Proceedings of the 39th Annual Hawaii International Conference on System Sciences

4-7 January 2006
Kauai, Hawaii
# Table of Contents

39th Annual Hawaii International Conference on System Sciences (HICSS-39)

Preface  
Proceedings Overview  
Conference Administration  
Reviewers

---

Collaboration Systems and Technology Track  
Co-Chairs: Jay F. Nunamaker, Jr. and Robert O. Briggs

## Track Introduction

---

## Advances in Teaching and Learning Technologies  
Co-Chairs: Eric L. Santanen and David H. Spencer

### Minitrack Introduction

---

ACLE: A Communication Environment for Asynchronous Collaborative Learning  
_T.J. Ellis and W. Hafner_

Representational Effects in Asynchronous Collaboration: A Research Paradigm and Initial Analysis  
_D. Suthers, R. Vatrapu, S. Joseph, N. Dwyer, and R. Medina_

How Voluntary Online Learning Communities Emerge in Blended Courses  
_R. Heckman, Q. Li, and X. Xiao_

Learning with Laptops: Information Technology and the Transformation of an MBA Program  
_A. Gopal, D. Compeau, T. Marcon, and F. Olivera_

Learning by Browsing: A Web-Based Multimedia Browsing System for Learning  

Explaining and Predicting Outcomes of Large Classrooms Using Audience Response Systems  
_P.B. Lowry, N.C. Romano, Jr., and R. Guthrie_
IS Knowledge Gaps: An Industrial Perspective

J.-H. Wu, Y.-C. Chen, and J. Chang

Student Achievement in the Cisco Networking Academy: Performance in the CCNA1 Course

A. Dennis, H. Cakir, A. Korkmaz, T. Duffy, B. Bichelmeyer, and J. Bunnage

Teaching Engineering through Design: A Novel Approach for a Department Level Reform Project

P.J. Fortier and T. Mitsa

Collaboration Issues in Cross-Organizational and Cross-Border IS/IT

Co-Chairs: Nicholas C. Romano, Jr., James B. Pick, and Narcyz Roztocki

Minitrack Introduction

An Integrative Framework for Contextual Factors Affecting IT Implementation

B. Edington and N. Shin

A Conceptual Model for Bidirectional Service, Information and Product Quality in an IS Outsourcing Collaboration Environment

S. Chakrabarty

IT-Enabled Virtual Integration as a Mechanism for Mediating the Impact of Environmental Uncertainty on Supply Chain Performance

E.T.G. Wang, J.C.F. Tai, and H.-L. Wei

Collaboration and Conflict in the Electronic Integration of Supply Networks

A. Nagy

Cross-Border E-Collaboration for New Product Development in the Automotive Industry

E. Lefebvre, L.A. Lefebvre, G. Le Hen, and R. Mendgen

Collaboration Support for Integrated Modeling and Simulation

Co-Chairs: Jaco Appelman, Mariëlle den Hengst, Vlatka Hlupic, and Alan Serrano

Minitrack Introduction

Tool Support for the Collaborative Design of Reference Models—A Business Engineering Perspective

O. Thomas and A.-W. Scheer

Collaborative Modeling Using UML and Business Process Simulation

S. de Cesare and A. Serrano

Perceptions of Agility and Collaboration in Software Development Practice

C. Patel, M. Lycett, R. Macredie, and S. de Cesare

Inter-organisational Collaboration towards Process Integration in the Public Sector. E-Government Collaboration in Egypt

I.E. Ezz and A. Papazafeiropoulou
Cross-Cultural Issues in Collaboration Technology

Co-Chairs: Dongsong Zhang, Doug Vogel, and Paul Benjamin Lowry

Minitrack Introduction

Culture and Media Effects on Group Decision Making under Majority Influence

D. Zhang, P.B. Lowry, X. Fu, L. Zhou, and B. Adipat

Effect of Normative Social Influence and Cultural Diversity on Group Interactions

Z. Guo, T. Turner, and F. Tan

Cultural Impact on Intergroup Coordination in Software Development in China:
A Qualitative Analysis

M. Yuan and D. Vogel

Designing Collaboration Processes and Systems

Co-Chairs: Gert-Jan de Vreede, Robert O. Briggs, and Gwendolyn L. Kolfschoten

Minitrack Introduction

Towards Using Technological Support of Group Memory in Problem-Solving Situations to Improve Self- and Collective Efficacy

C.P. Middup and P. Johnson

Managing Divergent Information: Enhancing Document Expressiveness

F. Antunes, J.P. Costa, and P. Maças

Scalable Online Discussions as Listening Technology

B. Faieta, B. Huberman, and P. Verhaeghe

Making the Collaboration Engineering Investment Decision

D.L. Dean, A. Deokar, and R. Ter Bush

Assessing the Quality of Collaborative Processes

M. den Hengst, D.L. Dean, G. Kolfschoten, and A. Chakrapani

The Collaboration Engineering Maturity Model

E. Santanen, G. Kolfschoten, and K. Golla

Automated Determination of the Veracity of Interview Statements from People of Interest to an Operational Security Force


Silence, Attribution Accuracy and Virtual Environments: Implications for Developers and Facilitators

R.F. Ter Bush

Project Progress Tracking Template—Using a Repeatable GSS Process to Facilitate Project Process Management

