel on the picturesque shores of this beautiful lake. We chose the Woodmark because we felt it would provide the perfect setting for doctoral students and faculty to share their research interests and build lifelong friendships. The Woodmark provides a quaint atmosphere that will no doubt be a memorable experience for both the students and faculty. We would like to acknowledge Joey George, John Mooney, and the Consortium faculty for their dedication and hard work in selecting an outstanding group of students for this year’s ICIS Doctoral Consortium. Thank you all.

We also owe a tremendous amount of thanks to all the sponsors, corporate and local, that are listed in the program. In particular, we would like to mention our Platinum Sponsors, Boeing, Connexion by Boeing, Microsoft, and Microsoft Research. Without sponsorship, it would be impossible to organize the high quality conference that we have come to know as ICIS. A final note of thanks goes to all the people that have helped make this ICIS meeting a reality; in particular, we would like to acknowledge Kim Forbes, the Atlanta Office personnel, and our colleagues at Washington State University. This conference, as is often the case, is not the result of one individual’s actions, but a collection of small and not-so-small contributions of many people; to all of you, our heartfelt thanks.

Joe Valacich
Len Jessup
General Conference Co-Chairs

About Seattle

Founded in 1869, the “Emerald City” is a youthful metropolis in every respect, experiencing its first boom in the late 1890s, as the last U.S. departure point for those chasing the Klondike Gold Rush. Now, Seattle is the primary international and domestic gateway to Washington State and the lush Pacific Northwest, as well as Canada and Alaska. In the last few decades, the city has also become decidedly fashionable, with the unmistakable 1960s tower, the Space Needle, popping up in Hollywood films. Seattle also has been at the forefront of a number of international trends, including the influences of Microsoft and the high-tech revolution, Starbucks coffee, the grunge music scene, and the new Frank Gehry designed Experience Music Project Museum. The city’s weird and wired image is clearly illustrated by the fact that more than 75% of Seattle residents have Internet access at home.

Located in the western coastal part of Washington, the Greater Seattle Area has a population of 3.2 million and spreads over 155 sq kilometers (60 sq miles) and so is Washington state’s largest urban center, even though the city itself has only 563,374 inhabitants. Over the past 30 years, the region grew nearly twice as fast as the national average and part of the disproportion of Seattle’s city population and its outlying areas is because of sprawl brought on by the high-tech revolution. Seattle is situated on the shores of two large lakes and Puget Sound, with remote wilderness less than an hour away, and is flanked by two major mountain ranges (Olympics and Cascades), with Mount Rainier in full view. Nearby are the San Juan Islands, Pacific Ocean beaches, and major rivers. The mountains afford both spectacular views and skiing, while the city’s waterways make boating and relaxing at waterside cafés...
a draw. Of the 236 sq kilometers (91 sq miles) of the city limits, 80% is surrounded by water, connected by 112 bridges. Seattle has more pleasure boats per capita than anywhere else in the United States.

The greater Seattle area is a leading center for advanced technology in aerospace, computer software, bioinformatics, genomics, telemedicine, electronics, medical equipment, and environmental engineering. The region’s single most important employer is Boeing, which is the largest aircraft manufacturer in the world and consistently one of the top three exporters in the United States. Seattle also continues to be voted one of America’s most livable cities and thus unsurprisingly is home to three of the world’s ten richest people. Its attractions are due in a large part to its beautiful natural setting, surrounded by the waters of Lake Washington and Puget Sound. It is also safe, with one of the lowest violent-crime rates among the top U.S. cities.

Cuisine in the Seattle area is famous for fresh seafood, local farm produce, and other Northwest specialties, with more than 2,200 restaurants in greater Seattle. In addition to its restaurants, Seattle is famous for its local wineries and breweries, as well as numerous urban attractions including several International Districts, zoos, an aquarium, professional sports, museums, and a broad variety of outdoor activities. Also, totting an umbrella is probably not necessary when visiting Seattle. Rumors of rain in Seattle are greatly exaggerated or at least misunderstood. The annual rainfall is 36 inches, less than New York and Atlanta and other cities not known for rain; the average December temperatures are quite moderate (high/low): 45/36 (e.g., New York: 43/31; Atlanta: 54/36). When it does rain here (mostly in the winter), it seldom pours. The Seattle rain is usually passing showers or a gentle mist, moderate like the climate itself.

Letter from the Program Chairs

On behalf of the ICIS 2003 Program Committee we are pleased to welcome you to the Twenty-Fourth International Conference on Information Systems (ICIS). The program spans a wide range of research topics, methodologies, and philosophical underpinnings representative of the rich phenomena we study in the information systems discipline. We hope that you find the program to be interesting, enlightening, and enjoyable.

Conference Theme

The theme of the conference this year, *IT is Everywhere: Impacts on Life, Work, and Learning*, emphasizes the ubiquity of information technology (IT). IT has become so ingrained in modern society that it is difficult to imagine a time when there wasn’t an Internet or an eBay or the myriad of technological advances that enlighten and befuddle, raise expectations and risks, and present organizations with their most valuable resources and their most difficult challenges.

We have organized the conference into eight tracks. Six present research and research-in-progress. One presents panels and debates. One presents teaching cases. The research tracks highlight the major areas in which IT is studied:

- Technological Issues: Architecture, Systems, and Infrastructure
- Management of IT: Strategy, Planning, and Policies
- Individuals, Teams, and Virtual Communities
- Organizations and Supply Chains
- Economic Issues
- National and Societal Issues

The contributions are both theoretical and empirical, addressing a wide range of research issues and using a wide range of approaches. This is fitting of a discipline positioned at the confluence of people, organizations, and technology. We cannot lose sight of “the IT artifact,” that purposefully designed bundle of technological resources aimed at improving the performance of individuals and organizations within their societal contexts. Conversely we cannot become so enamored with our technological capabilities that we lose sight of the theoretical underpinnings that explain and predict the rich phenomena that occur in that confluence. In particular, we must face the technological, organizational, economic, and societal issues that arise when information technology is used to construct networks of individuals, groups, and organizations in both the private and public sectors. We believe this year’s ICIS program meets that challenge head on. We hope you agree.

Program Structure and Review Process

As mentioned above, the program is organized into eight tracks. Two track chairs managed the review process for submissions to each track. We gratefully recognize the work of the track co-chairs and thank them for their efforts on behalf of ICIS 2003:

Research Tracks

- **Tung Bui**, University of Hawaii, USA, and **Matthias Jarke**, RWTH Aachen, Germany (Technical Issues—Architecture, Systems, and Infrastructure)
- **Richard Baskerville**, Georgia State University, USA, and **Yolande Chan**, Queen’s University, Canada (Management of IT—Strategy, Planning, Policies)
Papers submitted to the six research tracks were assigned to a member of the program committee who served as associate editor for the paper. Associate editors assigned papers to reviewers and managed the review process for each paper, giving a recommendation to the track co-chairs who, in turn, made recommendations to the program co-chairs.

Submissions to the other tracks were reviewed by members of the program committee. We are particularly enthused by the broad spectrum of issues and concerns addressed in the panels and debates. The panels and debates have been scheduled for the first two days of the conference in anticipation that they will result in significant discussion and exchange of ideas throughout the conference. Finally, we are pleased and excited to include teaching cases in the program. These promise to add significantly to our ability to transmit knowledge of our discipline to students and practitioners through the experiences of leading-edge companies.

ICIS 2003 received nearly 600 submissions, of which 548 were completed research or research-in-progress papers, 18 were panels and debate proposals, and 20 were teaching cases. Given this record number of submissions and their consistently high quality the task of selecting papers for inclusion in the conference was daunting. Based on the recommendations of the track co-chairs, associate editors, and reviewers, and with the goal of producing a coherent, interesting, and enjoyable conference, we accepted 106 submissions for inclusion in the final program. This includes 96 completed research and research-in-progress papers (17.5% acceptance rate), four panels and debates, and six teaching cases. While we regret that we could accept only a small percent of the submissions, this is in keeping with the reputation of ICIS as the premier academic IS conference of the Association for Information Systems. Fourteen papers were nominated for the best paper awards by reviewers or associate editors. The track co-chairs considered these recommendations and selected three candidates for best paper and three for best theme paper. A sub-committee made the final decision. Program committee members in the Teaching Cases track selected the best teaching case award winner.

Acknowledgments

Developing the program for a conference such as ICIS is a challenging and exhausting task. The track co-chairs were recognized above and we gratefully acknowledge their efforts. We would also like to thank the members of the program committee and the reviewers they enlisted. Their efforts, together with those of the track co-chairs, ensured the truly outstanding quality of the program. In addition, we would like to thank Darren Nicholson who served as the Review Coordinator and as the Webmaster for the conference Web site. He worked tirelessly to keep the information on the Web site current and accurate. We would also like to thank the conference chairs, Joe Valacich and Len Jessup for their encouragement and support during the development of the program. As always Jan DeGross magnificently handled the production of the proceedings and we gratefully acknowledge her efforts.

We sincerely hope that you enjoy the conference and that it is a valuable learning experience.
Welcome Message from the AIS President

It is my privilege to greet you and to extend a warm welcome to the Twenty-Fourth International Conference on Information Systems (ICIS). ICIS was founded in 1980. It is held annually with the objective of providing a forum where scholars who have an interest in the information systems discipline can meet to discuss the highest-quality research conducted within the discipline. The first conference was held in Philadelphia, Pennsylvania, as the “Conference on Information Systems.” By 1986, particularly as the result of Canadian and European attendance and participation, “International” was appended to the name, thereby creating the International Conference on Information Systems. ICIS became truly international in 1990 when the conference was first held outside North America in Copenhagen, Denmark. ICIS further established its international credentials by holding ICIS 1994 in Vancouver, British Columbia, ICIS 1995 in Amsterdam, ICIS 1998 in Helsinki, ICIS 2000 in Brisbane, and ICIS 2002 in Barcelona. Over the years, it has become the most prestigious gathering of IS academics and research-oriented practitioners in the world.

This year, the organizers of the conference have worked hard to bring you a truly outstanding conference program. It starts with an opening reception at Experience Music Project, to be followed by the presentation of some 102 papers, organized under six different tracks with the overall theme of “IT is Everywhere: Impacts on Life, Work, and Learning,” along with two keynote speeches, four panel discussions, a doctoral consortium, and a special event at the Boeing Museum of Flight. This promises to be a very rewarding event academically and socially.

I am sure that I speak for all participants when I say how grateful we are to have the opportunity to come to Seattle for ICIS2003. We would also like to express our gratitude to the many people who have made ICIS2003 possible. Our special appreciation goes to the conference co-chairs Joe Valacich and Len Jessup, to the program co-chairs Anne Massey and Sal March, to the doctoral consortium co-chairs Joey George and John Mooney, and to the finance chair Mark Fuller.

Last but not least, I wish all participants a fruitful and enjoyable conference at ICIS 2003.

Kwok-kee Wei
President
Association for Information Systems

Letter from the Chair of the ICIS Executive Committee

On behalf of the ICIS Executive Committee, I would like to extend to you my welcome to ICIS 2003 in friendly Seattle. This year marks the 24th ICIS, and as in the past, continues to be the premier conference in our field. The program that you hold in your hands contains an extremely interesting set of sessions compiled by Anne Massey and Sal March that will undoubtedly prove why ICIS remains the reference for academics and researchers in the information systems discipline.

The conference, with its plenary sessions and social events, and the city of Seattle offer a series of opportunities for academic work but also for networking and enjoyment. I encourage you to pursue all of them to their fullest.

Our upcoming conferences are scheduled for Washington, DC, in 2004, Las Vegas, Nevada, in 2005 and London, England, in 2006. We will be selecting the 2007 site during our Committee meeting here in Seattle, and I would like to encourage you to consider submitting a bid for 2008. You are welcome to contact me, as incoming chair of the Site Advisory Committee, or any other member of the Executive Committee for information and help. We are always looking for exciting locations and teams willing to organize future conferences. Conferences are successful thanks to their attendees, but they also need dedicated and enthusiastic organizers. The IS community has been extraordinary in supporting this conference for 24 years and I am sure that it will continue for years to come.

Finally, I would like to extend the most grateful thanks of the ICIS Executive Committee to the conference organizers, Joe Valacich and Len Jessup, from Washington State University. They have worked extremely hard in putting together the conference since it was awarded to Seattle in December 2001. Organizing an ICIS Conference is an enormous task and can only be accomplished with a team effort; the whole Seattle team, therefore, also deserve our thanks and recognition for their accomplishment.

Josep Valor
Chair of the ICIS Executive Committee
We would like to add our welcome and thanks for coming to Seattle for ICIS 2003. Everyone on the local committee has worked hard to make this ICIS a success, and we hope you have a great time while learning a lot, seeing old friends and making new ones.

Our goals for this year’s doctoral consortium were to facilitate the development of the participants’ dissertation/thesis research, provide some insights and advice as they prepare to begin their careers as IS academics, and contribute to the development of their professional and social networks. We hope they learned a lot, from each other and from the distinguished faculty who agreed to take part in this year’s event.

We would like to thank this year’s faculty for their participation and all of the effort they put in to making this year’s consortium a success. The faculty are Ritu Agarwal, University of Maryland; Guy Fitzgerald, Brunel University; Chris Kemerer, University of Pittsburgh; Laurie Kirsch, University of Pittsburgh; Michael Myers, University of Auckland; Sumit Sarkar, University of Texas at Dallas; Chris Sauer, Oxford University; and Ron Weber, University of Queensland.

As usual, the competition for admission to the consortium was fierce this year. Out of 64 nominees, we selected 40. Those not chosen also had very strong credentials, and it was difficult to choose only 40. The list of consortium attendees appears below. The MIS field continues to produce strong, well-grounded doctoral students, and each group seems to be better than the last.

Finally, we would like to thank all of the other people who helped make the 2003 doctoral consortium a success. Thanks to the staff at the Woodmark Hotel, in Kirkland, where the consortium was held. Thanks to Joe and Len for trusting us to deliver. Thanks to Chris Holland and SAMS for providing a very generous gift that allowed us to pay for the travel to and from Seattle for every attendee who needed the financial assistance. Thanks to Darren Nicholson of Washington State University, who created and managed the consortium website. And a very special thanks to Craig Tyran, of Western Washington University. Craig was our local arrangements chair for the consortium, and we could never have pulled this off without his help. Thanks, Craig!

Joey George, Florida State University
John Mooney, Pepperdine University

ICIS 2003 Doctoral Consortium Attendees

Ghada Alaa, Brunel University
Hala Annabi, Syracuse University
Andre Araujo, University of Oklahoma
Anteneh Ayanso, University of Connecticut
Daniel Chen, University of Georgia
Gay Costain, University of Auckland
Alexandra Durcikova, University of Pittsburgh
Ranjan Dutta, University of Texas at Austin
Redouane El Amrani, Université de Nantes
Wafa Elgarah, University of Central Florida
Dianne Ford, Queens University
Anindyag Ghose, Carnegie Mellon University
Jane Gravill, University of Western Ontario
Michele Gribbins, University of Illinois at Urbana-Champaign
Ruth Halperin, London School of Economics
Allan Harold, McMaster University
Tsipi Heart, Ben-Gurion University
Nan Hu, University of Texas at Dallas
David Johnstone, Victoria University of Wellington
Younghwa Gabe Lee, University of Colorado at Boulder

Vanessa Liu, City University of Hong Kong
Kent Maret, Florida State University
Sean McGann, Case Western Reserve University
Darren Nicholson, Washington State University
Carl Magnus Olsson, IT University of Gothenburg
Jonathan Paul, University of New South Wales
Claudia Perlich, New York University
Simon Poon, University of Sydney
Alain Ross, University of Calgary
Khawaja Saeed, University of South Carolina
Wasana Seda, Queensland University of Technology
Qian Candy Tang, University of Florida
Angsana Techatassanasoontorn, University of Minnesota
Jo-Ann Trotman-Waterman, University of Warwick
Yun Wan, University of Illinois at Chicago
Ping Wang, UCLA
Michael Williams, Indiana University
Fei Ye, University of Maryland
Yingjin Zheng, Cambridge University
Jiangfan Jenny Zhong, University of Southern California
Scott E. Carson
Senior Vice President, The Boeing Company
President, Connexion by Boeing

Scott Carson is president of Connexion by Boeing, which provides high-speed Internet and entertainment services to mobile platforms. Carson was appointed to this position in November 2000 and also was named senior vice president and a member of the Boeing Executive Council.

Carson previously served as executive vice president and chief financial officer of Boeing Commercial Airplanes Group, the world’s largest producer of commercial airplanes. Named to this position in September 1998, he was responsible for the financial management of the segment as well as its business strategy to return greater value to customers, shareholders, employees, and the community. In addition to the Finance and Business Strategy organizations, Information Systems and Services also reported to Carson.

Prior to this assignment, he was executive vice president of Business Resources for the former Boeing Information, Space & Defense Systems (ISDS). Named to that position in November 1997, he was responsible for Finance, Business Planning, Business Ethics and Conduct, Communications, Customer Relations, Contracts, Information Systems, People Processes and Skills, and Program Management.

Carson joined Boeing in 1973 as a financial analyst on the B-1 bomber avionics program. He moved into management in 1976 as the financial controls manager on the U.S. Army Multiple Launch Rocket System and later served as the project finance manager. Successively, he was the finance manager for the U.S. Air Force E-4 program, business manager for the successful bid by Boeing to build the U.S. Navy’s E-6 submarine communications aircraft, and controller of the Information Systems Division.

In late 1985, Carson moved to Boeing Company Offices, where he served as Operations assistant corporate controller. In 1988, he was controller for Aerospace & Electronics before moving to a new position as director of Planning and Computing.

In 1992, he rejoined the former Boeing Defense & Space Group and became Finance and Administration director for Engineering, where his primary focus was on reorganizing and streamlining the organization. He subsequently became executive vice president of the Boeing Commercial Space Company, a Boeing subsidiary responsible for managing commercial space programs. In 1993, he was named Space Station transition program director and went on to serve as Space Station Business Operations deputy program manager with special focus on the Space Station program’s major subcontractors. Three years later, he assumed responsibility for all aspects of ISDS Finance, ranging from planning and accounting to cost management and financial systems.

Born August 8, 1946, Carson graduated from Washington State University (WSU) with a bachelor’s degree in business administration. He later received a master’s degree in the same discipline from the University of Washington. He serves as the Boeing executive focal point for Washington State University and as a trustee of the WSU Foundation. He has served on the advisory panel for the University of Washington Executive MBA program, and on various school board committees in the Federal Way, Washington, school district.
Jeff Raikes
Group Vice President
Productivity and Business Services
Microsoft Corporation

As group vice president of Productivity and Business Services (PBS), Jeff Raikes drives Microsoft Corporation’s broad vision for productivity and business process applications and services. PBS delivers business value by developing technologies that focus on improving productivity for information workers and corporations. Raikes leads an integrated team that includes the Information Worker Product Management Group (the Microsoft® Office System), the Information Worker New Markets Group (Microsoft Office Solution Accelerators, Personal Solutions and Center for Information Work), and Microsoft Business Solutions.

A 20-year veteran at Microsoft, Raikes is a member of the Senior Leadership Team, responsible for developing Microsoft’s core direction. He is also a member of the Business Leadership Team, which is responsible for broad strategic and business planning for the entire company.