Measuring the Effectiveness of Collaboration Technologies

Co-Chairs: Donald L. Amoroso and Bruce Reinig

Minitrack Introduction

The Effect of Group Support Systems on the Emergence of Unique Information in a Risk Management Process: A Field Study

A.-F. Rutkowski, B. van de Walle, and G. van den Eede

Reexamining Media Capacity Theories Using Workplace Instant Messaging

Y.-T.C. Hung, W.-C. Kong, A.-L. Chua, and C.E. Hull

Improving Group Communication Outcomes with Collaborative Software: The Impact of Group Size, Media Richness, and Social Presence

T.L. Roberts, P.B. Lowry, P.H. Cheney, and R.T. Hightower

Measuring the Quality of Ideation Technology and Techniques

B.A. Reinig and R.O. Briggs

Mobile Technologies and Collaboration

Co-Chairs: Joseph S. Valacich and Clayton A. Looney

Minitrack Introduction

Temporal Implications of Information Technology for Work Practices: Organizing in and for Time in an Emergency Department

Z. Shen, Y. Yoo, and K. Lyytinen

A Framework for Managing Transactions in Group-Oriented Mobile Commerce Services

U. Varshney

The Omnidirectional Attention Funnel: A Dynamic 3D Cursor for Mobile Augmented Reality Systems

F. Biocca, A. Tang, C. Owen, and X. Fan

Reconsidering the Adoption Process: Enjoyment and Social Norms—Antecedents of Hedonic Mobile Technology Use

A. Dickinger, M. Arami, and D. Meyer

Mobile Digital Calendars: An Interview Study

A. Sell and P. Walden

Lookahead Cascade for Table Access on Small Devices

R. Zhang, C. Watters, and J. Duffy
Virtual Work, Teams, and Organizations

Co-Chairs: Manju Ahuja, France Bélanger, Robert Davison, and Mary Beth Watson-Manheim

Minitrack Introduction

Mobilizing Intellectual Bandwidth in a Distributed Virtual Organization:
The Missing Links

S. Qureshi and A. de Leeuw

The Effect of Time Separation on Coordination Processes and Outcomes:
A Case Study

J.A. Espinosa and C. Pickering

The Role of Virtual Distance in Innovation and Success

K.S. Lojeski, R. Reilly, and P. Dominick

Identifying Challenges for Facilitation in Communities of Practice

H. Tarmizi, G.-J. de Vreede, and I. Zigurs

Exploring Knowledge Sharing in Virtual Teams: A Social Exchange Theory Perspective

S. Wu, C.S. Lin, and T.-C. Lin

An Empirical Investigation of How Trust, Cohesion, and Performance Vary in Virtual and Face-to-Face Teams

K. Furumo and J.M. Pearson

Reconstructing the Stage: The Use of Instant Messaging to Restructure Meeting Boundaries

J. Rennecker, A.R. Dennis, and S. Hansen

Should I Stay or Should I Go? Worker Commitment to Virtual Organizations

Y. Fang and D.J. Neufeld
Decision Technologies for Management Track
Chair: Daniel R. Dolk

Track Introduction .......................................................................................................................... 465

Agent Technology, Intelligent Systems and Software Computing in Management Support
Co-Chairs: Christer Carlsson, Pirkko Walden, and Masoud Nikravesh

Minitrack Introduction .................................................................................................................... 466

Improving the Response Time of Business Processes: An Alert-Based Analytical Approach.......................................................... 467
E. Kafeza, D.K.W. Chiu, and K. Karlapalem

New Large Benchmark Instances for the Two-Dimensional Strip Packing Problem with Rectangular Pieces................................................................. 474
A. Bortfeldt and H. Gehringer

Dynamically Optimizing Parameters in Support Vector Regression:
An Application of Electricity Load Forecasting .................................................................................. 481
C.-C. Hsu, C.-H. Wu, S.-C. Chen, and K.-L. Peng

Intelligent Decision Support through Synchronized Decomposition of Process and Objectives Structures .................................................................................. 489
D. Neiger and L. Churilov

The Role of Decision Support in Alleviating the Familiarity Bias ........................................................................................................ 499
K. Marett and G. Adams

Generating Early Favorites in Decision Making. Are Simple Heuristics Involved? ................................................................. 508
C.G. Lundberg

Intelligent Decision Support for Family Financial Planning ........................................................................................................ 518
S. Gao, H. Wang, D. Xu, Y. Wang, W. Shen, and S. Yeung

J. Blue, F. Andoh-Baidoo, and J.W. Sutherland

A Routing and Wavelength Assignment (RWA) Technique to Minimize the Number of SONET ADMs in WDM Rings ................................................................. 537
S. Janardhanan, A. Mahanti, D. Saha, and S.K. Sadhukhan
Contract Management and Decision Support in Services Science
Co-Chairs: Dickson K.W. Chiu and Patrick C.K. Hung

Minitrack Introduction

IT-Service Cachet—Managing IT-Service Performance and IT-Service Quality
C.-P. Praeg and U. Schnabel

Cross Firm Bank Branch Benchmarking Using “Handicapped” Data Envelopment
Analysis to Adjust for Corporate Strategic Effects
Z. Yang and J.C. Paradi

Web-Service Based Information Integration for e-Mortgage Contract Matchmaking
Decision Support: A Case Study in Hong Kong

Emergency Preparedness Information Systems
Co-Chairs: Murray Turoff, Michael Chumer, and Bartel Van de Walle

Minitrack Introduction

Designing an Emergency Response System for Electronic Laboratory Diagnostics Consultation
A. Fruhling, A. Sambol, S. Hinrichs, and G.-J. de Vreede

Knowledge Management System for Emergency Preparedness:
An Action Research Study
M. Raman, T. Ryan, and L. Olfman

Dealing with Risk in Incident Management: An Application of High Reliability Theory
G. Van Den Eede, B. Van de Walle, and A.-F. Rutkowski

Gaming Emergency Preparedness
M. Turoff, M. Chumer, S.R. Hiltz, A. Hendela, J. Konopka, and X. Yao

Intelligent Decision Support for E-Logistics and Supply Chain Management
Co-Chairs: Andreas Fink, Hans-Jürgen Sebastian, and Stefan Voß

Minitrack Introduction

Agent-Based Supply Chain Event Management—Concept and Assessment
R. Zimmermann, S. Winkler, and F. Bodendorf

An Efficient Heuristic Search for Real-Time Frequent Pattern Mining
R. Dass and A. Mahanti

Planning for a Big Bang in a Supply Chain: Fast Hedging for Production Indicators
D.L. Woodruff and S. Voß
Mobile Value Services: Mobile Technology Applications and Value-Adding Products and Services
Co-Chairs: Christer Carlsson and Pirkko Walden

Minitrack Introduction

A Multi-stakeholder Multi-criteria Assessment Framework of Mobile Payments:
An Illustration with the Swiss Public Transportation Industry.........................................................646
J. Ondrus and Y. Pigneur

The Impact of Use Situation and Mobility on the Acceptance of Mobile Ticketing Services
.............................................................................................................................................................656
N. Mallat, M. Rossi, V.K. Tuomainen, and A. Öörni

Employee Technology Readiness and Adoption of Wireless Technology and Services........................................666
A.-M. Chang and P.K. Kannan

Dynamic Business Model Framework for Value Webs.............................................................................675
H. Bouwman and I. MacInnes

Modeling Knowledge Intensive Processes
Co-Chairs: Balasubramaniam Ramesh and Peng Xu

Minitrack Introduction

Ontology-Based Agent Mobility Modelling.................................................................................................686
M.B. Chhetri, R. Price, S. Krishnaswamy, and S.W. Loke

Missing the Forest for the Trees—Object Technology’s Second Hiatus.....................................................696
V. Kodaganallur

A Methodology for Planning R&D Topics in IT Field.................................................................................706
S. Kobayashi, F. Kumeno, Y. Shirai, S. Sano, S. Nishiyama, N. Asai, A. Sato, and H. Inujima

Boosting Enterprise Agility via IT Knowledge Management Capabilities..................................................716
N. Ashrafi, P. Xu, J.-P. Kuilboer, and W. Koehler

Tools for Building Intelligent Tutoring Systems.........................................................................................725
V. Kodaganallur, R. Weitz, and D. Rosenthal

Towards Creative Environments: Conclusions from Creative Space......................................................735
A.P. Wierzbicki and Y. Nakamori

Design for an Interactive Television Advertising System...........................................................................745
J.W. Kim and S. Du
Track Introduction ......................................................................................................................................................... 754

Genres of Digital Documents

Co-Chairs: Barbara Kwasnik, Natalia Levina, and Dmitri Roussinov

Minitrack Introduction ......................................................................................................................................................... 755

Combining Genres: How Practice Matters ............................................................................................................................. 756

C.S. Østerlund

Using Speech Acts to Categorize Email and Identify Email Genres .............................................................................................. 766

J. Goldstein and R.E. Sabin

Detecting Document Genre for Personalization of Information Retrieval .................................................................................. 776

G. Muresan, C.L. Smith, M. Cole, L. Liu, and N.J. Belkin

Genres of Spam: Expectations and Deceptions ...................................................................................................................... 786

W.L. Cukier, S. Cody, and E.J. Nesselroth

Hotlist or Bibliography? A Case of Genre on the Web ........................................................................................................... 796

D.G. Hendry and A. Carlyle

Electronic Word of Mouth: A Genre Analysis of Product Reviews on Consumer Opinion Web Sites .............................................. 806

I. Pollach

Information Retrieval and Digital Library Applications

Co-Chairs: Ray R. Larson and Fredric C. Gey

Minitrack Introduction ......................................................................................................................................................... 816

Learning Ranking vs. Modeling Relevance ............................................................................................................................. 817

D. Roussinov and W. Fan

Sentiment Classification for Movie Reviews in Chinese by Improved Semantic Oriented Approach ............................................. 826

Q. Ye, W. Shi, and Y. Li

Does Familiarity Breed Content? Taking Account of Familiarity with a Topic in Personalizing Information Retrieval .......................................................... 831

G. Muresan, M. Cole, C.L. Smith, L. Liu, and N.J. Belkin
Retrieval of Web Resources Using a Fusion of Ontology-Based and Content-Based Retrieval with the RS Vector Space Model on a Portal for Japanese Universities and Academic Institutes

N. Kando, T. Kanazawa, and A. Miyazawa

841

Barriers to Information Access across Languages on the Internet: Network and Language Effects