Before his current role, Raikes was group vice president of the Worldwide Sales and Support Group, responsible for providing strategic leadership for Microsoft’s sales, marketing, and service initiatives. Before his promotion to group vice president, he had been senior vice president of Microsoft North America since 1993.

Raikes joined Microsoft in 1981 as a product manager and was instrumental in driving Microsoft’s applications marketing strategy. Promoted to director of Applications Marketing in 1984, he was the chief strategist behind Microsoft’s success in graphical applications for the Apple Macintosh and the Microsoft Windows® operating system. In this role, he drove the product strategy and design of Microsoft Office, the industry’s leading business productivity suite. Raikes was then promoted to vice president of Office Systems, where he was responsible for development and marketing word processing, workgroup applications, and pen computing. Before joining Microsoft, he was a software development manager at Apple Computer Inc.

Raikes holds a bachelor’s degree in engineering and economic systems from Stanford University. He served on the board of directors of the Software Publishers Association from 1987 to 1993 and twice served as the chairman of the board. Raikes also served on the board of the Washington Technology Center and is currently on the board of directors of XO Communications Inc.

A native of Nebraska, Raikes is a trustee of the University of Nebraska Foundation. He is involved with numerous community activities, focusing on education and children’s issues. As part of a community effort to preserve major league baseball in the Pacific Northwest, he joined with other Seattle business leaders in 1992 to purchase the Seattle Mariners baseball club.
Social Events

Sunday Night, December 14, 2003
Experience Music Project

One of Seattle’s most popular attractions is the Experience Music Project (EMP), an experiential rock ‘n’ roll music museum housed in a huge, colorful psychedelic building, designed by Frank Gehry, at the base of the Space Needle. The museum was planned originally by Microsoft entrepreneur Paul Allen as a memorial to Jimi Hendrix, the superstar guitarist who was born in Seattle and died more than 30 years ago. In addition to the Hendrix exhibit, EMP’s collection includes more than 80,000 artifacts that helped shape music history, including musical instruments (from one of the first electric guitars to those used by artists such as Bob Dylan, Bo Diddley, Muddy Waters, and Kurt Cobain), an extensive recorded sound archive, film, photographs, fanzines from around the world, stage costumes, handwritten song lyrics, and rare song sheets.

Visitors to EMP will take an unprecedented and technologically advanced journey that will inspire them to explore and celebrate music as never before. EMP is dedicated to capturing and reflecting the essence of rock ‘n’ roll, from its roots in jazz, soul, gospel, country, and the blues, to its influence on hip hop, punk, and other more recent genres. EMP invites visitors to participate in a total sensory experience: see rare artifacts and memorabilia, hear musicians tell their stories, or play an instrument and create your own music. Learning about music has never been so much fun.

Tuesday Night, December 16, 2003
Boeing Museum of Flight

The Museum of Flight’s collection of aerospace artifacts is the largest and most comprehensive in the western United States, holding true to the Museum’s mission to “acquire, preserve, and exhibit historically significant air and space artifacts which provide a foundation for scholarly research and lifelong learning programs that inspire an interest in and understanding of science, technology, and the humanities.” This collection of artifacts and materials provides a useful repository for the aerospace industry and a place to record the story of air and space achievements in the most prominent manner, with real artifacts.

The Museum of Flight features 54 of the world’s most awe-inspiring airplanes—authentic and in mint condition. In the steel and glass Great Gallery, the history of aviation soars past, with dozens of full-size aircraft flying in formation six stories above. Sit in the cockpit of a real SR-71 Blackbird or F/A-18 Hornet. Board America’s first presidential jet—Air Force One. Step back 85 years in the magnificently restored Red Barn®, birthplace of The Boeing Company. From hands-on kid’s workshops, to fly-ins, to interaction with the people who made aviation history, the Museum of Flight has something to offer every member of your family or group. Come experience the story of flight from the dawn of aviation to the Space Age.

General Conference Information

Junior Faculty Consortium

The Junior Faculty Consortium will be held on Sunday, December 14, 2003, from 8:30 a.m. to 3:00 p.m. in the Cirrus Room. Due to resource limitations, only junior faculty members that have pre-registered for this session will be allowed to attend.

Doctoral Student Reception

The Doctoral Student Reception will be held on Sunday evening, December 14, from 5:00 p.m. to 6:00 p.m. in the Cirrus Room of the Sheraton Seattle Hotel. We encourage all doctoral students registered for ICIS to attend this reception. It is a great opportunity to meet your peers. This event is hosted by the Information Systems Society of INFORMS.

Sunday Opening Reception

All ICIS conference registrants are invited to attend the traditional Opening Reception on Sunday evening, December 14, from 6:30 p.m. to 10:30 p.m. This reception will be held at the Experience Music Project (EMP), 325 5th Avenue North (at Seattle Center). Transportation to the EMP will be provided using the Seattle Monorail. There will be instructions in your registration packet on how to gain free roundtrip access to the monorail. For more information on the EMP, visit http://www.emplive.org/.

Tuesday Social Event

This year’s social event will take place on Tuesday evening, December 16, at the Boeing Museum of Flight, 9404 East Marginal Way South (at Boeing Field). Transportation will be
provided. Buses will depart from the Sheraton Seattle Hotel at beginning at 6:15 p.m. A buffet dinner and bar will be provided by our host, Boeing. Buses will begin departing Boeing at 9:30 p.m. for return to the Sheraton Seattle. For more information on the Museum of Flight, visit http://www.museumofflight.org/.

Microsoft Special Event

Malu Roldan and Stephen Kwan, MIS, San Jose State University, will provide a special presentation on Sunday, December 14, from 2:00 p.m. to 4:00 p.m. in East Ballroom A. San Jose State University is the recipient of a Mobility Computing Equipment grant from Hewlett-Packard that provided equipment and teaching assistants to support the faculty of MIS, Finance, and Computer Engineering to team-teach a class on Mobility Computing Strategy. Students from the three disciplines collaborate with clients to develop real-life mobile computing applications as well as a business plan for the product. Microsoft provided software support and training. Faculty and students from the class will present the curriculum design, demonstrate the projects, and share lessons learned. A catered reception will follow the presentation where poster boards and hands-on demonstrations of the project will be available for review.

Placement

On-site placement services will be provided in collaboration with AIS. On-site facilities for conducting interviews are available for participants registered in the AIS Online Placement System and registered for ICIS. For more information on the online system, see the AIS Placement Web site at http://aisnet.org/placement/ or the ICIS registration booth for on-site registration. The ICIS on-site service includes a sign-in table and interview tables in the Juniper, Cedar, Madrona, and Douglas Rooms at the Sheraton. Interview table space will be allocated on a first-come, first-served basis on each day of the conference. Placement bulletin boards will be available near the sign-in table. On-site interview tables will be available during the following hours:

- Monday, December 15  7:00 a.m.–6:00 p.m.
- Tuesday, December 16  7:00 a.m.–6:00 p.m.
- Wednesday, December 17  7:00 a.m.–12:00 noon

E-Mail Services/Internet Access On-Site

E-mail and Internet services are available for the duration of the conference in the Metropolitan Ballroom. Wireless Internet access is provided throughout the public conference space, including session rooms, from Sunday through Wednesday.

Exhibits & CyberCafe

Exhibitors, including textbook publishers and information technology vendors, will display materials for use in teaching, research, and business in the Metropolitan Ballroom.

- Sunday, December 14  3:00 p.m.–6:00 p.m.
- Monday, December 15  7:00 a.m.–7:00 p.m.
- Tuesday, December 16  7:00 a.m.–6:00 p.m.
- Wednesday, December 17  7:00 a.m.–12:00 noon

Future Conferences

ICIS 2004 will be held in Washington, DC, USA, on December 12-15, 2004. V. Sambamurthy, Michigan State University, and Richard Watson, University of Georgia, are the conference co-chairs. Visit the conference website at http://www.terry.uga.edu/conferences/ICIS2004/.

ICIS 2005 will be held in Las Vegas, Nevada, USA, on December 11-14, 2005. The conference co-chairs are William King, University of Pittsburgh, and Reza Torkzadeh, University of Nevada. Visit the conference website at http://www.unlv.edu/faculty/reza/ICIS/index.htm.

ICIS 2006 will be held in London, England, UK, on December 10-13, 2006. The conference co-chairs are Guy Fitzgerald and Wendy Currie, Brunel University.

Proceedings

Papers accepted for presentation at ICIS 2003 are available to you anywhere in the world. The ICIS proceedings are available online through the eLibrary of the Association for Information Systems. Papers accepted for presentation at ICIS 2003 are available to you anywhere in the world. The ICIS proceedings are available online through the eLibrary of the Association for Information Systems. Simply connect to the eLibrary, search, and download the papers you would like: http://aisel.isworld.org/.

1. First, connect to the eLibrary.
2. Select the “ICIS 2003 Proceedings” link on the page.
3. Next, search for and download any paper you would like to view by following the navigational dropdown menus under the “Program” link.

Please note: You must be a current member of AIS to gain access to the proceedings content. If you were not previously a member of AIS, please note that a one-year membership is included in the conference registration fee.
Awards

This year, ICIS continues the tradition of hosting the presentation of the AIS Fellows and the Leo Awards. The Leo Award for Lifetime Exception Achievement in Information Systems honors outstanding individuals who have contributed to the information systems community. The Leo Awards will be presented at the plenary session at 8:00 a.m. on Monday, December 15 in the Grand Ballroom. The AIS Fellows recognizes colleagues who have made an outstanding contribution to the development and maintenance of the international community of Information Systems academics. The AIS Fellows will be presented in the plenary session at 8:00 a.m. on Tuesday, December 16, in the Grand Ballroom.

### Conference Schedule

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<th>Sunday, December 14</th>
<th>8:30 a.m.–3:00 p.m.</th>
<th>Cirrus Room</th>
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<tr>
<td></td>
<td>1:00 p.m.–7:00 p.m.</td>
<td>Spruce Room</td>
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<td>2:00 p.m.–4:00 p.m.</td>
<td>East Ballroom A</td>
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<td>3:00 p.m.–6:00 p.m.</td>
<td>Metropolitan Ballroom</td>
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<td>5:00 p.m.–6:00 p.m.</td>
<td>Cirrus Room</td>
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<td>6:30 p.m.–10:30 p.m.</td>
<td>Doctoral Student Reception</td>
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<th>Monday, December 15</th>
<th>7:00 a.m.–6:00 p.m.</th>
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<td>7:00 a.m.–6:00 p.m.</td>
<td>AIS/ICIS Placement</td>
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<td>7:00 a.m.–7:00 p.m.</td>
<td>Exhibits &amp; CyberCafe</td>
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</table>
8:00 a.m.–9:30 a.m.

**Session M1.1**

**Grand Ballroom**

**Plenary Session**

Presentation of LEO Awards for Lifetime Exceptional Achievement in Information Systems

Keynote Speaker: Jeff Raikes, Group Vice President, Productivity and Group Services, Microsoft

9:30 a.m.–10:00 a.m.

**Break**

10:00 a.m.–11:30 a.m.

**Session M2.1**

**Aspen**

**Completed Conceptual Modeling Support**

Chair Matthias Jarke, RWTH-Aachen


Discussant Alok Chatuverdi, Purdue University

Paper “Supporting Database Designers in Entity-Relationship Modeling: An Ontology-Based Approach,” Vijayan Sugumaran, Oakland University, and Veda Storey, Georgia State University

Discussant Carson Woo, University of British Columbia

**Session M2.2**

**Cirrus**

**Completed Consumer Decision-Making on the Web**

Chair P. C. Chu, Ohio State University


Discussant Fiona Nah, University of Nebraska-Lincoln

Paper “Impact of Feedback and Usability of Online Payment Processes on Consumer Decision Making,” Ranjan Dutta, Sirkka Jarvenpaa, and Kerem Tomak, University of Texas at Austin

Discussant Bernard Tan, National University of Singapore

**Session M2.3**

**East A**

**Research in Managing Business Versus Managing Technology**

Chair Blaize Reich, Simon Fraser University


Discussant Nicholas L. Ball, University of Minnesota

Paper “The Role of Knowledge in Information Technology Project Governance,” Raymond M. Henry, Clemson University, Laurie J. Kirsch, University of Pittsburgh, and V. Sambamurthy, Michigan State University

Discussant George Westerman, Massachusetts Institute of Technology


Discussant Mary Sumner, Southern Illinois University, Edwardsville
Session M2.4
East B

**Completed Research**

**Perspectives on Peer-to-Peer Technologies**

**Chair**
Rudy Hirschheim, Louisiana State University

**Paper**

**Discussant**
Wolfgang Koenig, Frankfurt University

**Paper**

**Discussant**
Mareike School, University of Muenster

Session M2.5
West A

**Panel**
Computing on the Scaffolds: The Coming Transformation of Architecture and Construction with Digital Technologies

**Chair**
Richard Boland, Case Western Reserve University

**Panelists**
Jim Glymph, Gehry Partners
Bill Zahner, A. Zahner Company
John King, University of Michigan
Kalle Lyytinen, Case Western Reserve University

Session M2.6
West B

**Completed Research**

**IT in Fast Changing Contexts**

**Chair**
Tor Larsen, Norwegian School of Management

**Paper**
“Contexts of Relevance in Explanatory Case Studies in Information Systems: Ubiquitous Information Technology Implementation in Organizations,” Rens Scheepers, University of Melbourne, and Helana Scheepers, Monash University

**Discussant**
Fred Niederman, Saint Louis University

**Paper**
“The Problem of Embeddedness: Knowledge Transfer, Situated Practice, and the Role of Information Systems,” Ruey-lin Hsiao, National University of Singapore, Stephen Tsai, National Sun Yat-sen University, and Ching-Fang Lee, National Sun Yat-sen University

**Discussant**
Dianne Ford, Queen’s University

11:30 a.m.–1:30 p.m.
Grand Ballroom

**Lunch**

1:30 p.m.–3:00 p.m.

Session M3.1
Aspen

**Research in Research**

**Impacts of Advanced Technology on End Users**

**Chair**
Vernon Richardson, University of Kansas

**Paper**
“The Effects of Trust-Assuring Arguments on Consumer Trust in Internet Stores,” Dongmin Kim and Izak Benbasat, The University of British Columbia

**Discussant**
Kate Stewart, University of Maryland

**Paper**
“The Effect of Base Rate Sensitization on End-User Query Performance Moderated by Conscientiousness,” A. Faye Borthick, Georgia State University, Paul L. Bowen, University of Queensland, and David Robb, University of Queensland

**Discussant**
Mani Subramani, University of Minnesota

**Paper**

**Discussant**
Manju Ahuja, Indiana University
Session M3.2  
Cirrus

Completed Research
Knowing Before Leaping: IT Knowledge and IT Adoption

Chair  
Peter Meso, Georgia State University

Paper  
“Effects of Absorptive Capacity on Organizational Predisposition Toward Information Systems,” Hock-Hai Teo, Wen Wan, Xinwei Wang, and Kwok Kee Wei, National University of Singapore

Discussant  
Alain Pinsonneault, McGill University

Paper  

Discussant  
Carmen Bernier, HEC Montréal

Session M3.3  
East A

Completed Research
Economic Theory of IT-Based Firms

Chair  
John Glavin, Indiana University, Indianapolis

Paper  
“Value Creation from Application Service Provisioning: Lessons from Four Vendor Firms,” Wendy Currie, Brunel University

Discussant  
Rajiv Kohli, Notre Dame University

Paper  
“Why Information Technology Workers Own Their Firms: How the Relative Importance of Human Capital Affects Firm Ownership,” Shinkyu Yang, Massachusetts Institute of Technology, Heekyung Hellen Kim, Jet Propulsion Laboratory, and Yannis Bakos, New York University

Discussant  
Robert A. Josefek, University of Southern California

Session M3.4  
East B

Completed Research
Globalization and E-Commerce

Chair  
Kenneth L. Kraemer, University of California, Irvine

Paper  

Discussant  
John Leslie King, University of Michigan

Paper  
“Assessing Drivers of E-Business Value: Results of a Cross-Country Study,” Kevin Zhu, Sean Xu, and Jason Dedrick, University of California, Irvine

Discussant  
William Foster, Arizona State University

Session M3.5  
West A

Completed Research
Social Issues in Online Communities

Chair  
Jeff Parsons, Memorial University of Newfoundland

Paper  
“Knowledge Adoption in Online Communities of Practice,” Wei Zhang and Stephanie Watts, Boston University

Discussant  
Munir Mundviwalla, Temple University

Paper  
“Online Discussion Boards for Technical Support: The Effect of Token Recognition on Customer Contributions,” Bin Gu and Sirkka Jarvenpaa, University of Texas at Austin

Discussant  
Sabine Hirt, Instituto de Empresa
Completed Research

Session M3.6
West B

**IS Modeling Abstractions**

Chair: Tung Bui, University of Hawaii


Discussant: Siva Sankaran, California State University, Northridge


Discussant: Ralf Klamm, RWTH-Aachen

3:00 p.m.–3:30 p.m.

3:30 p.m.–5:00 p.m.

Completed Research

Session M4.1
Aspen

**Perspectives on Partnerships**

Chair: Weidong Xia, University of Minnesota

Paper: “Coordination and Success in Multidisciplinary Scientific Collaborations,” Jonathon Cummings, Massachusetts Institute of Technology, and Sara Kiesler, Carnegie Mellon University

Discussant: Julie Rennecker, Case Western Reserve University

Paper: “Strategic Information Technology Partnerships in Outsourcing as a Distinctive Source of Information Technology Value: A Social Capital Perspective,” Fei Ye and Ritu Agarwal, University of Maryland, College Park

Discussant: Jerry Luftman, Stevens Institute of Technology

Session M4.2
Cirrus

**Knowledge Boundaries: Partition or Integrate?**

Chair: Nancy Russo, Northern Illinois University

Paper: “The Antecedents of Information Systems Development Capability in Firms: A Knowledge Integration Perspective,” Amrit Tiwana, Emory University, Anandhi Bharadwaj, Emory University, and V. Sambamurthy, Michigan State University

Discussant: Ray Hackney, Manchester Metropolitan University

Paper: “Knowledge Partitioning in Outsourced Software Development: A Field Study,” Amrit Tiwana, Emory University

Discussant: Dowan Kwon, Concordia University

Session M4.3
East A

**Manufacturing and Supply Chain Information Systems**

Chair: Tim McLaren, McMaster University


Discussant: Nigel Melville, Boston College

Paper: “Impact of Manufacturing Practices on Adoption of Plant Information Systems,” Rajiv Banker, University of California, Riverside, Indranil Bardhan, Hsihui Chang, Shu Lin, University of Texas at Dallas

Discussant: Ann Majchrzak, University of Southern California
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<th><strong>Strategic Innovation in Supply Chains and Electronic Markets</strong></th>
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<td>Chair</td>
<td>Michael Wade, York University</td>
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<tr>
<td>Case</td>
<td>“STATER NV: E-Servicing Strategies,” Scott Schneberger, Georgia State University</td>
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<tr>
<td>Case</td>
<td>“Constructing an E-Supply Chain at Eastman Chemical Company,” Benjamin Yen, Ali Farhoomand, and Pauline Ng, University of Hong Kong</td>
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<td>Case</td>
<td>“DCXNET: E-Transformation at DaimlerChrysler,” Arnd Klein, smart GmbH, and Helmut Krcmar, Technical University Munich</td>
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<tr>
<td>Discussant</td>
<td>Blake Ives, University of Houston</td>
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<tr>
<th>Session M4.5  West A</th>
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<th><strong>The Dark Side of Information and Communication Technologies: The View from the Industry-Level of Analysis</strong></th>
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<tr>
<td>Chairs</td>
<td>Suzi Iacono, National Science Foundation</td>
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<td></td>
<td>Rolf Wigand, University of Arkansas at Little Rock</td>
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<td>Panelists</td>
<td>Kevin Crowston, Syracuse University</td>
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<td>Ken Kraemer, University of California, Irvine</td>
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<td>M. Lynne Markus, Bentley College</td>
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<td>Steve Sawyer, Pennsylvania State University</td>
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<td>Charles W. Steinfield, Michigan State University</td>
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<th><strong>Economics of Electronic Markets I</strong></th>
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<tr>
<td>Chair</td>
<td>Vijay Khatri, Indiana University</td>
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<tr>
<td>Paper</td>
<td>“Preference Revelation in Multi-Attribute Reverse English Auctions: A Laboratory Study,” Stefan Strecker, University of Karlsruhe</td>
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<td>Discussant</td>
<td>Adjit Kambil, Deloitte Consulting</td>
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<tr>
<td>Paper</td>
<td>“The Consumer Online Purchase Decision: A Model of Consideration Set Formation and Buyer Conversion Rate Across Market Leaders and Market Followers,” Neveen I. Farag, University of Michigan, Michael D. Smith, Carnegie Mellon University, and M. S. Krishnan, University of Michigan</td>
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<tr>
<td>Discussant</td>
<td>Jae K. Lee, Korea Advanced Institute of Science and Technology</td>
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Tuesday, December 16

7:00 a.m.–6:00 p.m.

Spruce Room
Registration

7:00 a.m.–6:00 p.m.

Juniper, Cedar, Madrona & Douglas Rooms
AIS/ICIS Placement

7:00 a.m.–6:00 p.m.

Metropolitan Ballroom
Exhibits & CyberCafe

8:00 a.m.–9:30 a.m.

Grand Ballroom
Plenary Session
Presentation of AIS Fellows
Keynote Speaker: Scott Carson, Senior Vice President, The Boeing Corporation; President, Connexion by Boeing℠

9:30 a.m.–10:00 a.m.

Break

10:00 a.m.–11:30 a.m.

Session T2.1
Aspen
Research in Progress
Chair Gurpreet Dhillon, Virginia Commonwealth University
Discussant Carl Stucke, Georgia State University
Paper “The Impact of Schedule Pressure on Software Development: A Behavioral Perspective,” Ning Nan, University of Michigan, Donald E. Harter, Syracuse University, and Tara Thomas, University of Michigan
Discussant Evelyn Barry, Texas A&M University
Discussant Scott Boss, Pittsburgh University

Session T2.2
Cirrus
Research in Progress
Chair Deb Armstrong, University of Arkansas
Paper “Self-Regulated Learning Strategies and Computer Software Training,” Jane Gravill and Deborah Compeau, The University of Western Ontario
Discussant Kevin Gallagher, Florida State University
Discussant Pamela Carter, University of Oklahoma
Discussant David Salisbury, University of Dayton
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<th>Consumer Online Purchasing</th>
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<td>East A</td>
<td>Chair</td>
<td>Joe Bailey, University of Maryland</td>
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<td></td>
<td>Discussant</td>
<td>Timo Saarinen, Helsinki School of Economics and Business Administration</td>
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<td>Nominated for Best Paper</td>
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<td></td>
<td>Paper</td>
<td>“An Investigation of Consumer Online Trust and Purchase-Repurchase Intentions,” Dan J. Kim, Michigan State University, Donald L. Ferrin, State University of New York at Buffalo, and H. Raghav Rao, State University of New York at Buffalo</td>
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<td>Discussant</td>
<td>SuLin Ba, University of Connecticut</td>
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<th>Session T2.4</th>
<th>Research in Progress</th>
<th>Economics of Content Exchange and Electronic Markets</th>
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<tr>
<td>East B</td>
<td>Chair</td>
<td>Otto Koppius, Erasmus University Rotterdam</td>
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<tr>
<td></td>
<td>Paper</td>
<td>“An Economic and Operational Analysis of the Market for Content Distribution Services,” Cuneyd Kaya, Kutsal Dogan, and Vijay Mookerjee, University of Texas at Dallas</td>
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<td></td>
<td>Paper</td>
<td>“Buy-It-Now or Snipe on eBay?,” Ilke Onur and Kerem Tomak, University of Texas at Austin</td>
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<tr>
<th>Session T2.5</th>
<th>Panel</th>
<th>Managing Information Technology for Strategic Flexibility and Agility: Rethinking Conceptual Models, Architecture, Development, and Governance</th>
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<td>Chair</td>
<td>John Mooney, Pepperdine University</td>
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<td>Panelists</td>
<td>Cynthia Beath, University of Texas at Austin</td>
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<td>Guy Fitzgerald, Brunel University</td>
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<td>Jeanne Ross, Massachusetts Institute of Technology</td>
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<td>Peter Weill, Massachusetts Institute of Technology</td>
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<td>West B</td>
<td>Chair</td>
<td>Linda Levine, Carnegie Mellon University</td>
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<tr>
<td></td>
<td>Paper</td>
<td>“Open Source Software the Trenches: Lessons from a Large-Scale OSS Implementation,” Brian Fitzgerald, University of Limerick, and Tony Kenny, Beaumont Hospital</td>
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<td>Discussant</td>
<td>ShaoSong Ou, University of Southern California</td>
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<td></td>
<td>Paper</td>
<td>“Defining Open Source Software Project Success,” Kevin Crowston, Hala Annabi and James Howison Syracuse University</td>
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<td>Discussant</td>
<td>Il-Horn Hann, University of Southern California</td>
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11:30 a.m.–1:30 p.m. Lunch
Grand Ballroom
1:30 p.m.–3:00 p.m.

Session T3.1 Aspen

**Completed Research**

**IT and Productivity**

**Chair**
Paul Tallon, Boston University

**Paper**
“Performance Paradox: Information Technology Investments and Administrative Performance in the Case of the 50 U.S. State Governments,” Abhijit Jain, Temple University

**Discussant**
Paul Chwellos, University of British Columbia

**Paper**
“Information Technology Investment and National Productivity,” Jungsoo Park, State University of New York at Buffalo, Hyun-Han Shin, Yonsei University, and Seung Kyoon Shin, University of Rhode Island

**Discussant**
Ronald Ramirez, University of Colorado, Denver

Session T3.2 Cirrus

**Completed Research**

**Project Awry: Avoiding Blame**

**Chair**
Victoria Mitchell, University of Calgary

**Paper**
“Why Information Systems Project Postmortems Fail: An Attribution Perspective Based on a Case Study Analysis,” Gary S. C. Pan, University of Manchester Institute of Technology, and Donal Flynn, University of Manchester Institute of Science and Technology

**Discussant**
Magnus Mähring, Stockholm School of Economics

**Paper**
“Information Technology Project Escalation: Effects of Decision Unit and Guidance,” Ranida Boonthanom, Florida State University

**Discussant**
Louis Beaubien, University of Western Ontario

Session T3.3 East A

**Research in Progress**

**Mobility and Virtuality at Multiple Levels of Analysis**

**Chair**
Liz Davidson, University of Hawaii, Manoa

**Paper**
“Individual and Organizational Effects of Telecommuting: A Longitudinal Field Experiment Using the Experience Sampling Method,” James E. Hunton, Bentley College

**Discussant**
Michael Williams, Indiana University

**Paper**
“Informal Knowledge Networks: Toward a Community-Engineering Framework,” Gregor Schrott and Daniel Beimborn, Frankfurt University

**Discussant**
Steve Sawyer, Pennsylvania State University

**Paper**
“Understanding Virtuality in a Global Organization: Toward a Virtuality Index,” Mei Lu, Intel Corporation, Eleanor Wynn, Intel Corporation, Katherine M. Chudoba, Florida State University, Mary Beth Watson-Manheim, University of Illinois, Chicago

**Discussant**
Susan Brown, Indiana University

Session T3.4 East B

**Research in Progress**

**Electronic Markets and IT**

**Chair**
Ellen Christiaanse, University of Amsterdam

**Paper**
“Returns to Reputation in Electronic Markets: An Experimental Study,” Easwar A. Nyshadham and Sumitra Mukherjee, Nova Southeastern University

**Paper**
“Firm Size and Information Technology Investment: Beyond Simple Averages,” Tianyi Jiang, New York University

**Paper**
“Free Software Offer and Software Diffusion: The Monopolist Case,” Zhengrui Jiang and Sumit Sarkar, The University of Texas at Dallas

**Discussant**
Yannis Bakos, New York University
Session T3.5
West A

Panel
Embracing Information Systems' Voyage to Self-Discovery: Identifying the Core of the Discipline

Chair
Elena Karahanna, University of Georgia

Panelists
Gordon B. Davis, University of Minnesota
Tridas Mukhopadhyay, Carnegie Mellon University
Richard T. Watson, University of Georgia
Ron Weber, University of Queensland

Session T3.6
West B

Completed Research
Do We Know What is Really Ubiquitous?

Chair
Jim Nelson, Ohio State University

Paper
“U-Commerce: An Experimental Investigation of Ubiquity and Uniqueness,” Iris A. Junglas, University of Houston, and Richard T. Watson, University of Georgia

Discussant
Kay Nelson, Ohio State University

Paper
“A Study of the Cognition-Action Gap in Knowledge Management,” Feng-Yang Kuo, National Sun Yat-Sen University, Mei-Lien Young, National Sun Yat-Sen University, Meng-Hsiang Hsu, National Kaohsiung First University of Science and Technology, Cathy Lin, National University of Kaohsiung, and Pei-Chen Chiang, Chunghwa Telecom Co., Ltd.

Discussant
Dong-Gil Ko, Indiana University

3:00 p.m.–3:30 p.m.
Break

3:30 p.m.–5:00 p.m.

Session T4.1
Aspen

Research in Progress
Technical Issues

Chair
Sonja Wiley-Patton, Louisiana State University

Paper
“Representing Things and Properties in Conceptual Modeling: Understanding the Impact of Task Type,” Graeme Shanks, Monash University, Jasmina Nuredini, Monash University, Daniel Tobin, Monash University, and Ron Weber, The University of Queensland

Paper
“Free Riding, Altruism, and Cooperation on Peer-to-Peer File-Sharing Networks,” Kedar Samant, University of Illinois at Chicago

Paper
“The Dynamics of Organizational Information Security,” Amitava Dutta, George Mason University, and Rahul Roy, Indian Institute of Management Calcutta

Session T4.2
Cirrus

Completed Research
Exploratory Studies in Knowledge and Process

Chair
Felix Tan, Auckland University of Technology

Paper
“Exploring Meta-Knowledge for Knowledge Management Systems: A Delphi Study,” Dorit Nevo, York University, Izak Benbasat, University of British Columbia, and Yair Wand, University of British Columbia

Discussant
Molly Wasko, Florida State University

Paper

Discussant
Kai Larsen, University of Colorado, Boulder
### Session T4.3
**East A**

**Completed Research**

**Chair** Vivek Choudhury, University of Cincinnati  
**Paper** “Burt and Coleman Networks in Electronic Intermediation,” Arun Rai, Jonathan Wareham, and Xinlin Tang, Georgia State University  
**Discussant** Jonathan Palmer, College of William and Mary  
**Paper** “Leveraging Information Sharing to Increase Supply Chain Configurability,” Emily (Rong) Liu and Akhil Kumar, Penn State University  
**Discussant** Siew Kien Sia, National Technological University

### Session T4.4
**East B**

**Research in Progress**

**Chair** Edgar Whitley, London School of Economics  
**Paper** “Building the Digital Bridge: A Longitudinal Study of Community Learning Centers,” Sibi Venkataraju, Atreyi Kankanhalli, and K. S. Raman, National University of Singapore  
**Paper** “The Internet as an Agent of Political Change: The Case of ‘Rohsam’ in the South Korean Presidential Campaign of 2002,” Jae Yun Moon and Shinkyu Yang, New York University

### Session T4.5
**West A**

**Completed Research**

**Chair** Gerald Grant, Carleton University  
**Paper** “Online Retailers’ Strategies to Survive in Homogeneous Product Market: An Exploratory Analysis,” Tongxiao (Catherine) Zhang, Samer Faraj, and Joseph P. Bailey, University of Maryland at College Park  
**Discussant** Harvey Enns, University of Dayton  
**Paper** “Function-Based Analysis of an Electronic Commerce Website,” Julian Lin and Hock Chuan Chan, National University of Singapore  
**Discussant** David Gefen, Drexel University

### Session T4.6
**West B**

**Completed Research**

**Chair** George Marakas, Indiana University  
**Discussant** Ram Gopal, University of Connecticut  
**Paper** “Information Technology Product Bundling in the Presence of Complementarities, Quality Uncertainty, and Network Effects: An Agent-Based Approach,” Khim Yong Goh, University of Chicago, Chei Sian Lee, University of Illinois at Chicago, and Chay Hoon Lee, Nanyang Technological University  
**Discussant** Shankar Sundaresan, Pennsylvania State University

**6:15 p.m.**

**Social Event**

Sheraton Seattle Hotel  
Buses depart for social event at the Boeing Museum of Flight, 9404 East Marginal Way (Boeing Field).  
Buses will begin departing Boeing for return to the Sheraton Seattle Hotel at 9:30 p.m.
**Wednesday, December 17**

7:00 a.m.–noon

**Spruce Room**

7:00 a.m.–12:00 p.m.

**Registration**

7:00 a.m.–12:00 p.m.

Juniper, Cedar, Madrona & Douglas Rooms

7:00 a.m.–12:00 p.m.

Metropolitan Ballroom

8:00 a.m.–9:30 a.m.

**AIS/ICIS Placement**

7:00 a.m.–12:00 p.m.

**Exhibits, E-Mail, and Internet Access**

8:00 a.m.–9:30 a.m.

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<td>Chair</td>
<td>Vasant Dhar, New York University</td>
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<td></td>
<td>Paper</td>
<td>“Visualizing Globalization: A Self-Organizing Maps Approach to Customer Profiling,” Arnulfo Azcarraga, De La Salle University, Ming Hsieh, Yuan Ze University, and Rudy Setiono, National University of Singapore</td>
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<td>Bala Ramesh, Georgia State University</td>
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<td>“Container-Managed ETL Applications for Integrating Data in Near Real-Time,” Josef Schiefer, IBM Watson Research Center, and Robert M. Bruckner, Vienna University of Technology</td>
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<td>Mark Nissen, Naval Postgraduate School and Stanford University</td>
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<td>“Enterprise Systems Success: A Measurement Model,” Guy G. Gable, Darshana Sedera, and Taizan Chan, Queensland University of Technology</td>
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<td>Paper: “Effect of Website Characteristics on Consumer Behavior: A Multilevel Analysis,” Sunil Mithas, Narayan Ramasubbu, M. S. Krishnan, and Claes Fornell, University of Michigan</td>
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9:30 a.m.–10:00 a.m. Break
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Completed Research Papers

“Visual Attention Overload: Representation Effects on Cardinality Error Identification,” Cheryl Dunn, Florida State University, Gregory J. Gerard, Florida State University, and Severin Grabski, Michigan State University

Attention overload occurs when people are presented with so many different stimuli that they are unable to adequately direct their cognitive processing to all of the inputs. Visual attention overload is conceptually similar and occurs when people are given visual stimuli in a format that prevents them from effectively processing all of the stimuli. The current study examines whether visual attention overload results in differential performance with conceptual model representations for a task requiring identification of errors in relationship cardinalities.

This study suggests that visual attention management is an important part of cognitive fit. Specifically, a representation that inhibits processing of information because of visual attention overload is not expected to have cognitive fit with a task that requires repeated use and scanning of the same objects that were previously inhibited. This study allows us to move beyond the “spatial representations should be used for spatial tasks” approach to instead attempt to identify the types of tasks that require repeated use of the representations and therefore are likely not to have cognitive fit with a diagram representation if the diagram is sufficiently complex.

“Supporting Database Designers in Entity-Relationship Modeling: An Ontology-Based Approach,” Vijayan Sugumaran, Oakland University, and Veda Storey, Georgia State University

Database design has long been recognized as a difficult problem, requiring a great deal of skill on the part of the designer. Research has been carried out that provides methodologies and rules for creating good designs. There have even been attempts to automate the design process. However, before these can be truly successful, methodologies and tools are needed that can incorporate and use domain knowledge. In this research, a methodology for supporting database design is proposed that makes use of domain-specific knowledge about an application, which is stored in the form of ontologies. The ontologies provide information that is useful in both the creation of new designs and the verification of existing ones. They also capture the constraints of an application domain. A methodology for assisting database design that takes advantage of the ontologies has been implemented in a prototype system. Initial testing of the prototype illustrates that the incorporation and use of ontologies are effective in creating database design.
This paper investigates the record labels’ profit-maximizing behavior under the current industry structure. It is assumed that the quality of the music experience using a file sharing service is inferior to that of purchased music. This methodology provides valuable insight into current practices, as well as recommendations for the record industry. The most surprising result is that, consistent with the labels’ behavior, introducing a fee-based, downloadable, music service usually does not increase profits. First, more sophisticated screening aids that assist a consumer in filtering a large quantity of information do not necessarily improve decision effectiveness. Surprisingly, our results even suggest that in some circumstances the opposite could be true. Second, the results indicate that the effectiveness of decision aids, to a large extent, depends on the information load. Third, decision makers are adaptive. One may supplement the absence of more sophisticated screening aids with the sorting aid.

Rapid advances in Internet commerce technology have brought about the emergence of comparison-shopping Websites, which act as agents to consolidate vast amounts of product information. Researchers have traditionally focused on incorporating the latest database interrogation technology and investigating the economic implications of the existence of comparison-shopping Websites. Little attention has been paid to understanding whether the decision aids provided are capable of assisting a consumer in managing a large quantity of information or, more importantly, are compatible with the decision-making behavior of the consumer. This study surveys several successful comparison-shopping Websites, enumerates two commercially successful forms of decision aids (i.e., screening and sorting), and examines their effects on decision effectiveness under different information loads. Based on a 3×2×2 factorial controlled experiment, we had three major findings. First, more sophisticated screening aids that assist a consumer in filtering a large quantity of information do not necessarily increase profits. Sound economic analysis is key for companies evaluating how to respond to the challenges of the Internet.

This paper reviews the growth behavior of a popular peer-to-peer network. We propose a dynamic hypothesis that the growth, overshoot, and collapse trajectories may be the result of complex causal interactions between inadequate resources, private provision of common goods, free riding, and membership dynamics. We draw parallels with other systems that are well-understood and known to exhibit similar trajectories. Computer experiments confirm that free riding by peers may lead to inadequacy of resources, decline in network performance, high attrition rates, and collapse. However, if freeloading tendencies are not strong, which is usually true in smaller groups, then the P2P system will function without oscillations. An experiment that...
considers improvements in search algorithms suggests that the reduction of total network traffic may not be sufficient to eliminate system fluctuations in the long run.