A. Kralisch and T. Mandl

851

Document Clustering with Semantic Analysis

Y. Wang and J. Hodges

861

Being Literate with Large Document Collections: Observational Studies and Cost Structure Tradeoffs

D.M. Russell, M. Slaney, Y. Qu, and M. Houston

871

Persistent Conversation: Design and Analysis of CMC Systems

Co-Chairs: Thomas Erickson and Susan C. Herring

Minitrack Introduction

879

Enterprise Knowledge Management and Emerging Technologies

J. Grudin

880

Use of SMS in Office Environments

G.B. Svendsen, B. Evjemo, and J.A.K. Johnsen

890

Making Conversations Persistent through Computer Mediation: Coordination in a Safety-Critical Domain

J. Kjeldskov and J. Stage

898

Representations and Metaphors for the Structure of Synchronous Multimedia Collaboration within Task-Oriented, Time-Constrained Distributed Teams

J.M. Linebarger, A.J. Scholand, and M.A. Ehlen

908

Remembrance of Things Past: Using Maps and Routes to Navigate through Virtual Environment Experiences

G. Verhulsdonck and C. Jeffery

918

CrystalChat: Visualizing Personal Chat History

A. Tat and S. Carpendale

928

Swarm: Hyper Awareness, Micro Coordination, and Smart Convergence through Mobile Group Text Messaging

S. Farnham and P. Keyani

938

You Are Who You Talk To: Detecting Roles in Usenet Newsgroups

D. Fisher, M. Smith, and H.T. Welser

948

Profiles as Conversation: Networked Identity Performance on Friendster

d. Boyd and J. Heer

958
Multichat: Persistent, Text-As-You-Type Messaging in a Web Browser
for Fluid Multi-person Interaction and Collaboration.................................................................968
J. Schull, M. Axelrad, and L. Quinsland

Semantic Web and Software Agent Technologies
Co-Chairs: Mark T. Elmore and Thomas E. Potok

Minitrack Introduction......................................................................................................................977

Contextual e-Negotiation for the Handling of Private Data in eCommerce
on a Semantic Web .........................................................................................................................978
Y. He and D.N. Jutla

Text Understanding Agents and the Semantic Web ....................................................................988
A. Java, T. Finin, and S. Nirenburg

The Choreography Model for IRS-III..........................................................................................998
J. Domingue, S. Galizia, and L. Cabral
Electronic Government Track
Chair: Hans J. Scholl

Track Introduction ............................................................................................................................... 1007

Electronic Democracy
Co-Chairs: Ann Macintosh, Eric Welch, and Suzanne Beaumaster

Minitrack Introduction ........................................................................................................................ 1008

Structuration, Emancipation and Democracy ................................................................................ 1009
O. Lee

The Impact of ICT Expenditures on Institutionalized Democracy and
Foreign Direct Investment in Developing Countries ......................................................................... 1019
D.S. Soper, H. Demirkan, M. Goul, and R. St. Louis

Discursive e-Democracy Support ................................................................................................ 1029
R. Pedro Lourenço and J. Paulo Costa

E-Government Emerging Topics
Co-Chairs: Herbert Kubicek and Hans J. Scholl

Minitrack Introduction ........................................................................................................................ 1039

Multi-method Approaches to Digital Government Research: Value Lessons
and Implementation Challenges ........................................................................................................ 1040
J. Ramon Gil-Garcia and T.A. Pardo

Infusing an Architectural Framework with Neo-institutional Theory:
Reports from Recent Change Management Initiatives within the Swedish
Public Administration .......................................................................................................................... 1051
J. Magnusson and A. Nilsson

Can Government Be a Good eBay? The Use of Online Auctions
in the Sale of Surplus Property ....................................................................................................... 1061
E. Ferro and L. Dadayan

E-Government Infrastructure and Interoperability
Co-Chairs: Kim Viborg Andersen, Ralf Klischewski, and Hans J. Scholl

Minitrack Introduction ........................................................................................................................ 1069

Identity Management and Data Sharing in the European Union .................................................. 1070
B. Otjacques, P. Hitzelberger, and F. Feltz
e-Government Integration with Web Services and Alerts: A Case Study on an Emergency Route Advisory System in Hong Kong
C.W.W. Ng and D.K.W. Chiu

Learning about Interoperability for Emergency Response: Geographic Information Technologies and the World Trade Center Crisis
T. Harrison, J. Ramon Gil-Garcia, T.A. Pardo, and F. Thompson

Reorganizing Government: Bhutan Visa Online
K.V. Andersen and H.Z. Henriksen

A Complex Adaptive System Perspective of Enterprise Architecture in Electronic Government
M. Janssen and G. Kuk

Enterprise Architecture Implementation and Management: A Case Study on Interoperability
K. Hjort-Madsen

Information Quality as a Common Ground for Key Players in e-Government Integration and Interoperability
R. Klischewski and H.J. Scholl

E-Government Organization and Management
Co-Chairs: Maria A. Wimmer, Theresa A. Pardo, and Sharon S. Dawes

Minitrack Introduction

The Effect of Organizational/Technological Factors and the Nature of Knowledge on Knowledge Sharing
J. Zhang, S.R. Faerman, and A.M. Cresswell

E-Government: The Need for Effective Process Management in the Public Sector
V. Weerakkody, S. Baire, and J. Choudrie

Organization Antecedents of Successful IT Management
K.A. Schildt, S. Beaumaster, and S. Bailey

Stakeholders, Contradictions and Salience: An Empirical Study of a Norwegian G2G Effort
L.S. Flak and S. Nordheim

Examining Cross-Agency Collaborations in E-Government Initiatives
P.J.-H. Hu, D. Cui, and A.C. Sherwood

E-Government Evaluation: Reflections on Two Organisational Studies
S. Jones, Z. Irani, A. Sharif, and M. Themistocleous

Enacting State Websites: A Mixed Method Study Exploring E-Government Success in Multi-organizational Settings
J. Ramon Gil-Garcia
Using IDEF0/Petri Net for Ontology-Based Task Knowledge Analysis: The Case of Emergency Response for Debris-Flow

W.-Y. Liu and K. Fang


J. Makolm

eGovernment: People and Skills in Europe’s Administrations

C. Leitner

E-Government Security

Co-Chairs: Gregory B. White, Anthony M. Cresswell, and Stephen Jones

Minitrack Introduction

Framework for Analyzing Critical Incident Management Systems (CIMS)

J.K. Kim, R. Sharman, H.R. Rao, and S. Upadhyaya

e-Government and Cyber Security: The Role of Cyber Security Exercises

A. Conklin and G.B. White

Physical Security and Vulnerability Modeling for Infrastructure Facilities

D.A. Jones, C.E. Davis, M.A. Turnquist, and L.K. Nozick

E-Government Services and Information

Co-Chairs: Heide Bruecher, Kristin R. Eschenfelder, and Helmut A.O. Krcmar

Minitrack Introduction

Challenges of Treating Information as a Public Resource: The Case of Parcel Data

S.S. Dawes, M.E. Cook, and N. Helbig

Using Social Contextual Information to Match Criminal Identities

G.A. Wang, J.J. Xu, and H. Chen


F. Bélanger and L. Carter

Reporting On-Campus Crime Online: User Intention to Use

A. Iriberri, G. Leroy, and N. Garrett

Implementing a Knowledge Portal for eGovernment Based on Semantic Modeling: The e-Government Intelligent Portal (eip.at)

M.A. Wimmer

Transaction Stage of e-Government Systems: Identification of Its Location and Importance

Z. Irani, M. Al-Sebie, and T. Elliman

From a Successful Regional Information Society Strategy to an Advanced Living Lab in Mobile Technologies and Services

A. Oliveira, E. Fradinho, R. Caires, J. Oliveira, and A. Barbosa
T.A. Horan, T. Abhichandani, and R. Rayalu

E-Policy, Law and Governance

Co-Chairs: Marijn Janssen, Stephen H. Holden, and Terrence A. Maxwell

Minitrack Introduction .................................................................................................................................................1337

Examining the Socio-economic Determinants of Broadband Adopters and Non-adopters in the United Kingdom ..................................................................................................................1338
J. Choudrie and Y.K. Dwivedi

Emerging Issues in United States Telecommunications Policy: An Analysis of Federal Communications Commission Activity .................................................................................................................1348
S. Prakash Saraswat and W.T. Schiano

Time, Space, and Documents—Principles for e-Government Regulation ....................................................................1358
G. Johnssén
Track Introduction

Consumer Health Informatics, Patient Safety and Quality of Practice
Co-Chairs: Jim Warren, Gordana Culjak, and Cynthia LeRouge

Minitrack Introduction

Supporting Consumers by Characterizing the Quality of Online Health Information: A Multidimensional Framework
A. Civan and W. Pratt

Extending the Use of Games in Health Care
C. Watters, S. Oore, M. Shepherd, A. Abouzied, A. Cox, M. Kellar, H. Kharrazi, F. Liu, and A. Otley

Bridging the Digital Divide: Feasibility of Training Community Health Advisors to Use the Internet for Health Outreach
T.K. Houston, K. Robinson, E. Berner, A. Panjamapirom, M. Fouad, and E. Partridge

Increasing Relevance of Smoking Cessation Messages in an Online Software Agent Environment
T. Shimoda and L. Stapel

Protecting Privacy of Health Information through Privacy Broker
J. Bhattacharya, S.K. Gupta, and B. Agrawal

Internet Improves Health Outcomes in Depression
G. Culjak and M. Spranca

Data and Knowledge Management in Health Care
Co-Chairs: Donald J. Berndt, Santosh Krishna, and James Studnicki

Minitrack Introduction

U. Varshney

Linking Tacit Knowledge in the Pediatric Pain e-Mail Archives and Explicit Knowledge in PubMed
Z. Chen, M. Shepherd, S. Sibte Raza Abidi, and G.A. Finley
Projecting Computational Sense of Self: A Study of Transition in a Chronic Illness
Online Community .................................................................1444
R. McArthur, P. Bruza, J. Warren, and D. Kralik

Bayesian Belief Network Model of the Radical Prostatectomy Pathway.............................................................1454
W. Michalowski, S. Wilk, A. Thijssen, and M. Li

Knowledge Extraction from Prostate Cancer Data.........................................................................................1460
D. Delen and N. Patil

Uncovering the Patterns in Pathology Ordering by Australian General Practitioners:
A Data Mining Perspective.................................................................................................................1470
Z.Y. Zhuang, L. Churilov, and K. Sikaris