“Contexts of Relevance in Explanatory Case Studies in Information Systems: Ubiquitous Information Technology Implementation in Organizations,” Rens Scheepers, University of Melbourne, and Helana Scheepers, Monash University

Case studies of the organizational implementation of traditional business computing have often emphasized the importance of context in research design and data analysis. The emergence of computing phenomena that pervade different contexts within and even beyond the organizational boundary suggests the need to disaggregate the notion of context to allow for finer levels of contextual analysis. Indeed we demonstrate that a failure to consider interdependent levels of context in organizational case studies of computing technologies that even approach ubiquity runs the risk of partial and even incorrect conclusions being drawn. We illustrate this argument by means of two explanatory case studies of intranet and mobile technology implementation in organizations. Based on the extant literature on context in case study design and examples drawn from the cases, we propose a range of interconnected and interrelated contexts to consider in the research design of explanatory cases of ubiquitous technology implementation in organizations.

“The Problem of Embeddedness: Knowledge Transfer, Situated Practice, and the Role of Information Systems,” Ruey-lin Hsiao, National University of Singapore, Stephen Tsai, National Sun Yat-sen University, and Ching-Fang Lee, National Sun Yat-sen University

This study examines the problems associated with the use of knowledge management systems designed for transferring internal best practices. The field research explores the nature of engineers’ tacit knowledge in a dynamic context maintaining semiconductor fabrication machines. It illustrates the problem underlying the codification of tacit knowledge embedded in situated practice. Three problems of such embeddedness are explained with reference to task complexity, the collaboration mode, and industrial context. The study analyzes knowledge in actual practice in a high-velocity industry via a situated practice perspective, and suggests how it might affect the use of information systems.

“Effects of Absorptive Capacity on Organizational Predisposition Toward Information Systems,” Hock-Hai Teo, Wen Wan, Xinwei Wang, and Kwok Kee Wei, National University of Singapore

This paper draws on the theory of absorptive capacity and related work to identify its dimensions and examine its impact on organizational propensity to adopt novel, complex interorganizational technologies. Specifically, it seeks to examine the causal pathway through which absorptive capacity affects organizational adoption intention. Survey-based research was carried out to test this theory. Data was collected from the CEO, the CFO, and the CIO to measure the level of absorptive capacity and its dimensions, and their intentions to adopt financial electronic data interchange (FEDI). A firm-level structural model was developed. LISREL and PLS were used for testing the measurement and structural models respectively. The results indicate that absorptive capacity’s relationship with adoption intention is mediated by decision-makers’ attitudes toward using FEDI. Preexisting related knowledge and aggressiveness of technology policy contribute significantly to absorptive capacity’s impact on adoption intention. Implications for theory and practice are discussed.


During the past two decades, both business managers and academic researchers have shown considerable interest in understanding how information systems (IS) lead to competitive advantages in a firm. The present study builds on this interest to examine the nature of IS competence and delineate the process by which IS competence lead to sustainable competitive advantages. Conceptually, IS competence is considered a multidimensional construct, with the quality of the IT infrastructure, IT-business expertise, and the relationship infrastructure. We present a model that elaborates on the interrelationships between IS competence and competitive advantages along with one key contextual antecedent (the intensity of organizational learning), pose a series of hypotheses, and present the results of an empirical test that involved structural equation modeling, using data collected via a national mail survey from chief IT executives from 202 manufacturing firms. While the quality of the IT infrastructure did not have any significant effect on competitive advantages of the firm, the quality of IT-business expertise and the relationship
infrastructure were found to be significantly related to competitive advantages. The results of the study indicated that the intensity of organizational learning was significantly related to all three factors: the quality of the IT infrastructure, IT-business expertise, and the relationship infrastructure. IS competence was also found to partially mediate the relationship with regard to the competitive advantages.

“Value Creation from Application Service Provisioning: Lessons from Four Vendor Firms,” Wendy Currie, Brunel University

This paper embraces the electronic business model concept as the unit of analysis for investigating application service providers (ASPs). It develops three constructs fundamental to the ASP business model: strategic positioning, product/service portfolio, and customer value proposition. Four short case studies of different ASP business models are discussed. The findings suggest that, despite firm efforts to strategically differentiate their ASP business model from their rivals, each failed to provide the customer with an attractive value proposition to achieve a sustainable competitive position.

“Why Information Technology Workers Own Their Firms: How the Relative Importance of Human Capital Affects Firm Ownership,” Shinkyu Yang, Massachusetts Institute of Technology, Heekyung Hellen Kim, Jet Propulsion Laboratory, and Yannis Bakos, New York University

Knowledge workers are critical for the production of goods and services in the information economy, and thus investment in human capital plays an increasingly important role in economic growth. Since firms cannot directly own human capital and cannot easily monitor or verify human capital investments made by their employees, they need to devise appropriate incentives to attract skilled employees and to encourage them to develop their human capital. One such scheme is employee ownership of the firm, and in this paper we use the theory of incomplete contracts to show that when investments in human capital are relatively more important, firms should be characterized by higher levels of employee ownership.

Specifically, we employ a model of the firm where production requires both human capital and nonhuman (e.g., physical) capital. Because of the difficulty of ex ante contracting with employees and managers to invest in human capital specific to the firm, employees and users need to be given partial ownership of the firm in order to increase their incentives to invest in human capital. As the importance of human capital relative to the physical capital employed by the firm increases, the model predicts an increase in the appropriate level of employee and serial ownership. We test this prediction through the empirical analysis of firm-level data in three high tech sectors, software, hardware, and biotechnology. Our results confirm the predicted relationship, and demonstrate that the high degree of managerial ownership in the IT industry in comparison to the biotechnology industry (e.g., managerial ownership in software companies is an order of magnitude higher than biotechnology companies) can be explained by the relative importance of human capital compared to physical capital in these industries.


This paper analyzes the nature of e-commerce policy actions in three European countries. Compiling the European Union and national policy instruments into four groups (regulation and legislation, knowledge diffusion, economic incentives, and e-government), France is viewed as a front-runner with early Minitel applications but losing steam during the e-commerce rush. Germany is the European e-commerce powerhouse with a late entry as an adopter. Denmark is an example of the early adopting Nordic countries. The palette of European e-policy topics includes industry networks, efficiency of existing business operations, and digital integration among companies, citizens, government, and peer-to-peer use following a demand-driven roadmap to e-commerce diffusion.

“Assessing Drivers of E-Business Value: Results of a Cross-Country Study,” Kevin Zhu, Sean Xu, and Jason Dedrick, University of California, Irvine

This study seeks to better understand the factors that contribute to value creation of e-business. Grounded in the technology-organization-environment (TOE) framework, we developed a research model for assessing the value of e-business at the firm
level. Based on this framework, we formulated six hypotheses and identified six factors (technology integration, firm size, firm scope, financial resources, competition intensity, and regulatory environment) that may affect value creation of e-business. Survey data of 612 firms across 10 countries in the financial services industry were collected and used to test the theoretical model. To examine how e-business value is influenced by national environments, we compared two subsamples from developed and developing countries. Structural equation modeling demonstrated several key findings: (1) Within the TOE framework, technology integration emerges as the strongest factor for e-business value, while financial resources, firm scope, and regulatory environment also significantly contribute to e-business value. (2) Firm size is negatively related to e-business value, suggesting that structural inertia associated with large firms tends to retard e-business value. (3) Competitive pressure often drives firms to adopt e-business, but e-business value originates more from internal organizational resources (e.g., technological integration) than from external pressure. (4) Government regulation plays a much more important role in developing countries than in developed countries. These findings indicate the usefulness of the TOE framework and our research model for studying e-business value.

**“Knowledge Adoption in Online Communities of Practice,”** Wei Zhang and Stephanie Watts, Boston University

In this study, we investigate how members of text-based, asynchronous online communities of practice (COPs) adopt knowledge contributed by other COP members. Previous studies of knowledge adoption in computer-mediated settings have drawn on dual-process theories of information processing to understand the role of heuristic cues and elaboration likelihood in this process. We extend this research stream, exploring two potential new heuristic cues: genre conformity and information consistency. In addition, we examine the factors focused search and disconfirming information to understand how they may induce non-heuristic cognitive processes. Survey data were collected from an online COP and findings support the hypotheses generated from our research model. This study advances our understanding of knowledge sharing in online COPs. Findings suggest that the context of an online COP can play a dynamic role in how members process the content component of that COP. Focusing on the pull technology of online COPs, it offers another theoretical link between computer-mediated communications and knowledge management. Practically, it also provides us with insights into online COPs as a potential means for improving organizational knowledge management.

**“Online Discussion Boards for Technical Support: The Effect of Token Recognition on Customer Contributions,”** Bin Gu and Sirkka Jarvenpaa, University of Texas at Austin

As firms in the information technology (IT) industry create increasingly complex products and face escalating service demands, they resort to customer peer-based solutions such as discussion boards to contain service costs. In discussion boards, customers post questions about products and receive answers from their peers. The sustainability of discussion boards depends on attracting volunteers who are willing to contribute answers to posted questions. Many IT firms use token recognition, such as titles, profiles, or lists of top 10 contributors, to motivate customer contribution. However, little is known about the effects of such incentives. By studying half a million postings collectively from the technical support discussion boards of four different IT companies, we find that some incentives can cannibalize socially based processes and reduce customer contribution. Our findings have implications for service firms as they strive to increase customer knowledge coproduction in service activities.

**“An Empirical Evaluation of UML Notational Elements Using a Concept Mapping Approach,”** Zixing Shen, Case Western Reserve University, and Keng Siau, University of Nebraska, Lincoln

Prior research on diagrammatic representations in system analysis and design has shown that notation details have a significant impact on the interpretation of information conveyed in diagrams. While some research has been conducted on the study of UML diagrams, there has been little focus to date on UML notational elements, defined as UML graphical constructs (i.e., icons, two-dimensional symbols, paths, and strings), and the combinations of UML graphical constructs. This research empirically evaluates UML notational elements by utilizing the concept mapping approach to investigate the problems, difficulties, or concerns in the drawing and interpretation of UML notational elements. The concept maps constructed in this study reveal ontological discrepancies in UML notational elements, and highlight issues with UML graphical constructs, especially in lines, arrowheads, combinations of lines and arrowheads, and strings. The results also show that UML notational elements representing relationships and messages are more problematic than those representing things.
One of the most serious practical and theoretical limitations of the entity-relationship (E-R) model is its inability to cope with complexity. Once E-R models exceed a certain threshold of size, they become difficult to understand, document and maintain. This paper describes the development and empirical validation of a method for representing large E-R models called leveled data modeling (LDM). A combination of research methods were used to validate the method. Action research was first used to test and refine the method in a real-world setting. Eight action research studies were conducted in eight different organizations. Once the method had become stable, two laboratory experiments were conducted to evaluate its effectiveness compared to the standard E-R model and methods previously proposed in the literature. Finally, a field experiment was conducted using experienced practitioners to evaluate the likelihood of the method being accepted in practice. The resulting method defines a general approach for managing complexity which could be applied to any information systems modeling technique. The research findings thus have general implications for developing more effective IS design techniques. Another contribution of the paper is that it illustrates a systematic, multi-method approach to empirically validating an IS design method.

**“Dealing with Complexity in Information Systems Modeling: Development and Empirical Validation of a Method for Representing Large Data Models,”** Daniel Moody, Monash University/Czech Technical University

**“Coordination and Success in Multidisciplinary Scientific Collaborations,”** Jonathon Cummings, Massachusetts Institute of Technology, and Sara Kiesler, Carnegie Mellon

The research enterprise increasingly involves multidisciplinary collaboration, sometimes over geographic distance. Technological advances have made these collaborations possible, and the history of past innovations suggests these collaborations are desirable. Yet multidisciplinary projects can carry high coordination costs. This study investigated how collaborations address disciplinary differences and geographic dispersion to coordinate people and tasks to achieve success. We conducted an inductive study of 62 scientific collaborations supported by a program of the U.S. National Science Foundation in 1998 and 1999. Projects with principal investigators in more disciplines did not appear to suffer more coordination losses and reported as many positive outcomes as did projects involving fewer disciplines. By contrast, geographic dispersion, rather than multidisciplinarity, was most problematic. Dispersed projects, with principal investigators from more universities, were significantly less well coordinated and reported fewer positive outcomes than collocated projects. Coordination mechanisms that brought researchers together physically somewhat reduced the negative impact of dispersion. We discuss several implications for theory, practice, and policy.

**“Strategic Information Technology Partnerships in Outsourcing as a Distinctive Source of Information Technology Value: A Social Capital Perspective,”** Fei Ye and Ritu Agarwal, University of Maryland, College Park

Firms increasingly acquire needed information technology (IT) products and services from external partners. In spite of the ubiquity of IT outsourcing in contemporary organizations, however, theoretical understanding of the dynamics of this phenomenon is limited. A dominant perspective used to explain IT outsourcing is transactions-cost economics (TCE) that focuses attention on efficiency and cost-reduction goals, and emphasizes opportunistic behavior. We suggest that by viewing outsourcing relationships as arms-length transactions, TCE may lead to overlooking potential mechanisms inherent in IT outsourcing relationships for the creation of alternative types of value. We present a relational lens for viewing the IT outsourcing phenomenon that is premised on knowledge exchange and learning. Specifically, we argue that the strategic partnership a firm forms through IT outsourcing constitutes a source of social capital for the focal firm, which facilitates (IT) collaboration between the focal firm and its partner. The learning resulting from knowledge exchange and transfer through the collaboration, in turn, generates (IT) value for the focal firm. Two manifestations of IT value are considered: strengthened internal IT partnerships, and IT-enabled innovation. We examine specific characteristics of social capital and how they influence the learning that occurs in the partnership. Propositions that can serve as the basis for future research are developed.

**“The Antecedents of Information Systems Development Capability in Firms: A Knowledge Integration Perspective,”** Amrit Tiwana, Emory University, Anandhi Bharadwaj, Emory University, and V. Sambamurthy, Michigan State University

The linkages between IS and business units are recognized as being critical to information systems development processes and outcomes. Previous research has found that they are associated with better performing ISD teams, stronger alignment between firms’ IT investments and business objectives, and comparatively superior exploitation of information technologies for business ends. What remains lacking in this stream is a coherent theoretical explanation for why and how the linkages between the IS unit and business units in a firm influence ISD processes and outcomes.
This study draws on strength-of-ties theory to develop and test a project-level model that links both structural and cognitive IS-business linkages to ISD outcomes and processes. The key premise of this model is that IS-business linkages influence ISD primarily by facilitating integration of business and technical knowledge dispersed across internal business functions and outside the formal boundaries of the firm during the ISD process. Such integration of internal and external knowledge in turn influences ISD processes and outcomes. We tested the model using data on 133 projects collected from CIOs and client-side managers in 133 firms. Our results provide strong support for the hypothesized model.

“Knowledge Partitioning in Outsourced Software Development: A Field Study,” Amrit Tiwana, Emory University

The outsourced software development process has traditionally relied on a requirements-driven black-box approach for transferring knowledge of customer needs to vendors. When this approach is feasible, the need for the customer and the vendor to deeply understand each others’ knowledge domain is limited. We describe this as symmetric division of knowledge. However, asymmetric overlaps in knowledge are necessary at the vendor-customer boundary in projects involving conceptual or process newness.

In this study, we examine the conditions under which overlaps in knowledge at the vendor-customer boundary are necessary for enhancing the development process in outsourcing relationships. We develop and test a model using data collected in a large-scale field study of 209 software projects in 209 software development organizations belonging to three of the largest global software consortia.

The study makes three contributions: (1) we empirically demonstrate that it is more important for a vendor to possess a higher level of business knowledge in conceptually new projects and for the customer to have a higher level of technical knowledge when the project involves process newness, (2) we assess the effectiveness of various integrating mechanisms, and (3) we show that there are potential downsides to blindly increasing vendor-customer overlaps in knowledge beyond those that have traditionally characterized software development.

“A Mediated Impacts Model of Demand Volatility on Inventory Flow Integration in Supply Chains,” Ravi Patnayakuni, Temple University, Nainika Patnayakuni, Temple University, and Arun Rai, Georgia State University

We develop a theoretical model about how organizations cope with the bullwhip effect created by consumer demand uncertainty through product modularity and information sharing across the supply chain. Unpredictability of consumer demand is likely to accentuate inventory flows in the supply chain. Information sharing and product modularity can be used by organizations to mediate the impact of uncertain product demand on inventory flow integration. An organization’s success in coping with the bullwhip effect is reflected in the degree to which inventory flows are integrated across the supply chain. Our results suggest that (1) information sharing is essential for achieving integration of inventory flows irrespective of the demand environment, and (2) the strategy of modular product design can help organizations enhance inventory flows under conditions of consumer demand uncertainty.

“Impact of Manufacturing Practices on Adoption of Plant Information Systems,” Rajiv Banker, University of California, Riverside, Indranil Bardhan, Hsihui Chang, Shu Lin, University of Texas at Dallas

Firms have invested over $15 billion in the past three years on new information technology and software in their manufacturing plants. In this study, we document how the implementation of new types of manufacturing practices has impacted the types of information technology investments in manufacturing plants. We present a conceptual model to develop hypotheses about relationships between manufacturing practices and the choice of information systems at the plant level. Analysis of cross-sectional survey data from 932 manufacturing plants provides strong empirical support for our hypotheses about how manufacturing practices influence decisions regarding adoption of plant-level IT applications.
“Preference Revelation in Multi-Attribute Reverse English Auctions: A Laboratory Study,” Stefan Strecker, University of Karlsruhe

The effects of preference revelation on allocational and Pareto efficiency are studied in a multi-attribute reverse English auction. Multi-attribute reverse auctions have been proposed as market institutions for electronic request for quotation buying processes. Preference revelation is a crucial question in multi-attribute reverse auctions in terms of the efficiency of auction outcomes. Results from a computer-based laboratory experiment are reported and auction outcomes are analyzed regarding the buyer’s and suppliers’ surplus, efficiency, and Pareto efficiency. The results show that suppliers make more profits when preferences are revealed, but not at the expense of the buyer, and that full revelation of the buyer’s preferences significantly increases allocational and Pareto efficiency.

“The Consumer Online Purchase Decision: A Model of Consideration Set Formation and Buyer Conversion Rate Across Market Leaders and Market Followers,” Neveen I. Farag, University of Michigan, Michael D. Smith, Carnegie Mellon University, and M. S. Krishnan, University of Michigan

The impact of low search costs in Internet markets has received a great deal of attention in the academic literature and in the press. While many have argued that the presence of low search costs will lead to strong price competition and vanishing margins, the empirical evidence is decidedly mixed. Reflecting this uncertainty, firms have taken radically different strategies with regard to facilitating search across sites. Some firms have actively blocked or attempted to limit price search (e.g., by refusing to be listed at shopbots) while others have actively encouraged price search.