Feature Selection for Predicting Surgical Outcomes ............................................................................................1480
M.C. Tremblay, D.J. Berndt, and J. Studnicki

Linguistic and Cultural Differences in Information Categorization and Their Impact
on Website Use...............................................................................................................................................1489
A. Kralisch, A.W. Yeo, and N. Jali

Information System Adoption, Diffusion, Implementation, Use and Evaluation in Healthcare
Co-Chairs: Ton Spil, Ken Trimmer, Cynthia LeRouge, and Carla Wiggins

Minitrack Introduction ...............................................................................................................................1499

Towards a Framework for Health Information Systems Evaluation .................................................................1500
M.M. Yusof, R.J. Paul, and L.K. Stergioulas

Challenges in the Adoption of Medical Information Systems ...........................................................................1510
M. Maass and O. Eriksson

Project Establishment in the Context of Participatory Design: Experience
from a Hospital Information System Development Project in a Developing Country ........................................1517
S.M. Kiura

A Mobile Emergency Triage Decision Support System Evaluation .................................................................1527
N. Padmanabhan, F. Burstein, L. Churilov, J. Wassertheil, B. Hornblower, and N. Parker

Entrepreneurial Governance in a Rural Family Practice Residency Program ..................................................1537
C. Wiggins, L. Pumphrey, J. Beachboard, and K. Trimmer

What Airline Reservation Systems Tell Us about the Future of EHRs .............................................................1547
S. Sherlock and W.G. Chismar

Implementation and Evaluation of Information Technology in Telemedicine ....................................................1557
H. Dhillon and P.G. Forducey

A Method for the Identification of Actors Involved in the Adoption of Innovations
in Healthcare Organizations .............................................................................................................................1567
V. Mantzana and M. Themistocleous
Process Integration and Evolution

Co-Chairs: Jeff Sutherland and Willem-Jan van den Heuvel

Minitrack Introduction..........................................................................................................................................................1577

Strategies for Working with Digital Medical Images ........................................................................................................1578
  S. Sneha and A. Dulipovici

Towards an Intelligent Hospital Environment: Adaptive Workflow in the OR of the Future ...................................................1589
  J. Sutherland and W.-J. van den Heuvel
Internet and the Digital Economy Track
*Co-Chairs: Dave King and Alan Dennis*

**Track Introduction**

**Business-to-Business Electronic Commerce**
*Co-Chairs: Judith Gebauer, Michael J.P. Shaw, and Furen Lin*

**Minitrack Introduction**

Using Web Services for Intercompany Cooperation—An Empirical Study within the German Industry

*O. Prokein and T. Faupel*

The Mediating Roles of Third Party Organizations in ECR Adoption

*S. Kurnia, R.B. Johnston, and A. Dare*

Training for the e-Business Competition: An Empirical Investigation of the Relationship between Competence, Training and Performance in European SMEs

*D.H. Olsen and T.R. Eikebrokk*

RFID as an Enabler of B-to-B e-Commerce and Its Impact on Business Processes:
A Pilot Study of a Supply Chain in the Retail Industry

*L.A. Lefebvre, É. Lefebvre, Y. Bendavid, S.F. Wamba, and H. Boeck*

Translating the Adoption of B2B e-Business into Measurable Value for Organizations

*D.L. Amoroso and S. Vannoy*

Cooperative Brokerage Integration for Transaction Capacity Sharing:
A Case Study in Hong Kong

*A.C.Y. Lam and D.K.W. Chiu*

Effects of Switching Cost, Trust, and Information Sharing on Supply Chain Performance for B2B e-Commerce: A Multi-agent Simulation Study

*F. Lin, Y. Lo, and Y. Sung*

**Delivering Online Service**
*Co-Chairs: Beverley Hope and Mary Tate*

**Minitrack Introduction**

ICT, Multi-channels, and the Changing Line of Visibility: An Empirical Study

*M. Tate, B.G. Hope, and D. Johnstone*
Determining Success for Different Website Goals

L.C. Schaupp, W. Fan, and F. Belanger

An Economic Model for Comparing Search Services

S.K. Kwan and S. Venkatsubramanayn

Development and Application of Web Services

Co-Chairs: William Haseman and Marc N. Haines

Minitrack Introduction

SERVIAM Maintenance Framework

M. Kajko-Mattsson and M. Tepczynski

Semantic Web Service Discovery in the OWL-S IDE

N. Srinivasan, M. Paolucci, and K. Sycara

Horizontal and Vertical Factors Influencing the Adoption of Web Services

A.P. Ciganek, M.N. Haines, and W. Haseman

Electronic and Mobile Customer Relationship Management

Co-Chairs: Ragnar Schierholz, Lutz M. Kolbe, Nicholas C. Romano, Jr., and Jerry Fjermestad

Minitrack Introduction

Internalization in Technology Innovation: A Case of CRM Adoption

J.H.F. Chen and E.T.G. Wang

Determinants of Performance in Customer Relationship Management—Assessing the Technology Usage-Performance Link

G. Greve and S. Albers

Where Are the Benefits in CRM Technology Investment?

T.R. Coltman

Managing Customer Service Levels and Sustainable Growth: A Model for Decision Support

A. Dutta and R. Roy

Managing Customer Relationships through Mobile Medium—Underlying Issues and Opportunities

J. Sinisalo, J. Salo, H. Karjaluoto, and M. Leppäniemi

Mobilizing Customer Relationship Management—A Journey from Strategy to System Design

R. Schierholz, L.M. Kolbe, and W. Brenner

Electronic Markets for Private Information: Economic and Security Considerations

R. Gopal, R. Garfinkel, M. Nunez, and D. Rice

Factors of Information Credibility for an Internet Advice Site

H. McKnight and C. Kacmar
Analysis of Trust in the E-Commerce Adoption ........................................................................................................1808
   H. Lee, H. Ahn, and I. Han

Electronic Marketing
   Co-Chairs: Ajit Kambil, Arnold Kamis, Marios Koufaris, and Bruce D. Weinberg

Minitrack Introduction ....................................................................................................................................................1818

How Positive Informational Social Influence Affects Consumers’ Decision of Internet Shopping? .........................................................1819

An Analysis of the Acceptance of File Sharing Technologies by Music Consumers..........................................................1829
   D.L. Amoroso and Y. Guo

A Social Cognitive Perspective on Channel Preference: A Study of Online Investing ..............................................................1839
   C.A. Looney, A.Y. Akbulut, and R.S. Poston

The Effect of Price Dispersion in an e-Market on Consumers’ Intentions to Join Group Buying ............................................................1848
   H. Lai, H.-S. Doong, and C.-Y. Yang

Optimal Timing for Software Functionality Additions by Internet Portals ..................................................................................1858
   R.J. Kauffman and P. Wu

When Online Reviews Meet Hyperdifferentiation: A Study of Craft Beer Industry ........................................................................1868
   E.K. Clemons, G. Gao, and L.M. Hitt

Empirical Studies of Open Source Software Development
   Co-Chairs: Kevin Crowston and Hala Annabi

Minitrack Introduction ....................................................................................................................................................1878

Core and Periphery in Free/Libre and Open Source Software Team Communications .................................................................1879
   K. Crowston, K. Wei, Q. Li, and J. Howison

The Organization of Open Source Communities: Towards a Framework to Analyze the Relationship between Openness and Reliability .........................................................................................1886
   R. van Wendel de Joode and M. de Bruijne

Open Source Technical Support: A Look at Peer Help-Giving .................................................................................................1893
   V. Singh, M.B. Twidale, and D. Rathi

Ethical, Legal and Economic Issues in the Digital Economy
   Co-Chairs: Alok Gupta and Ramnath K. Chellappa

Minitrack Introduction ....................................................................................................................................................1903
“Falling in Love Is a Matter of Trust”—About the Importance of Trust and Information Substitutes When Offering Digital Paid Services on Dating Websites
  
  F. Stahl and M. Freudenschuss

Modeling Initial and Repeat Online Trust in B2C E-Commerce
  
  W. Kong and Y.-T.C. Hung

Online Privacy at a Premium
  
  B. Mai, N. Menon, and S. Sarkar

Distrusting Online: Social Deviance in Virtual Teamwork
  
  R. Sainsbury and R. Baskerville

Are Trust and Distrust Distinct Constructs? An Empirical Study of the Effects of Trust and Distrust among Online Banking Users
  
  J. Benamati, M.A. Serva, and M.A. Fuller

Cooperation in Group-Buying Auctions
  
  J. Chen, X. Chen, R.J. Kauffman, and X. Song

Information Systems Accessibility
  Co-Chairs: Nicholas C. Romano, Jr., Eleanor T. Loiacono, and Scott McCoy

Minitrack Introduction

A Theoretical Model and Empirical Results Linking Website Interactivity and Usability Satisfaction
  

Publicly Accessible Computers: An Exploratory Study of the Determinants of Transactional Website Use in Public Locations
  
  A.D. Rensel, J.M. Abbas, and H.R. Rao

Patterns of Multimodal Input Usage in Non-visual Information Navigation
  
  X. Chen and M. Tremaine

Information Systems Security Management
  Co-Chairs: Gurpreet Dhillon, Mikko Siponen, and Raj Sharman

Minitrack Introduction

New Approaches to Disclosure Limitation While Answering Queries to a Database: Protecting Numerical Confidential Data against Insider Threat Based on Data or Algorithms
  
  R. Garfinkel, R. Gopal, and D. Rice

An Anonymous and Secure Continuous Double Auction Scheme
  
  J. Trevathan, H. Ghodosi, and W. Read
A. Mukhopadhyay, S. Chatterjee, D. Saha, A. Mahanti, and S.K. Sadhukhan

Exploiting Linguistic Features in Lexical Steganography: Design and Proof-of-Concept Implementation.................................................................................................................................2013
V. Chand and C.O. Orgun

The Role of External Influences on Organizational Information Security Practices: An Institutional Perspective....................................................................................................................................2023
Q. Hu, P. Hart, and D. Cooke

Extracting Useful Information from Security Assessment Interviews.................................................................................................................................2033
J.M. Stanton and I.J. Fagnot

Effective Anti-spam Strategies in Companies: An International Study.................................................................................................................................2043
M. Siponen and C. Stucke

Internet Vulnerabilities and Cyber-Threats
Co-Chairs: Eliot Rich and Jose J. Gonzalez