In this research we use a unique dataset of detailed customer survey data to analyze the impact of consumer search behavior on the formation of consideration sets and the consumer’s ultimate purchase decision. We find that while searching across market leaders is not detrimental for market followers, searching across market followers is somewhat detrimental for market leaders. These results suggest that today’s market leaders may be at risk from increased consumer adoption of broad search technologies such as Internet shopbots.


We develop a game-theoretic framework to investigate the competitive implications of consumer-to-consumer electronic marketplaces, which promote concurrent selling of new and used goods. In many e-marketplaces, where suppliers cannot directly use second-hand goods for practicing inter-temporal price discrimination, the threat of cannibalization of new goods by used goods become significant. We examine conditions under which it is optimal for suppliers to operate in such markets, explaining why used-goods markets may not be predatory for them. While a monopolist supplier is worse off in the presence of a secondary market, competition can in fact make it better off. The presence of used-goods markets provides an active outlet for some consumers to sell their second-hand goods. Such sales lead to an increase in their disposable income. This increased income can then be used to buy an additional new good. Contrary to conventional wisdom, our model predicts the reduction in the price of new goods when there are used-goods markets. We highlight the strategic role that used goods commission plays in determining optimal profits. Overall, for a wide range of parameters, there is an increase in social welfare from establishing such secondary markets.

“An Investigation of Consumer Online Trust and Purchase-Repurchase Intentions,” Dan J. Kim, Michigan State University, Donald L. Ferrin, State University of New York at Buffalo, and H. Raghav Rao, State University of New York at Buffalo

There is little research on trust and satisfaction in the electronic commerce from a longitudinal (pre- and post-purchase) perspective. Based on previous frameworks and theories, this study developed a combined model of consumer trust and satisfaction in the context of Internet shopping. From the valance framework and expectation-confirmation theory, several pre-purchase and post-purchase factors such as risk, benefit, consumer trust, expectation, confirmation, and satisfaction are investigated as research variables affecting consumer repurchase intention.

The results of the study show that trust is the strongest predictor of the consumer’s purchase intention. In addition, as in traditional consumer satisfaction studies, it holds true in electronic commerce consumer behavior studies that the consumer’s satisfaction is still the critical determinant to its consequence, i.e., willingness to repurchase.
shift in open source deployment from invisible horizontal infrastructure systems to highly visible vertical applications. The first resistance from staff who feared being deskilled by moving away from popular proprietary systems. The study reveals a radical shift in open source deployment from invisible horizontal infrastructure systems to highly visible vertical applications. The first phase of OSS implementation is estimated to lead to cost savings of €13 million over five years. These details are useful in that few studies have quantified the savings from OSS deployment. Given that Beaumont was already receiving academic pricing discounts for many of their original proprietary closed source applications, the savings for a typical commercial organization could be even higher. Also, in many cases, the extra functionality available in the OSS systems deployed allowed for a richer feature set overall. Buoyed by the success of this first phase, Beaumont is planning a second phase of OSS implementation for an overall hospital information system, a financial systems suite, and is even considering developing their payroll system in an open source fashion. The study also identifies how a typical company can contribute back to the OSS community in their own unique way, by distributing applications developed from their own particular domain of expertise, rather than having to make code contributions to the code base of GNU/Linux or Apache as might have been assumed to be the case. Indeed, free access to source code played a very limited role in Beaumont’s motivation, where given the budgetary constraints, zero cost was of more concern than open source.

“Defining Open Source Software Project Success,” Kevin Crowston, Hala Annabi and James Howison Syracuse University

Information systems success is one of the most widely used dependent variables in information systems research. In this paper, we identify a range of measures that can be used to assess the success of open source software (OSS) projects. We identify measures based on a review of the literature, a consideration of the OSS development process and an analysis of the opinions of OSS developers. For each measure, we provide examples of how they might be used in a study of OSS development.

“Performance Paradox: Information Technology Investments and Administrative Performance in the Case of the 50 U.S. State Governments,” Abhijit Jain, Temple University

This study introduces the terminology of performance paradox in the context of IT (information technology) investment and use. Although it is somewhat related to the concept of productivity paradox, in the case of performance paradox, the dependent variable (i.e., the measure of performance) is not productivity, but some other measure of performance.

This paper presents the results of a study that examined the relationship between IT investments by the 50 state governments of the United States and the administrative performance of these state governments. There are two parts to this study. In the first part, IT investments by state governments were related to multiple measures of state government performance, namely performance in financial management, human resource management, information technology management, capital management, and managing for results. In the second part of the study, IT investments by state governments were related to projected state government budget deficits. State budget deficits are used as a performance measure because they are an indicator of state government planning performance.

Structural equation modeling was performed to analyze the data. The results indicate incidence of performance paradox. It appears as though the more U.S. state governments invest in IT, the worse they perform. However, there are also indications that with the passage of time, the relationship between IT investment and performance shows improvement. Thus, over time, the performance paradox becomes less pronounced. In some cases, it appears that past investments in IT actually help future performance.

“Information Technology Investment and National Productivity,” Jungsoo Park, State University of New York at Buffalo, Hyun-Han Shin, Yonsei University, and Seung Kyoon Shin, University of Rhode Island

Using the country-level information technology (IT) expenditures and productivity data for the period from 1992 to 2000, we estimate production function augmented with IT capital stock in the first-difference form. As discussed in prior studies, we confirm that IT expenditures have significant positive effects on national productivity growth. The effects of IT expenditure on productivity growth hold for a short-term (1-year) as well as for a longer-term (4-year and 8-year). Using two theory-based measures of IT maturity, we find that the IT maturity is an important factor that explains the relationship between IT expenditures
and national productivity. In addition, we find that the effect of IT expenditures is even higher when the countries are at the mature stage of IT expenditures. Furthermore, we present evidence that IT externalities improve the effect of IT expenditures on productivity growth.

**“Why Information Systems Project Postmortems Fail: An Attribution Perspective Based on a Case Study Analysis,”** Gary S. C. Pan, University of Manchester Institute of Technology, and Donal Flynn, University of Manchester Institute of Science and Technology

Information system project failure is a costly and common problem despite advances in development tools and technologies. In this paper, we argue that one reason for this is the failure of project postmortems to generate constructive lessons learned from previous projects for organizations to use to improve their development practices. Over time, these ineffective practices would persist in organizations which in turn eventually might become resistant to change. Worse, organizations may even learn to fail. The attribution literature provides a promising theoretical base for explaining why project postmortems fail. A case study of a project postmortem undertaken for an abandoned e-procurement system project is discussed and analyzed. The results suggested that attribution errors were influenced by conditions such as presence of self-appointed mindsets, a general persistence of a negative belief, memory decay and selective recall of project events. The research and practical implications of these findings are discussed along with prescriptions for how to minimize the problem of attribution errors during project postmortems.

**“Information Technology Project Escalation: Effects of Decision Unit and Guidance,”** Ranida Boonthanom, Florida State University

This study investigates the escalation of commitment of IT project development. A two-phase 2×2×2×2 laboratory experiment was conducted to examine the impact of sunk cost (low vs. high), percentage of project completion (low vs. high), de-escalation strategy (presence vs. absence), and decision unit (individual vs. group) on the escalation behavior. The results indicated that both project factors, e.g., sunk cost and percentage of project completion, have significant influences on the escalation of commitment. Groups, in general, exhibited higher escalation behavior than individual decision makers. In addition, providing explicit decision guidance was able to attenuate the behavior, especially at the individual level. The study concludes with limitations and implications for future research.

**“U-Commerce: An Experimental Investigation of Ubiquity and Uniqueness,”** Iris A. Junglas, University of Houston, and Richard T. Watson, University of Georgia

U-commerce extends traditional commerce (geographic, electronic, and mobile) to a world of ubiquitous networks and universal devices, a world in which users can access networks at any time from any place, using a range of devices to invoke unique and personalized services. As such, u-commerce presents a new perspective on time and space. Specifically, four constructs are discussed that form the fundamental dimensions of u-commerce: ubiquity, uniqueness, universality, and unison. This report presents an experimental investigation to examine how two of these u-constructs, namely ubiquity and uniqueness, impact individual task performance, perceptions of usefulness and ease of use across differing levels of u-commerce technology and a variety of tasks. A total of 117 senior level MIS students served as subjects using the latest currently available form of u-technology: wireless personal digital assistants (PDA).

**“A Study of the Cognition-Action Gap in Knowledge Management,”** Feng-Yang Kuo, National Sun Yat-Sen University, Mei-Lien Young, National Sun Yat-Sen University, Meng-Hsiang Hsu, National Kaohsiung First University of Science and Technology, Cathy Lin, National University of Kaohsiung, and Pei-Chen Chiang, Chunghwa Telecom Co., Ltd.

We investigated three types of volitional control mechanisms that may impact people’s knowledge management (KM) practices. Our results show that, when employing KM, people do not always perform in a manner consistent with their beliefs concerning attitudes and intentions. This cognition-behavior inconsistency can be explained by volitional control mechanisms. Specifically, both perceived self-efficacy (Bandura 1997) and action control (Kuhl and Bechmann 1985) play a role in motivating individuals to share and use knowledge, while perceived behavioral control does not. In addition, action/state orientation moderates a person’s enactment of subjective norm and self-efficacy beliefs into intentions just as it moderates enactment of perceived behavioral control belief into behaviors. These results have important theoretical and managerial implication.
In recent years, information and communication technologies have been implemented in organizations to support the management of organizational knowledge and facilitate more effective knowledge sharing and problem solving. These technologies are collectively termed knowledge management systems (KMS). Unfortunately, the results of implementing KMS in organizations have not been as encouraging as expected. Specific problems facing organizations involve information overload, not using the systems effectively, or reinventing the wheel. Considering the fact that KMS were expected to solve exactly this latter problem, there is a need for studying why these systems fail and how we can improve them. In this paper, we focus on one aspect of the problem—namely, that organization members are not utilizing the knowledge stored in KMS. We propose that by incorporating some knowledge about the knowledge—termed meta-knowledge—we may improve the ability of organization members to locate knowledge and form attitudes about it. This, in turn, can result in better use of KMS and the application of organizational knowledge. To identify the specific meta-knowledge required for the design of KMS, we conduct an exploratory Delphi study using a panel of 28 professionals from seven organizations. Our results show that the relevance of the knowledge, the experience of the knowledge source in the problem domain, and the credibility of the knowledge are the three most important elements of meta-knowledge.

The nature of quantitative research in information systems has been dominated by variance theories. Variance theories comprise constructs or variables and propositions or hypotheses linking them. Typically, researchers identify independent variables and a dependent variable and collect data to verify the hypothesized relationship between the two sets of variables. One of the major shortcomings of such an approach is that the temporal dimension is often lost because data are collected at a given point in time. In this paper, we present a research method that operationalizes process theory. Process theory recognizes that variables change over time and interact with each other. This approach is particularly useful to study the conversion of IT investments into IT assets, or the conversion of IT assets into organizational value. This conversion process, which is often subsumed into the black box that lies between the input (independent) variables and output (dependent) variable in variance theories, is recognized and formalized in process theory. We show how systems dynamics modeling can be used to operationalize process theory in the context of IS use. We demonstrate how we can study complex IS problems by developing dynamic hypotheses and then using systems dynamics modeling. The approach that we employ incorporates both qualitative (soft) and quantitative aspects and complements variance theory. We conclude by highlighting the contribution of this approach and the study results to both theory and research. Specific theoretical contributions lie in developing and communicating archetypal patterns of IS use as well as the ability to incorporate the effects of feedback in the context of IS use. An important contribution to research lies in the ability to explicitly relate IS use to productivity. The implication of such contributions to both theory and research is that practitioners can benefit from directly applicable results, especially when it comes to deciding management policies and strategies.

As supply chains evolve beyond the confines of individual organizations, collaboration has become the Holy Grail in supply chain technology. It plays a key role in achieving flexibility and responsiveness. Information sharing between partners is a key determinant of collaboration. This paper investigates information sharing in four different supply chains—3PL, VMI, CPFR, and supply networks—and compares their information sharing structures, shared data objects, and information flow models. The
results show how the various parameters of an information flow model constrain the level of collaboration. Further, the modeling exercise provides insights on how to configure a collaborative supply chain by leveraging information sharing.

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**“Online Retailers’ Strategies to Survive in Homogeneous Product Market: An Exploratory Analysis,”** Tongxiao (Catherine) Zhang, Samer Faraj, and Joseph P. Bailey, University of Maryland at College Park

The shakeup in e-commerce gives us an opportunity to reevaluate the effectiveness of various business strategies in this electronic revolution. This study investigates the strategies adopted by 125 online retailers in the PDA market during the period between July 2001 and December 2002, including economies of scale, developing first-mover or multichannel advantages, branding, offering value-added services, being a loss leader, and going public. Results of logistic regression show that branding, multichannel operation, and offering value-added services give retailers sustainable competitive advantages in the electronic market. Findings from cluster analysis reveal that online retailers who offer customers superior value enjoy a price premium and are more likely to survive competition. Implications for both researchers and practitioners are discussed.

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**“Function-Based Analysis of an Electronic Commerce Website,”** Julian Lin and Hock Chuan Chan, National University of Singapore

Traditionally, studies with the technology acceptance model (TAM) have treated software systems as holistic units. A survey is conducted to understand the model better by dropping from system-wide measurement to function-based measurement. The first part of the survey replicates Gefen and Straub’s (2000) study where only intention is measured at the function level, with consistent results. System-wide perceived ease of use (PEOU) has more effect on an intrinsic task (intention to search for books) than on an extrinsic task (intention to purchase books). In the second part of the survey, all factors are measured at the function level. The result shows that the function-level models are more predictive than the system-wide model. Specifically, each PEOU is a significant predictor for each intention in both models. This study shows the value of using function-based analysis and suggests that function-based analysis is particularly useful and timely for the study of integrated products offering relatively distinct functions.

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**“Dual Pricing in Electronic Markets,”** Panos M. Markopoulos, Ravi Aron, and Lyle H. Ungar, University of Pennsylvania

We model the availability of information about product attributes in Internet-based markets, focusing on a phenomenon that we term as information deficit (availability of less than perfect information about product attributes) and its impact on the equilibrium strategies of sellers and buyers in electronic markets. We create a model of a market for a differentiated product and investigate how buyer uncertainty regarding the attributes of the product drives market outcomes. We show that a market for product information can partly correct the inefficiencies that arise from imperfect information and predict that product information will begin to be traded once appropriate micro-transaction payment schemes become available. We formulate a mechanism by which sellers can charge an information rent for fine-grained information about product attributes which we term as a dual pricing mechanism wherein sellers extract an information rent in addition to the price of the product from buyers. We analyze the equilibrium that results and comment on the nature of welfare gains. A key finding of the paper is that allowing sellers to charge dual rents leads to more efficient markets.

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**“Information Technology Product Bundling in the Presence of Complementarities, Quality Uncertainty, and Network Effects: An Agent-Based Approach,”** Khim Yong Goh, University of Chicago, Chei Sian Lee, University of Illinois at Chicago, and Chay Hoon Lee, Nanyang Technological University

Bundling of information technology products and services is prevalent in markets for information goods, telecommunication services, computer hardware, and software goods. However, factors affecting consumers’ choice of IT product bundles, and the resultant impacts to markets, have not been clearly documented in the information systems literature. In this paper, we develop agent-based simulation models to examine the effects of bundle component quality uncertainty (in either the focal or supplement components), bundle component complementarity (complementary or noncomplementary bundles), and network effects (global market shares or local social network interaction effects) on agents’ choices of product bundles. In addition, we also examine different effects of agents’ risk preferences (risk-aversion, risk-neutrality, and risk-seeking) on their choices of product bundles. Finally, we differentiate the impact of network effects and agents’ risk preferences on bundle choices depending on two types
of agent preferences for bundle attributes: homogeneous or heterogeneous preferences. Our findings indicate that global market
share network effects have a significant influence on risk-averse and risk-neutral agents’ choice of different product bundles.
Market share network effects do not seem to have much influence on bundle choices among risk-seeking agents. Interestingly,
our simulation results also indicate that social network interaction effects on a local scale have greater effects on bundle choices
of risk-averse and risk-neutral agents, compared to the market share network effect. Our overall results also indicate that agents
have the highest preference for complementary product bundles with a good, certain quality focal item than for other types of
product bundles. From our research findings, implications for research and practice are presented.

“Visualizing Globalization: A Self-Organizing Maps Approach to Customer Profiling,” Arnulfo Azcarraga, De La Salle University, Ming Hsieh, Yuan Ze University, and Rudy Setiono, National University of Singapore

This research demonstrates the usefulness of self-organizing maps (SOM) as an intuitive visual rendering of a globalization phenomenon. We propose a systematic neural-network-based segmentation scheme for identifying and subsequently profiling transnational segments based on consumers’ desired benefits. In the study, SOMs are used in grouping survey respondents from 16 countries in the Asia-Pacific region, Europe, South America, and North America on the basis of their expressed preference toward certain car features such as styling, sportiness, fuel economy, and safety in accidents. These car features had been shown to form four major groupings: symbolic, utilitarian, sensory, and economic. The SOM-based clustering of the data yielded these same groupings of car features, but the economic and utilitarian clusters have been further subdivided into more specific benefits clusters. These benefits clusters have been used to identify a mixture of cultural and geographic factors that would segment the world market in such a way that countries within a market segment are homogeneous in terms of distribution of benefits sought. These market segments are subsequently analyzed for their socio-demographic profile. The paper concludes that SOM is not only an effective clustering method, it also provides an insightful visual depiction of the interrelationships of the clusters by positioning them in such a way that clusters that are spatially near each other resemble each other more.

“Container-Managed ETL Applications for Integrating Data in Near Real-Time,” Josef Schiefer, IBM Watson Research Center, and Robert M. Bruckner, Vienna University of Technology

As the analytical capabilities and applications of e-business systems expand, providing real-time access to critical business performance indicators to improve the speed and effectiveness of business operations has become crucial. The monitoring of business activities requires focused, yet incremental enterprise application integration (EAI) efforts and balancing information requirements in real-time with historical perspectives. The decision-making process in traditional data warehouse environments is often delayed because data cannot be propagated from the source system to the data warehouse in a timely manner.

In this paper, we present an architecture for a container-based ETL (extraction, transformation, loading) environment, which supports a continual near real-time data integration with the aim of decreasing the time it takes to make business decisions and to attain minimized latency between the cause and effect of a business decision. Instead of using vendor proprietary ETL solutions, we use an ETL container for managing ETLs (pronounced “et-lets”) for the ETL processing tasks. The architecture takes full advantage of existing J2EE (Java 2 Platform, Enterprise Edition) technology and enables the implementation of a distributed, scalable, near real-time ETL environment. We have fully implemented the proposed architecture. Furthermore, we compare the ETL container to alternative continuous data integration approaches.

“The Impact of Information Technology Spending on Future Performance,” Mark Anderson, Rajiv D. Banker, and Nan Hu, The University of Texas at Dallas

In this study, we investigate the association between information technology (IT) spending and future firm performance. Critics contend that greater expenditures on IT rarely lead to superior financial results, citing studies that compare firm performance to current IT spending. But valuation and stock-return studies have found a positive association between the market value of firms and their current IT spending or announcements of new IT initiatives. These observed relations are interpreted to mean that expected future earnings increased with new IT spending, consistent with a delayed impact of new IT on earnings. If actual future earnings increased with IT spending in a period, then a positive association between IT spending and future earnings should be directly observable.
We describe a methodology for studying the association between IT spending in period $t$ and earnings in future periods and evaluate this association for a sample of firms based on their IT spending during the years 1990 through 1996. We divide our sample into firms according to the business role IT played in their industries during this time period. For firms in industries where IT played an informing role (improved information flows throughout organizations), we find a strong positive association between future earnings and IT spending. The magnitude of the association increased during the first three years after the IT spending occurred and then began to taper off. For firms in industries where IT played an automating role (facilitated automation of business processes), we find a smaller but significantly positive association between future earnings and IT spending that lasted at least four years after the year the IT spending occurred.

“Enterprise Systems Success: A Measurement Model,” Guy G. Gable, Darshana Sedera, and Taizan Chan, Queensland University of Technology

This paper presents a validated measurement model and instrument for assessing enterprise systems success from multiple perspectives. The final validated study model employs 27 measures of the four dimensions: information quality, system quality, individual impact, and organizational impact. The model is empirically tested with survey data gathered from 27 public sector organizations that implemented SAP R/3 in the late 1990s. The study consists of an exploratory inventory survey (model building) to identify the salient success dimensions and measures, followed by a confirmatory weights survey, for testing model validity (model testing). Test results demonstrate the discriminant validity of the four dimensions, as well as their convergence on a single higher-order phenomenon: enterprise systems success (ESS). Criterion validity testing further demonstrates the additivity of the four dimensions of success, and the completeness of the resultant over-arching, second-order measure of ESS.


Information goods piracy is a pervasive problem as advanced information and communication technologies become so inexpensive and so easy to access. This problem, if not alleviated, can pose a serious loss to society as it can reduce information goods providers’ incentives to develop information goods or threaten the use and growth of the Internet as a distribution media for valued digital information goods. Contrasting with previous literature, which mainly consider instruments, such as law enforcement or technology-based solutions, that work on increasing individual piracy cost, we consider using versioning as a complementary means to these other methods. While the previous literature has shown that versioning may not be the optimal strategy for information goods (having negligible or concave marginal costs), we show that versioning could be a very effective and profitable instrument to fight piracy. Furthermore, we also show that it is possible to do this without sacrificing the consumer’s surplus and, as a result, the entire social welfare could increase. This suggests that by using versioning along with other instruments that work on increasing individual piracy cost, information goods providers can fight piracy more efficiently.

“Cultural Implications of Electronic Communication Usage: A Theory-Based Empirical Analysis,” Zoonky Lee, Yonsei University, and Younghwa Lee, University of Colorado at Boulder

Based on two popular theoretical frameworks regarding media choices of rational choice and social influence (Markus 1987; Trevino et al. 2000) the main theme of this paper is to investigate applicability of these frameworks on a case where the pattern in usage and collective meaning of a medium is shaped in the cultural context. Focusing on the phenomenon of many Asians preferring not to send electronic mail to their supervisors, we compared media choice behaviors in the upward channel between a U.S. and a Korean organization. The empirical results suggest that the theories based on those frameworks are not sufficient to explain the phenomenon of individuals not sending electronic mail to their supervisors in the Korean organization. As a result of the study, we reconsider and refine those previous theories in such a way that we ask questions like (1) when is the rational choice model more pronounced than social influences in choosing a medium, and (2) how do rational choices and social influences interact through social symbolisms constructed in one particular organization? We believe that this research plays an important role in further extending our knowledge on media choice, and thus managers’ communication issues.
This paper develops a framework to analyze these effects by estimating the regional demand for customer service representatives of a homogenous set of Fortune 1000 manufacturing firms. The model is estimated using firm-level data and the estimated demand structure is used to assess the effects of technology on customer volume, location choices and cost savings. A 10 percent increase in the use of Internet applications is found to lead to a 2.5 percent decrease in the firm’s employment of agents nationally. Moreover, the same increase reduces the willingness of firms to pay for regional benefits (technology “levels” the field between regions). However, the cost savings from the associated relocation are surprisingly small, averaging 1.3 percent of unit costs. Finally, the research shows that regional preferences vary widely among firms, suggesting that sensitivity to cost is highly firm-specific and that the importance of local assets does not vanish. Overall, these results show a positive relationship between technology and firms’ price sensitivity, but not on the scale of a massive spatial reorganization. Firm-specific regional preferences still matter.

**“The Economics of Telecommuting: Theory and Evidence,”** Guodong Gao and Lorin M. Hitt, University of Pennsylvania

While there has been considerable research on the effect of telecommuting on worker’s productivity and quality of work life, there is considerably less work on the managerial problems associated with selecting, monitoring, and compensating workers involved in telecommuting. We propose a model based on contract theory to analyze the managerial decisions on telecommuting, focusing on (1) how managers should decide which workers will have the opportunity to telecommute and (2) how managers should monitor and provide incentives to workers who participate in telecommuting programs. Based on the model, we find that managers’ willingness to allow telecommuting is related to the amount of information they have about their employees and that employees who telecommute should have incentives based both on subjective evaluations and objective measures. Using data from the 1998 Workplace Employment Relationship Survey (WERS98), we test these predictions and find that they are supported by the data.

**“Consumer Trust and Online Information Privacy,”** Yunjie Xu, Bernard C. Y. Tan Kai-Lung Hui, and Wai-Kiat Tang, National University of Singapore

Getting consumers to disclose their personal information is an essential first step for Internet businesses that choose to pursue a niche marketing strategy. Previous research has examined how the reward preferences and privacy concerns of consumers may affect their disclosure tendency. However, it is not known how key characteristics pertaining to Internet businesses, such as consumer trust, may affect disclosure tendency. Based on the results obtained from a survey, this study found that consumer trust in Internet businesses can facilitate disclosure tendency. Moreover, consumer trust can suppress the reward preferences and privacy concerns of consumers, thereby reducing the costs that Internet businesses need to incur in collecting personal information from consumers.

**“Exploring Web Customers’ Trust Formation in Infomediaries,”** Jaeki Song, Texas Tech University, and Fatemeh “Mariam” Zahedi, University of Wisconsin-Milwaukee

Infomediaries are information intermediaries in the Internet that play an important part in reducing online customers’ search costs for finding the most suitable vendors and products. This research explores the process of Web customers’ trust building using infomediaries. Specifically, we identify four sets of trust-related beliefs that impact web customers’ trust attitude and intended behavior, as well as the antecedents of trust-related beliefs. This conceptualization is built on a number of theories, mainly theories of trust, reasoned action, and actor-network. Our empirical results in testing the model indicate that web customers’ trust attitude toward web infomediaries is formed based on their beliefs regarding risk, content quality, system quality, and trust-building beliefs. We also found that initial trust is the antecedent of trust-forming beliefs, whereas individuals’ propensity to trust influences their calculative risk beliefs. The implications of these findings are also discussed.
“U-Commerce: A Conceptual Extension of E-Commerce and M-Commerce,” Iris A. Junglas, University of Houston, and Richard T. Watson, University of Georgia

This article elaborates and extends several new concepts that lay the foundation for thinking about next-generation commerce—so-called ultimate commerce, or simply u-commerce. U-commerce extends traditional commerce to a world of ubiquitous networks and universal devices, a world in which users can access networks at any time from any place, using a range of devices to invoke unique and personalized services. Specifically, four constructs are discussed that form the fundamental dimensions of u-commerce: ubiquity, uniqueness, universality, and unison. It is proposed that future developments of information systems will be framed by these constructs.

“Effects of Multimedia on Mobile Consumer Behavior: An Empirical Study of Location-Aware Advertising,” Lih-Bin Oh and Heng Xu, National University of Singapore

Location-aware advertising is widely touted as the “killer-app” for mobile commerce to flourish. With the imminent rollout of third-generation mobile networks, advances in multimedia-enabled mobile devices and positioning technologies, its commercial viability is enormous. Location-aware advertising is primarily text-based at the present, but it is envisioned to allow the delivery of multimedia advertisements to geographically targeted consumers. This exploratory study empirically examines the effects of multimedia on consumer behavior in a simulated mobile commerce environment. A structural model was formulated to test the effects of multimedia on entertainment, informativeness, and irritation in the context of location-aware advertising. The results show that multimedia location-aware advertising messages lead to more favorable attitudes and increase the intention to reuse the mobile advertising service. Evidence also suggests that multimedia has a significant impact on purchase behavior.

“Explaining Information Systems Adoption and Post-Adoption: Toward an Integrative Model,” Moez Limayem, Christy M. K. Cheung, and Gloria W. W. Chan, City University of Hong Kong

This study develops and tests an integrated model that explains information systems usage at adoption and post-adoption stages. Integrating the theory of planned behavior with the IS continuance model, this research provides insights into the complementary nature of the two theories in explaining IS usage over time. In addition, the integrated model takes into consideration the “habit” construct in order to better explain the automatic nature of IS continuance. The integrated model is tested in a longitudinal setting. Results present strong support for the existing theoretical links of the theory of planned behavior and IS continuance model, as well as for those newly hypothesized in this study. Initial usage indicates significant affect IS continuance usage, and habit posits a significant moderating impact on the relationship between IS continuance intention and IS continuance usage. The dynamic interrelationship between acceptance and continuance decision and the variability of determinants of IS usage across different adoption stages are demonstrated. The implications are noteworthy for both researchers and practitioners.

“Individual Technology Acceptance Under Conditions of Change,” Xiaoqing Wang and Brian S. Butler University of Pittsburgh

Information technology is changing rapidly. However, existing technology acceptance models do not consider the impact of changes on individual acceptance of information technology. This paper introduces the construct of technology change and integrates current technology acceptance models with social psychology theories of attitude change to propose a theory of technology acceptance under conditions of change. Beginning with a review of current technology acceptance models, this paper considers how they implicitly deal with IT change. A conceptualization of technology change focused on rate, magnitude, and distribution of change is then presented. Finally, a three-stage theoretical model of how technology change affects acceptance through individual attitudes and beliefs is presented. The core of the model focuses on the processes of forming attitudes and beliefs about technology change, changing attitudes and beliefs about the technology, and technology acceptance decision making. These processes are expected to be moderated by the visibility, relevance, and compatibility of the changes. This model, by integrating the reality of technology change with extensive research on technology acceptance, extends our understanding of the complex interplay between technology and people in dynamic, evolving information systems.
Intrusion detection systems (IDSs) have become a core component of a firm’s IT security architecture. While IDSs enable real-time detection of intrusions, a common criticism has been the frequency of false alarms, which undermines their effectiveness. A fundamental problem with IDSs for intrusion detection is achieving the optimal balance between detection rate and false positive and false negative rates. Many firms use decision theoretic approaches to deal with the IDS configuration problem. While decision theoretic approaches are appropriate for configuring many types of machine learning and classification software that suffer from false positive and false negative errors, we argue that decision theoretic approaches have fundamental limitations for configuring IDSs. Decision theoretic approaches are based on the presumption that configuration does not influence the behavior of hackers. Game theoretic approaches recognize the fact that hackers do modify their strategies in response to firms’ actions. In this paper, we compare the decision and game theoretic approaches to the IDS configuration problem when firms are faced with strategic hackers. We find that under most circumstances firms incur lower costs when they use game theory as opposed to decision theory because decision theory approach frequently either over- or under-configures the IDS. However, firms incur the same or lower cost under decision theory approach compared to the game theory approach if configurations under decision theory and game theory are sufficiently close. A limitation of the game theory approach is that it requires user-specific utility parameters, which are difficult to estimate. Decision theory, in contrast to game theory, requires the attack probability estimate, which is more easily obtained.

Revelation policies in an electronic marketplace differ in terms of the level of competitive information disseminated to participating sellers. Since sellers who repeatedly compete against one another learn based on the information revealed and alter their future bidding behavior, revelation policies affect welfare parameters—consumer surplus, producer surplus, and social welfare—of the market. Although different revelation policies are adopted in several traditional and Web-based marketplaces, prior work has not studied the implications of these policies on the performance of a market.

In this paper, we study and compare a set of revelation policies using a computational marketplace. Specifically, we study this in the context of a reverse-market where each seller’s decision problem of choosing an optimal bid is modeled as an MDP (Markov decision process). Results and analysis presented in this paper are based on market sessions executed using the computational marketplace.

The computational model, which employs a machine-learning technique proposed in this paper, ties the simulation results to the model developed using the game-theoretic models. In addition to this, the computational model allows us to relax assumptions of the game-theoretic models and study the problem under a more realistic scenario. Insights gained from this paper will be useful in guiding the buyer in choosing the appropriate policy.

Research in Progress

How do organizations achieve and sustain the process of continuous adaptation and change that is necessary to realize strategic information systems alignment? While research has focused on developing deterministic alignment models and on identifying the factors that contribute to alignment, there is little understanding of the process as it evolves over time. In this paper, we propose that coevolution theory offers the opportunity to explore coevolving interactions, interrelationships, and effects as both IS and business strategies evolve. An initial model of this coevolution is presented that applies the key attributes and concepts of coevolution theory to strategic IS alignment. Future directions for advancing our work are highlighted.
“The Role of Knowledge in Information Technology Project Governance,” Raymond M. Henry, Clemson University, Laurie J. Kirsch, University of Pittsburgh, and V. Sambamurthy, Michigan State University

IT governance, the distribution of decision-making concerning IT, has primarily been studied at the organizational or, more recently, the business unit level. However, many IT decisions take place in the context of IT projects, making it important to understand governance issues at the project level. This research develops a project-level conceptualization of IT governance that draws from both the governance and project management literatures. A model of how IT project governance arrangements are influenced by the distribution of business and IT knowledge and the impact on project performance is also proposed. This model will be tested using matched surveys from business and IT managers involved in IT projects.

“Information Technology Workforce Structure and Compensation: Implications for Outsourcing,” Natalia Levina, Mingdi Xin, and Shinkyu Yang, New York University

Some literature on information technology outsourcing has argued that the rise of outsourcing can be tied to IT labor market conditions. The purpose of this research is to investigate how IT workforce characteristics influence the distribution of workers between IT services (ITS) firms and non-ITS firms and the associated compensation. IT outsourcing literature points out that due to the economies of scale and scope and specialization in IT, ITS firms may have an advantage in hiring, retaining, and motivating highly skilled IT workers by providing better career opportunities and better compensation due to higher productivity. On the other hand, non-ITS firms may have to compensate IT workers better because they need to make specific investments in non-IT skills and, as a result, may have some hold up power over other employees. This study reports early results from an analysis of the U.S. Department of Labor’s Current Population (CPS) Survey from 1983-2001 and the U.S. population census for 2000. These results show that IT workers employed by ITS firms are better educated, younger, and proportionally more are male. The wage regression results show that holding other factors constant, ITS firms pay more than non-ITS firms for a given type of worker. However, there may be other factors, such as finer differentiation in worker qualification or job intensity, unobservable from our dataset that may influence the wage. Further research is suggested.

“The Effects of Trust-Assuring Arguments on Consumer Trust in Internet Stores,” Dongmin Kim and Izak Benbasat, The University of British Columbia

The difficulty Internet stores face in developing consumer trust is an ongoing impediment to the proliferation of Internet shopping. In order to develop consumer trust, many e-commerce strategies and Website features have been proposed in the IS discipline. Trust-assuring arguments are one proposed feature and refer to a statement or statements offering support for a claim made by an Internet store to address trust related issues. Although trust-assuring arguments are often found in Internet stores, to date little research has examined the effects of the arguments in building consumer trust. To fill the gap, this paper examines the effects of trust-assuring arguments on consumer trust in Internet stores.

“The Effect of Base Rate Sensitization on End-User Query Performance Moderated by Conscientiousness,” A. Faye Borthick, Georgia State University, Paul L. Bowen, University of Queensland, and David Robb, University of Queensland

End users with extensive experience with an organization’s data can often detect query errors when query results do not correspond to their ex ante expectations. Many end users, for example, newly hired business analysts, however, compose queries on unfamiliar data. Their lack of familiarity means that they may be less able to evaluate the reasonableness of their query results. Although additional query experience will eventually give them the familiarity with the data that they need, in the interim, they may not recognize incorrect results from flawed queries. This paper develops and tests base rate sensitization as a means of enabling end users to improve their query performance. Contrary to the hypotheses, sensitizing end users to base rates, as a means of improving their assessment of the likely correctness of their query results, was not associated with significantly fewer query errors on a consistent basis. In a post hoc analysis, participant conscientiousness was found to moderate query performance. Participants of high conscientiousness that were sensitized to base rates made fewer query errors than those not sensitized. In contrast, base rate-sensitized participants with low conscientiousness made more errors than those not sensitized. In this interaction, high conscientiousness participants were able to take advantage of base rate information while low conscientiousness participants appeared to be hindered by base rate sensitization.

In the last few years, open source (OS) software development has become a viable alternative to commercial software. OS developers form virtual teams and the goal of this study is to examine the viability of the projects as organizational forms. We draw from the population ecology literature and propose that such factors as project reliability, size, age, and niche focus will be related to the survival of OS projects. Specifically, the purpose of this research is to test the applicability of some basic theorems of population ecology to open source projects. In this research we focus on short-term survival of OS projects. If the population ecology paradigm is useful, we can expand our analyses. The study uses archival project data available at SourceForge to test the theoretical propositions.


Developing and managing an information systems project has always been challenging, but with increased security concerns and tight budget resources, the risks are even greater. With more networks, mobility, and telecommuting, there is an increased need for an assessment of the technical and security risks. These risks if realized can have devastating impacts: interruptions of service, data theft or corruption, embezzlement and fraud, and compromised customer privacy. The software risk assessment literature (for example, Barki et al. 2001; Lyytinen et al. 1998; Schmidt et al. 2001) has focused primarily on managerial (i.e., development) risks, while the security risk models (for example, Cohen et al. 1998; Straub and Welke 1998) do not include the development risks and implementation costs. Theoretical risk models need to be developed that can provide a framework for assessing and managing the critical technical failure and security risk factors in conjunction with the managerial and development risks. This research seeks to model this problem by extending risk models originally developed for large-scale engineering systems.

“The Impact of Schedule Pressure on Software Development: A Behavioral Perspective,” Ning Nan, University of Michigan, Donald E. Harter, Syracuse University, and Tara Thomas, University of Michigan

Timely software development has been a major issue in both information systems research and software industry. While researchers and practitioners seek better techniques to estimate and manage software schedules, it is important to understand the impact of management pressure on software development projects. This paper investigates the impact of schedule pressure on the performance in software projects. Data analysis indicates that a U-shaped function exists between time pressure and cycle time. A similar relationship is found between time pressure and development effort. Meanwhile, time pressure does not significantly affect software quality. The findings of this study will help software project managers develop effective deadline and budget setting policies.

“Organizational Control Systems and Software Quality: A Cross-National Study,” Sanjay Gosain, David P. Darcy, and Anand Gopal, University of Maryland, College Park, and Yossi Lichtenstein, IBM Research

This study explores the relationship between organizational control modes (behavior, outcome, and clan) and software quality. Much of the previous work on organizational control has examined the choice of modes given task characteristics. This research extends work in control theory by considering the impact of control modes on the increasingly critical organizational outcome of software quality. The research is set in the context of software development organizations in three of the largest software developing countries: India, Ireland, and Israel (the 3Is). A cross sectional survey of 400 software development organizations across the 3Is will be used to test the developed model. In addition to the theoretical contributions, the study will provide practical implications to support software project managers in making better organizational control choices.

“Self-Regulated Learning Strategies and Computer Software Training,” Jane Gravill and Deborah Compeau, The University of Western Ontario

User learning is central to the effective use of information technology within organizations, particularly given the changing nature of IT over the past decades. Research indicates that self-training is the most common means by which users learn. In addition, the use of Web-based training within organizations in these self-directed learning situations is increasing. The purpose of this research is to investigate the increasingly popular self-training phenomenon within organizations by examining the self-regulated learning strategies that...
individuals use in Web-based training situations, and how they influence learning outcomes. To do this, a two phase study was designed. Phase one of this study has been completed, and phase two has been initiated. Phase one took us into the field to explore interviewees’ self-directed learning experiences by understanding the strategies they used and learning difficulties they encountered. It involved 27 interviews with knowledge-workers from a variety of organizations. Phase two (in progress) provides a field test of the research model. Organizations invest a great deal of resources toward training end users, and this research will assist organizations in gaining a return from this sizable investment in training end users, and in managing their most important resource—knowledge.


The rise of networked computers has made it possible to codify, store, and share certain kinds of knowledge more easily and for less cost than ever before. With computer-based information technologies playing an increasingly important role in how organizations store knowledge, electronic databases for people to share knowledge and information have become even more widely available. Despite the benefits of codification as a knowledge-sharing mechanism, it can be costly and difficult to develop, adopt, and maintain a database of such codified knowledge. Given such costs and difficulties, it becomes critical to identify when it is effective to use codification as a knowledge-sharing mechanism. There has been a lack of focus in prior research on examining the portfolio of both formal and informal knowledge-sharing mechanisms available for organizations, and on examining whether there are circumstances in which knowledge-sharing mechanisms other than codification may have been more effective in the first place, considering the cost of codification. This study thus examines codification and personalization (sharing of knowledge through direct person-to-person contacts) as two types of knowledge-sharing mechanism. Focusing on the codification versus personalization dimension of knowledge-sharing mechanisms, we examine the conditions that affect when it is more effective to use a codification approach versus a personalization approach for knowledge sharing in project-based knowledge work. We hypothesize that knowledge equivocality, task frequency, knowledge-seeker’s social network, and knowledge stickiness will affect the effectiveness of these two types of knowledge-sharing mechanism. The hypotheses are empirically tested in a professional service firm that builds up its knowledge and capabilities through conducting project work.


While the literature on the technology acceptance model and its extensions have contributed significantly to our understanding of how individuals accept a technology, little is known about how groups accept technology. Since organizations are moving to collective structures such as groups that are provided with technologies for performing tasks, it is critical to understand how they accept and use technology so as to better guide organizations’ investments and implementation decisions. Drawing on theories of group influence, and prior research on group communication media and conflict, the paper proposes an input-process-output (I-P-O) model for conceptualizing group technology acceptance. We also present some preliminary empirical results that appear to support key aspects of the model.

Tuesday, December 16
10:00 a.m. - 11:30 a.m.
Session T2.4
East B

“An Economic and Operational Analysis of the Market for Content Distribution Services,” Cuneyd Kaya, Kutsal Dogan, and Vijay Mookerjee, University of Texas at Dallas

We develop an economic and operational model to examine the conditions for the viable provision of content distribution services by a monopolistic firm. Each user firm (the content provider or CP) has the option of buying content distribution services from the content distribution service provider (CDP) or going on its own to arrange for its content to be distributed at a set of chosen sites operated by Internet Service Providers (ISPs). The CDP enjoys operational benefits in terms of both the fixed and variable cost of replicating content. However, we find that for certain market situations (concentrated CP and ISP demand), not all CPs will find it attractive to buy services from the CDP. The best case for the CDP is when the various content providers have similar demand that is uniformly distributed across ISP sites.

“Buy-It-Now or Snipe on eBay?,” Ilke Onur and Kerem Tomak, University of Texas at Austin

In this paper, we study bidder behavior in an eBay auction with a buy-it-now option. The digital environment that eBay provides gives bidders and sellers a variety of options when they participate. These include using sniping software to submit bids at the last minute and hard close times set a priori by the seller (versus Amazon.com’s soft close which adds 10 minutes to the end of the auction if there is last minute activity in an auction). Due to the richness of behaviors which can be observed by the bidders
participating in eBay, we realize that there are many equilibria for the bidders in eBay. We propose an equilibrium and prove that it is one of the existing equilibria which survives any kind of deviation by the bidders. We analyze this equilibria for the bidders on eBay and validate our model using the data we collected from the Internet.


The emergence of simultaneous online markets for used and new books has caused concern among industry groups such as the Author’s Guild and the Book Publishers Association. These groups note that authors do not earn royalty payments from used book sales and as a result Internet markets for new and used goods may undermine the creative incentives for authors.

This proposition, while theoretically possible, remains unstated and many potentially countervailing effects remain unexplored. For example, the availability of a resale market may or may not cannibalize the new good market. In other words, the elasticity of demand between new and used goods may be such that it may or may not adversely affect the new book prices and sale. In such scenario, the total book market may expand, leading to higher customer surplus without hurting the authors’ royalties.

Ultimately, the actual impact of Internet used book sales on author and publisher welfare is an empirical question. In this research, we use economic theory and structural estimation to model the welfare implications of Internet used book exchanges for consumers, retailers, publishers, and authors. We calibrate our models using a unique dataset collected from Amazon.com’s new and used marketplaces. Our data collection and analysis are ongoing. We will be able to present full results at the conference.

“The Individual and Organizational Effects of Telecommuting: A Longitudinal Field Experiment Using the Experience Sampling Method,” James E. Hunton, Bentley College

The purpose of this study is to examine individual and organizational effects of telecommuting. The research design involves a longitudinal (12 months), between-subjects, randomized field experiment with two manipulated factors: satellite office space available (no, yes) and downtown office space available (no, yes). In all four treatment conditions, participants are allowed to work at home. The experimental design incorporates a fifth (control) condition where no telecommuting is allowed, which reflects the current company policy. The experience sampling method (ESM) is used to randomly measure psychological and behavioral variables throughout a seven month period. A total of 160 medical coders who work for a large health care company with hospitals and clinics located throughout the United States take part in the experiment.

A descriptive telecommuting behavior model (TBM) developed for this study illustrates the relationships among telecommuting policies, location choices, psychological factors, individual performance, and organizational outcomes. Preliminary analyses of employee retention, task interruption, and task performance data indicate that the best telecommuting options are “home and/or satellite office” and “home, satellite office and/or downtown office”; the next best options are “home and/or downtown office” and “downtown only”; the least effective policy is “home only.” Further analysis of ESM responses is expected to shed light on why the participants exhibit different psychological, behavioral, and organizational responses across the telecommuting conditions.

“Informal Knowledge Networks: Toward a Community-Engineering Framework,” Gregor Schrott and Daniel Beimborn, Frankfurt University

The problems knowledge workers face today are dynamic, unstructured, highly complex, and often cannot be fully explicated. Such moving targets require different problem solving capabilities. Because abstract information is less valuable in this type of environment, knowledge workers have to utilize channels other than handbooks. Hence, corporate knowledge networks again are at the top of the research agenda. For a knowledge worker, access to knowledgeable colleagues, rather than access to large databases, becomes the important factor.

In such networks, the question of which managerial actions are appropriate for successful community development (i.e., supporting the actors) arises. Unfortunately, today’s community engineering practices are often characterized by a gross simplification and strong technological focus rather than modeling the impact of managerial actions before taking them.

As part of a larger research project, this paper addresses topological structures as an action variable of community engineering. A computer-based simulation model is introduced and applied to real-life data from over 800 students and staff of the Economics and Business Administration Department at Frankfurt University, Germany.
“Understanding Virtuality in a Global Organization: Toward a Virtuality Index,” Mei Lu, Intel Corporation, Eleanor Wynn, Intel Corporation, Katherine M. Chudoba, Florida State University, Mary Beth Watson-Manheim, University of Illinois, Chicago

“We are getting more virtual all the time!” was a phrase frequently uttered during recent planning sessions for remote collaboration support at Intel Corporation; some form of this statement is no doubt made in other global firms as well. But what virtual comprises is not well understood. The construct of virtuality cannot be directly measured, so how virtual and how fast the stated change is occurring is mostly an enigma. Certain high level metrics of corporate information infrastructure can give indications, but much of virtuality is not obvious. The lack of definition makes it hard to understand the impact of virtual work on performance, or to evaluate the infrastructure and collaborative toolset needed to support distributed knowledge workers. Building on the concept of discontinuities, or factors contributing to a decrease in cohesion, we propose a virtuality index to assess the degree to which virtual work occurs and the pace at which this phenomenon progresses. The index was derived from data gathered in a study with sound psychometrics of over 1,200 employees at Intel Corporation. Preliminary analyses suggest that work predictability and general sociability (on or off teams), along with a range of media for expressivity and visualization can mitigate the consequences of working in discontinuous environments, while discontinuity of practices (e.g., more cultural and work process diversity) and worker mobility negatively impact the perception of team performance. Being distributed in and of itself was found to have no impact on team performance. These findings, along with others yet to be analyzed, promise to give us a handle on how the discontinuities of working virtually can be most effectively supported with collaboration tools.

“Returns to Reputation in Electronic Markets: An Experimental Study,” Easwar A. Nyshadham and Sumitra Mukherjee, Nova Southeastern University

Electronic markets are prone to informational asymmetries wherein one party knows more about the transaction than another. This might lead to a loss in market efficiency and a market failure. Reputation mechanisms, such as a feedback rating mechanism in which each buyer provides feedback about sellers is one way to minimize potential failure. The impact of a reputation mechanism is difficult to assess in natural markets or even field experiments, because several variables of interest are not under the control of the researcher. In this study, we use experimental economic methods, specifically the induced value theory, to control for buyer and seller values and study the impact of the reputation mechanisms on market efficiency and price premiums.

“Firm Size and Information Technology Investment: Beyond Simple Averages,” Tianyi Jiang, New York University

We attempt to gain a better perspective on evolving firm-size in the past 20 years across industries by combining the empirical framework of Brynjolfsson et al. (1994) for measuring the effect of coordination cost reduction due to information technology investment, and the synopsis of theories of the firm by Kumar et al. (2001). We find that although in general Brynjolfsson et al.’s result holds for new firm data from COMPUSTAT, the firm size of the professional service sector grows as IT investment increases. The paper’s potential contributions to empirical methods include (1) a different focus on the measurement of firm size by utilizing the weighted average employee-measure of firm size adopted by Kumar et al. work to replicate Brynjolfsson et al.’s findings with a new dataset, and (2) refinement of Kumar et al.’s weighted average employee-measure of firm size using entropy partition techniques from the machine learning literature, to fully account for the effect of larger firms within each industry.

“Free Software Offer and Software Diffusion: The Monopolist Case,” Zhengrui Jiang and Sumit Sarkar, The University of Texas at Dallas

An interesting phenomenon often observed is the availability of free software. The benefits resulting from network externality have been discussed in the related literature. However, the effect of a free software offer on new software diffusion has not been formally analyzed. We show in this study that even if other benefits do not exist, a software firm can still benefit from giving away fully functional software at the beginning period of the marketing process. This is due to the accelerated diffusion process and subsequently the increased NPV of future cash flows. The analysis is based on the well-known Bass diffusion model.
“Representing Things and Properties in Conceptual Modeling: Understanding the Impact of Task Type,” Graeme Shanks, Monash University; Jasmina Nuredini, Monash University; Daniel Tobin, Monash University; and Ron Weber, The University of Queensland

The representation of things and properties is a fundamental issue in conceptual modeling. The proponents of different modeling approaches, for example entity relationship modeling and object-role modeling, offer very different advice about the distinction between things and properties and their representation. We use ontological theory to provide guidelines about how things and properties should be represented. Previous experimental work has provided evidence to support the use of ontologically sound representations of things and properties in conceptual modeling. However, the results also indicate that the type of task undertaken (for example, comprehension, problem solving, discrepancy checking, and decomposition) may also impact the use of conceptual models. In this paper, a research project is proposed to examine the sorts of tasks that are best supported by distinguishing between things and properties in conceptual modeling.

“Free Riding, Altruism, and Cooperation on Peer-to-Peer File-Sharing Networks,” Kedar Samant, University of Illinois at Chicago

Researchers have acknowledged the existence of free-riding in peer-to-peer networks. Krishnan et al. (2002a) provide a plausible game theoretic explanation for the sustenance of cooperation in P2P networks and their ability to tolerate free-riding. Our paper investigates this issue further using a computational model. We find the Krishnan et al. (2002a) model to hold true only for a restricted set of assumptions. We argue that, in general, aggregation of individuals' utility is necessary to explain the ability of P2P systems to tolerate free-riders. From our experiments, we observe that the stability of the network is sensitive to the underlying incentive structure of individual users. We suggest a detailed incentive structure for users participating on the P2P network and examine this incentive structure in light of existing data of P2P usage. The findings of this paper should be useful to researchers and practitioners for policy making, network design, regulating growth, and deploying novel business models on P2P file sharing networks.

“The Dynamics of Organizational Information Security,” Amitava Dutta, George Mason University; and Rahul Roy, Indian Institute of Management Calcutta

In recent times, it has become evident that information security is not achieved through technology alone. Rather, it depends on a complex interplay among technology, organizational and managerial issues, and events in the external environment. Senior management attention, training, and sound operating procedures are just as important as firewalls and virtual private networks in arriving at a robust security posture. In this paper, we represent the interactions among these technical and organizational drivers using the system dynamics methodology, to develop a high level model of organizational information security. Since the basic system dynamics construct is the feedback loop, our model is able to expose the counteracting mechanisms that work to reinforce and erode security, respectively. By doing so, it can inform the process of crafting an appropriate level of security—a problem facing most organizations. Since the model is based on simulation, it is also possible to test what-if scenarios of how the security posture of the organization would fare under different levels of external threats and management policies.

“Building the Digital Bridge: A Longitudinal Study of Community Learning Centers,” Sibi Venkataraju, Atreyi Kankanhalli, and K. S. Raman, National University of Singapore

This paper formulates a definition of digital divide in the context of developing countries such as India and develops theoretical models that relate potential antecedents to adoption and use of rural information centers by direct users, mediated users, and nonusers. It develops a survey instrument for the direct-user model and tests it with 60, 11- and 12-year-old students in rural and semirural schools, who have been using the centers for computer-based learning alongside traditional learning for more than a year. Results show that perceived usefulness of the computer-based system, prior information technology experience, and empathy of the human assistant are positively associated with the students’ preference of computer-based learning. The follow-up stages of this research consist of a longitudinal study of the three models with larger samples of students and other members of the rural populace. This is planned as a cohort study which will investigate the change in antecedents of intention to use the centers as individuals progress from nonuser to mediated user and then to direct user and the resultant implications.

The study examines the effects of a public emergency on citizens’ intention to use e-government services. Since the national disaster on September 11, 2001, the United States government has invested considerable efforts to increase homeland security and public safety. However, virtually no academic research has focused on the impact of public emergencies on e-government services. The study examines relationships between citizens’ intentions to use e-government services and factors that can influence those intentions in the context of a public emergency. The first survey was conducted in April 2003, when the second Iraq war was ongoing and the Homeland Security Advisory System’s terrorist treat level was high. The analysis of the survey results and implications of the study are presented.

“The Internet as an Agent of Political Change: The Case of ‘Rohsamo’ in the South Korean Presidential Campaign of 2002,” Jae Yun Moon and Shinkyu Yang, New York University

Roh Moo-hyun’s victory on December 19, 2002, represents a major watershed in modern day South Korean politics. In this exploratory case study, we draw on historical research on the impact of the printing press on the Protestant Reformation and on the literature on the mass media and the Internet in politics to explain how the Internet influenced this presidential election outcome. Both the Internet and the Gutenberg printing press technologies dramatically changed how information was communicated. The printing press broke the control held by the Catholic Church over religious information in Europe; the Internet significantly changed how political information was communicated in South Korea where broadband access rates are four times higher than in the U.S., providing an effective alternative medium for the exchange of political information. The Church was suspicious of the quality of publications through the print media and failed to recognize its potential while Luther actively embraced it; unlike Roh, the opposing candidate as well as the print media in South Korea were wary of the information transmitted through the Internet and heavily criticized online activities. The historical parallels from this case will enable us to draw on lessons from the past in order to better understand the potential impact of the Internet in societal context. In this research, we examine the role the Internet played in Roh Moo-hyun’s upset victory in 2002. In addition to serving as an alternative source of information, the Internet was also used as a tool to coordinate Roh Moo-hyun’s supporters. Rohsamo, an online group of Roh Moo-hyun supporters, became the focal organizing structure around which the efforts of individual supporters were coordinated.


This paper uses a hierarchical linear modeling approach to examine factors that affect Website effectiveness from a customer viewpoint. Use of hierarchical linear modeling allows analysis of multilevel and cross-level interactions that have not been explicitly considered in previous research. Our preliminary analysis of online Web survey data suggests that the relative importance of different Website features may vary depending on the domain in which Websites are nested.

“Examining Knowledge-Based Information Technology Management Competencies of Business Executives,” Ryan R. Peterson and Salvador Aragon, Instituto de Empresa

This paper examines IT management competencies of business executives, and analyzes how IT management competencies of business executives impact IT governance capabilities. A (knowledge-based) model interrelating explicit and tacit IT management competencies of business executives with IT governance capabilities is developed. Following a multi-method research design, preliminary results indicate that IT management competence is a multidimensional construct, in which explicit and tacit knowledge regarding IT and IT management are essential for building IT governance capabilities.

“Links Are Everywhere: Effects of Web-Based Groupings on Trust Transfer,” Katherine Stewart and Ross A. Malaga, University of Maryland

One of the most ubiquitous examples of information technology is the World Wide Web. On the Web, hypertext links are everywhere, but trust may be hard to find. This research examines how the presentation of groups of links may affect consumers’ trust in organizations encountered on the Web. We use an experimental methodology to examine how the description of a hypertext list and the familiarity of members of the list may affect trust in both familiar and unknown target organizations. Our theoretical model is rooted in the literatures on trust transfer and entitativity, which is the extent to which individual entities are perceived as forming a group. Results are expected to answer practical questions with regard to the use and presentation of
hyertext links and also to extend the trust transfer literature by examining factors not previously considered: super-dyadic transfer and potential negative effects of transfer.

“Transaction Risk Management in Online Auctions,” Ram Gopal, University of Connecticut, Steven Thompson, University of Connecticut, Y. Alex Tung, University of Connecticut, and Andrew B. Whinston, University of Texas at Austin

The scenario of business sellers utilizing online auction markets to reach consumers and sell new products is becoming increasingly commonplace. We propose a class of risk management tools, loosely based on the concept of financial options, that can be employed by such sellers. We examine market conditions, and risk and option pricing scenarios where writing options is beneficial to sellers, and purchasing options is beneficial to buyers. We provide a framework to analyze the value proposition of options to potential buyers, option holder behavior implications on auction processes, and seller strategies to write and price options that maximize potential revenues. Preliminary results based on actual auction data suggest that options can provide significant benefits under certain conditions.


This study seeks to identify the factors leading to the assimilation of electronic procurement (e-procurement) in organizations. Realizing the strategic importance of e-procurement, many organizations have increased their investments to exploit its potential benefits. However, organizations differ greatly in their abilities to assimilate the application and translate it into tangible benefits. This study tries to enhance understanding of barriers and facilitators that affect organizations’ abilities to assimilate e-procurement. Drawing upon perspectives from strategic management and other literature, this study develops a conceptual model that identifies the determinants of organizations’ capabilities to implement e-procurement applications. This study empirically validates the conceptual model, conducting a survey with purchasing executives and managers of organizations in service industries. The conceptual framework and empirical investigation of this study are expected to greatly contribute to both theory and practice. For theory, the study promises to enhance understanding of barriers and facilitators of e-procurement assimilation in organizations. For practice, this study will yield useful implications on how to effectively manage e-procurement assimilation efforts. The findings will make the task more manageable and less stressful for practitioners, eventually facilitating the spread of the application across individuals, work groups, organizations, and society at large.

“Information Technology Adaptation: A Study of Its Determinants and Effects,” Anol Bhattacherjee and Michael Harris, University of South Florida

This paper is one of the first to examine a potentially important yet ignored area of information technology usage research, namely IT adaptation. Integrating adaptive structuration theory with findings from prior IT usage research, we propose a theoretical model of IT adaptation that elaborates the causative drivers, effects, and underlying dynamics of the adaptation process. A longitudinal study is proposed to empirically test the hypothesized model. We present results from a pretest study that validated our choice of constructs and generated initial measurement items for new constructs, and expect to complete and present instrument validation, data collection, and statistical analysis at the conference. Potential contributions of this study for IT usage research and practice are discussed.

“Effects of Information Presentation on Perceived Reputation in Virtual Communities: A Controlled Experiment,” Kevin K. Y. Kuan, Judith S. Olson, and Richard Gonzales, University of Michigan

Reputation systems have become increasingly popular in virtual communities as a way to record and communicate the reputation information of the members. However, different reputation systems use different presentation formats and their effects on decisions in terms of evaluating positive and negative ratings remain unclear. A controlled experiment is proposed using the preference ladder procedure to elicit subjective preferences in three commonly used presentation formats. One format presents the negative and positive ratings side by side; one presents the information as a percentage of total ratings that are positive; the third presents the difference between the positive and negative ratings, the format used by eBay. Results of the preliminary data analysis suggest that people weigh the positive and negative information to different extents in the three formats. Presenting reputation in the difference format tends to make a person weigh
the negative information less, making the person more forgivable. The finding is possibly due to the salience of the negative ratings in the various presentations.

“Patterns of Chatter: An Empirical Case Study of Participation in an Online Health Community,” Catherine M. Ridings, Lehigh University

This research-in-progress is an in-depth case study of the patterns of interactions between participants in a virtual community. The study will examine the stability of the community membership, posting behavior of the members over time, the existence of clusters or groups of users, especially a core group, and the possible classification of members based upon participation. Social network analysis diagrams showing who is talking to whom will be produced, revealing the social structure of the community. All 16,112 messages posted by 1,670 users of a medical virtual community were gathered over the course of one year. Preliminary results are given and future analysis of the data is proposed.

“The Effects of Interactivity and Vividness of Functional Control in Changing Web Consumers’ Attitudes,” Zhenhui Jiang and Izak Benbasat (University of British Columbia)

The study proposed will investigate the effects of functional control on online consumers’ attitude formation. Functional control is an interactive interface feature that allows consumers to virtually try different functions of online products. An attitude formation model for analyzing and assessing the influences of functional control is proposed based on existing theories of vividness and interactivity, which are the two fundamental technological characteristics of functional control. The model suggests that functional control has direct effects on both attitudes toward online product presentation and attitudes toward products themselves, and that attitudes toward different online product presentation partly mediate the effects of functional control on attitudes toward products. A laboratory experiment has been designed to test the model. We expect that the results of the study will identify particular areas deserving attention for applying functional control to improve e-commerce environments.

Panels

Computing on the Scaffolds: The Coming Transformation of Architecture and Construction with Digital Technologies

Chair: Richard Boland, Case Western Reserve University
Panelists: Jim Glymph, Gehry Partners
Bill Zahner, A. Zahner Company
John King, University of Michigan
Kalle Lyytinen, Case Western Reserve University

We are at the dawn of a digital age in architecture and construction, one of the world's largest industries, and the architect Frank O. Gehry is leading that transformation. The Experience Music Project in Seattle is a recent and advanced example of the undulating forms and complex surfaces made possible by his use of three-dimensional digital representations. Bringing computing to the scaffolds promises to change the work practices, organizational structures, and productivity of all of the actors involved in construction projects, including architects, contractors, subcontractors, and labor groups. This panel will bring together Frank Gehry's senior partner along with a specialty contractor who has worked on many Gehry buildings with two academics who have extensive backgrounds in technological innovations and industrial transformations. The questions they will address are:

- What forces will drive versus inhibit this digital transformation?
- What changes in organization structures will be required?
- What challenges and opportunities will labor experience?
- What actions and policies will help bring fruition to the promised benefits of computing on the scaffolds?
The Dark Side of Information and Communication Technologies: The View from the Industry-Level of Analysis

Chairs  Suzi Iacono, National Science Foundation  
        Rolf Wigand, University of Arkansas at Little Rock
Panelists  Kevin Crowston, Syracuse University  
           Ken Kraemer, University of California, Irvine  
           M. Lynne Markus, Bentley College  
           Steve Sawyer, Pennsylvania State University  
           Charles W. Steinfield, Michigan State University

The Year 2000 problem spurred companies to rethink investments in information and communication technologies (ICT). Many used the Y2K problem as an opportunity to renew ICT infrastructures, to install integrated enterprise packages, and to pursue new opportunities for ICT-enabled value such as e-commerce, supply chain management, and customer relationship management. Some evidence suggests that these efforts have had substantial payoffs in terms of shareholder value.

But can such firm-level benefits persist when competitors catch up or when the success of leaders drives inefficient producers out of business? This panel features NSF-funded researchers whose studies have examined the impacts of ICT at the industry-level of analysis. They show significant industry-level ICT-enabled impacts with potentially negative implications for the firms competing within industries.

In the Information Systems field, the ability to gain competitive advantage with ICT has long been an important theme. Although some researchers warned that ICT might contribute to the destruction of competitive advantage, by far the majority of the discourse has centered on how individual firms should invest in ICT. When taking an industry-level view of ICT-enabled competitive advantage, however, we can see its potential dark side. Among the risks ICT poses to the firms in an industry are these:

- Fundamentally reducing the cost structure of an industry such that some firms can no longer compete and that others experience squeezed margins
- Destruction of in-house competencies (e.g., through radical process change or business process outsourcing)
- Investments in ICT are required as a condition of doing business without providing any bottom-line benefits
- Increased dependency on external ICT providers leading to business inflexibility and lack of ICT knowledge

Changes such as these are obscured by our field’s current focus on the firm or interorganizational levels of analysis. When attention is raised to the industry level, it quickly becomes apparent that individual firms have much less ability to influence the course of events than we usually assume. A few industry leaders may change the game for the rest, but even they may not be immune to the unintended consequences of their own success.

The researchers comprising this panel have conducted NSF-funded industry-level studies of ICT impacts in the following industries: home mortgage, real estate, personal computers, and manufacturing, wholesale/retail/distribution and banking/insurance in 10 nations. Panelists will informally share their findings in response to probing questions focusing on what we can learn by looking at ICT at the industry level of analysis and what these findings mean for individual firms.
Managing Information Technology for Strategic Flexibility and Agility: Rethinking Conceptual Models, Architecture, Development, and Governance

Chair: John Mooney, Pepperdine University
Panelists: Cynthia Beath, University of Texas at Austin
Guy Fitzgerald, Brunel University
Jeanne Ross, Massachusetts Institute of Technology
Peter Weill, Massachusetts Institute of Technology

The concepts of strategic flexibility and strategic agility have received much attention recently as businesses face increasingly uncertain and competitive markets (Hitt et al. 1998; Sanchez 1997). However, for many firms, existing IT assets and capabilities pose a serious impediment to strategic agility. Some firms that have successfully implemented enterprise systems are now finding that these systems can be inflexible and difficult to change. Other recent work illustrates that specific choices about IT can enable or constrain a firm’s strategic abilities to respond to changes in the competitive marketplace (Sambamurthy 2000; Weill et al. 2002). If indeed strategic flexibility and agility have become critical imperatives for businesses, then a critical question for IS researchers and practitioners is what can be done to better position IT to enable strategic agility?

This panel session proposes to examine the implications of the strategic agility and flexibility imperatives for the IS discipline from four critical perspectives: conceptual models of IS and strategic enablement, IT architecture, IS development, and IT governance. Our rationale is that these comprise four key domains that impact IT use within business organizations, specifically how we think about the role of IT in business, how we design and manage core IT infrastructure and architecture, how new IS applications are developed and implemented, and the allocation of roles and responsibilities for managing IT resources and capabilities. The panelists will argue that significant rethinking and new insights are required to guide IS practice in satisfying the demands for business flexibility and agility, and that future research is needed to identify ways in which IT can be managed to provide these outcomes.

Embarking on Information Systems’ Voyage to Self-Discovery: Identifying the Core of the Discipline

Chair: Elena Karahanna, University of Georgia
Panelists: Gordon B. Davis, University of Minnesota
Tridas Mukhopadhyay, Carnegie Mellon University
Richard T. Watson, University of Georgia
Ron Weber, University of Queensland

In an academically competitive environment where other disciplines research IS-related phenomena, survival of the IS field hinges upon its ability to distinguish itself and provide insights that other disciplines are not poised to provide. We have survived as a distinctive field partly because of our superior understanding and knowledge of information systems, and because we are often the first at the scene for a new information technology. Problems, however, are not waiting for IS to solve them exclusively. Other disciplines can step in and unravel them if we don’t. Discerning the core that defines the IS field, clarifying what makes the IS field unique, isolating the phenomena in which we have a competitive advantage vis-à-vis other disciplines, and identifying the areas where our understanding of a phenomenon is far superior to that of other disciplines would enhance the long-term viability and visibility of the IS discipline. The panelists explore various methods of identifying the core IS constructs and relationships that define their foundation of a theory of IS, argue why their starting point is an appropriate foundation for a theory of IS, discuss the next steps in elaboration of their theory, and identify critical studies to falsify or support their emerging theory.
Teaching Case

“STATER NV: E-Servicing Strategies,” Scott Schneberger, Georgia State University

After two years of online experiments, Tom van Vianen, CEO, felt certain it was time to fully implement STATER NV’s new “e-servicing” concept with a cohesive strategy. Established in 1997 in The Netherlands and headquartered in Amersfoort, STATER had 27 business clients and serviced over 80 different mortgage portfolios of more than 450,000 mainly residential loans in the Netherlands, Belgium, and Germany. Their mortgage service operations and information systems were considered state-of-the-art in 2002, but they were moving business online while simultaneously increasing the types of services provided and expanding operations into Spain, France, and Italy—within the next five years. In a land known for taming the forces of the sea, Tom faced what seemed like a sea of “e-uncertainty.” What exact roles should STATER play in an online loan market? How should they position themselves to lead in those roles? The E-Servicing Steering Committee looked to Tom to direct them, and he knew he needed a clear vision for the next steering committee meeting in two months, in May 2002.

“Constructing an E-Supply Chain at Eastman Chemical Company,” Benjamin Yen, Ali Farhoomand, and Pauline Ng, University of Hong Kong

Craig Knight, Asia-Pacific Digital Business and Customer Services Manager of Eastman Chemical Company, was given a mandate to sell Eastman’s philosophy for an integrated electronic supply chain, otherwise known as the Integrated System Solution (ISS), to its business partners in the region, and to encourage adoption. Having invested in a state-of-the-art technical architecture that would support interconnectivity with all parties along the supply chain, Eastman was keen to realize the full benefits to be gained from an integrated e-supply chain on a global scale. Following numerous rounds of discussion with key business partners in the Asia-Pacific region, some progress had been made. Nagase & Co., Ltd. of Japan had agreed to adopt ISS connections with Eastman, but had some reservations regarding the extent of integration. Although the benefits of integration were proven, suppliers, customers, distributors, and other interested parties were faced with numerous limitations and considerations that would have significant implications on their established business processes and even the shaping of their corporate strategy. Adoption was not a simple choice. Craig understood these shortcomings and was making every effort to ease the adoption process by identifying the longer-term benefits to Nagase and other business partners of applying XML technology to their businesses.

“DCXNET: E-Transformation at DaimlerChrysler,” Arnd Klein, smart GmbH, and Helmut Krcmar, Technical University Munich

The teaching case covers the story of DCXNET, the e-business initiative of DaimlerChrysler from 2000 to 2002. It focuses on the challenges for the automotive industry due to the evolution of e-business technology and how these challenges have been dealt with at DaimlerChrysler. The case is embedded in the context of today’s the e-business hype and describes the management approach, results, and success factors of the initiative as well as lessons learned.
“E-Business Transformation at the Crossroads: Sears’ Dilemma,” C. Ranganathan, Analini Shetty, and Gayathri Muthukumaran, University of Illinois at Chicago

It was December 2002, and Garry Kelly, the newly appointed CIO of Sears, Roebuck & Company, looked out of his office window and contemplated the issues he needed to discuss in the management committee meeting the following day. Garry had arrived at Sears only a few weeks ago when the company was at a critical juncture. Sears’ net income in 2001 had fallen to $735 million on a revenue level of $41.1 billion. These figures reflected only half of the profits it had recorded two years earlier, on a similar level of sales. Sears also faced intense competition from rival retailers across the nation, new dot-com e-tailers as well as from the specialty stores that had been eroding the profit base for the last couple of years. Investors, stakeholders, and employees were anxiously looking for signs of turnaround at the giant in the U.S. retailing industry.

“Steelscreen.com: Why IT is NOT Everywhere in B2B and the Role of the CEO in IT,” Brian Subirana, Massachusetts Institute of Technology

This case is intended to serve as the basis for one or two sessions of an introductory information technology course at the MBA level or for one session in a senior executive program. The aim is to address what needs to be known by general managers in terms of technology and at the same time serve as an introduction for those that want to deepen their knowledge of business-to-business technologies. Thus, it is intended to cover basic technology principles and concepts essential for any CEO/MBA. It also covers key business concepts that are impacted by information technology such as industry convergence and B2B. The approach we suggest be taken with this case is an integrative one where both technology and business concepts are intermingled throughout the class discussion. An essential ingredient of this approach is to provide a business rationale for why technology matters, using this case in the first session before drilling-down into the more specific technology details of XML and metadata in a possible second session. We have worked on other cases to extend this approach to a full-scale introductory MBA/senior executive class. There are two unique features of this approach. First, it is neither technology centric nor business centric. Instead, it links executive decisions with solid information technology fundamentals. Second, our approach is concise, not requiring more than 200 pages of core case material for a full 25 session course. We believe this is an important feature because an MBA audience generally does not go into a CIO career path and will therefore not be able to afford the amount of time a longer approach would require.

“GEARBOX (China) Ltd.: Will the Company’s ERP System Support its Ambitious Growth Strategy?,” Kai Reimers, Tsinghua University

In November 2000, on one of those bright and sunny days typical for northern China’s winter, the managing director of GEARBOX (China) Ltd. (pseudonym) glances over the new manufacturing facilities erected next to the shimmering office building to meet the expected growth in Chinese domestic demand for GEARBOX’s products. Essentially being a duplicate of GEARBOX’s existing production facilities, which were completed just three years ago, this new plant is a manifestation of the company’s ambitious plans for growth in the dynamic Chinese market. He wonders if the company’s capacity to handle its logistical processes will match this new production capacity and, specifically, how to leverage the company’s ERP system to maintain its 100 percent annual growth rates over the coming couple of years.
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- Region 1: The Americas 2275
- Region 2: Europe, Middle East, and Africa 850
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- International Conference on Information Systems (ICIS)
- Americas Conference on Information Systems (AMCIS)

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- SIGDSS (Decision Support, Knowledge, & Data Management)
- SIGEBIZ (E-Business)
- SIGHCI (Human-Computer Interaction)
- SIG IS-CORE (Information Systems—Cognitive Research Exchange)
- SIG ISO (IS Outsourcing)
- SIGITPM (IT Professional Management)
- SIGLEAD (Leadership in IT)
- SIGPhilosophy (Philosophy and Epistemology in IS)
- SIGPAM (Process Automation and Management)
- SIGSEC (Security)

AIS Chapters (at present)

- Australasia
- China
- Hawaii
- Italy
- Morocco
- Slovenia
- Southern (US)
- France
- Poland

AIS Chapters (being formed)

- Israel
## Conference at a Glance

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<td><strong>Monday, December 15, 2003</strong></td>
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<tr>
<td>11:30 a.m.–1:30 p.m.</td>
<td>Lunch</td>
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<tr>
<td>1:30 p.m.–3:00 p.m.</td>
<td>M2</td>
<td>Research in Progress: Impacts of Advanced Technology on End Users</td>
<td>Completed Research: Knowing Before Leaping: IT Knowledge and IT Adoption</td>
<td>Completed Research: Economic Theory of IT-Based Firms</td>
<td>Completed Research: Globalization and E-Commerce</td>
<td>Completed Research: Social Issues in Online Communities</td>
<td>Completed Research: IS Modeling Abstractions</td>
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<td>3:30 p.m.–5:00 p.m.</td>
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<td>Completed Research: Knowledge Boundaries: Partition or Integrate?</td>
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<td>Teaching Case: Strategic Innovation in Supply Chains and Electronic Markets</td>
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<td>Completed Research: Economics of Electronic Markets</td>
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<td>1:30 p.m.–3:00 p.m.</td>
<td>T2</td>
<td>Completed Research: IT and Productivity</td>
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<td>Research in Progress: Electronic Markets and Information Technology</td>
<td>Panel: Embarking on Information Systems’ Voyage to Self-Discovery: Identifying the Core of the Discipline</td>
<td>Completed Research: Do We Know What is Really Ubiquitous?</td>
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<td>T4</td>
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<td>Research in Progress: National and Social Issues</td>
<td>Completed Research: Retailing Online</td>
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<td>W1.1</td>
<td>10:00 a.m.–11:30 a.m.</td>
<td>Completed Research: Business Intelligence Tools</td>
<td>Completed Research: Return on the IT Investment</td>
<td>Completed Research: Social Issues</td>
<td>Research in Progress: IT and Individual Characteristics</td>
<td>Completed Research: Spatial Issues of IT Economics</td>
<td>Completed Research: Consumer Trust and Privacy on the Internet</td>
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<tr>
<td>10:00 a.m.–11:30 a.m.</td>
<td>W2</td>
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<td>Completed Research: Ubiquity as our Future</td>
<td>Research in Progress: Organizations and Supply Chains</td>
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<td>Completed Research: New Ideas About Acceptance and Adoption</td>
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