Minitrack Introduction.............................................................................................................................2053

A Formal Approach towards Assessing the Effectiveness of Anti-spam Procedures.................................................................................................................................2054
G. Schryen

Labelling Clusters in an Intrusion Detection System Using a Combination of Clustering Evaluation Techniques.................................................................................................................................2064
S. Petrović, G. Álvarez, A. Orfila, and J. Carbó

Measuring the Effectiveness of Honeypot Counter-Counterdeception .................................................................................................................................2072
N.C. Rowe

Vigilance and Error Detection in an Automated Command and Control Environment .................................................................................................................................2082
D.P. Biros, K. Marett, and B.T. Langhals

Computer Security Risks in the Internet Era: Are Small Business Owners Aware and Proactive? .................................................................................................................................2091
D.W. Johnson and H. Koch

Maintaining Security and Safety in High-Threat E-Operations Transitions.................................................................................................................................2100
E. Rich and J.J. Gonzalez

M- and E-Commerce Systems Development/Environmental Online Communication
Co-Chairs: Virpi Kristiina Tuunainen, Matti Rossi, Sandee Purao, Keng Siau, Arno Scharl, and Klaus Tochtermann

Minitrack Introduction.............................................................................................................................2110

Adoption of Mobile Devices/Services—Searching for Answers with the UTAUT .................................................................................................................................2111
C. Carlsson, J. Carlsson, K. Hyvönen, J. Puhakainen, and P. Walden
A Reassessment of the Efficacy of Self-Booking in Travel ................................................................. 2121
P. Walden and B. Anckar

Environmental Web Sites: An Empirical Investigation of Functionality and Accessibility .......................................................... 2131
I. Polloch, A. Pinterits, and H. Treiblmaier

Online Communities in the Digital Economy
Co-Chairs: Karine Barzilai-Nahon, Mark Ginsburg, and Blair Nonnecke

Minitrack Introduction ................................................................................................................................. 2140
Towards an Ecological Perspective on the Evolution of Online Communities of Practice ................................................................. 2141
S. Lin and F. Lin

A Bridge Home: The Use of the Internet by Transnational Communities of Immigrants ................................................................. 2151
C. Navarrete and E. Huerta

Developing an Online Business Community: A Travel Industry Case Study ................................................................. 2161
R. Stockdale and M. Borovicka

Examining the Cognitive Style Effects on the Acceptance of Online Community Weblog Systems ................................................................. 2170
W.W. Ma, P. Li, and T.H.K. Clark

The Impact of Social Types within Information Communities:
Findings from Technical Newsgroups ........................................................................................................ 2177
T.C. Turner and K.E. Fisher

Gatekeeping in Virtual Communities: On Politics of Power in Cyberspace ................................................................. 2187
K. Barzilai-Nahon

Personalization Management Systems
Co-Chair: Donald L. Amoroso

Minitrack Introduction ................................................................................................................................. 2197
Mining Social Networks for Targeted Advertising ....................................................................................... 2198
W.-S. Yang, J.-B. Dia, H.-C. Cheng, and H.-T. Lin

A Framework for Automatic Online Personalization ............................................................................... 2208
P. Ralph and J. Parsons

Matching People and Jobs: A Bilateral Recommendation Approach ....................................................... 2218
J. Malinowski, T. Keim, O. Wendt, and T. Weitzel
Standards and Standardization

Co-Chairs: Joel West and Rolf Wigand

Minitrack Introduction

An Empirical Study of Standards Development for E-Businesses: A Social Network Perspective
B. Choi, T.S. Raghu, and A. Vinze

Effects of IS Standardization on Business Process Performance: A Case in HR IS Company Standardization
R. van Wessel, P. Ribbers, and H. de Vries

Network Effects and Technology Licensing
L. Lin and N. Kulatilaka

Value Webs in the Digital Economy

Co-Chairs: Helmut Krcmar, Jan Marco Leimeister, and Kalle Lyytinen

Minitrack Introduction

Mobile RFID—A Case from Volvo on Innovation in SCM
M. Holmqvist and G. Stefansson

The Impact of Design Moves on Platform Adoption: The Case of Microsoft Windows OS
X. Liu, C.-H. Lee, and B. Iyer

Governance Options for Strategic Technology Alliances in Value Webs
A.G. Pateli and G.M. Giaglis
Knowledge Management Systems Track
Co-Chairs: Murray Jennex and Dave Croasdell

Track Introduction .................................................................................................................................................. 2287

Ethics of Knowledge Management
Co-Chairs: Urooj Amjad, Frank Land, and Sevasti-Melissa Nolas

Minitrack Introduction ........................................................................................................................................ 2288

Goals and Tactics on the Dark Side of Knowledge Management ................................................................. 2289
S. Alter

The Ethics of Knowledge Transfers and Conversions: Property or Privacy Rights? ........................................ 2299
R. Baskerville and A. Dulipovici

Knowledge Management—The Ethics of the Agora or the Mechanisms of the Market? ............................. 2308
A. Bryant

Knowledge Flows: Knowledge Transfer, Sharing and Exchange in Organizations
Co-Chairs: K.D. Joshi, Mark E. Nissen, and Saonee Sarker

Minitrack Introduction ........................................................................................................................................ 2318

Experiences and Media Perceptions of Senders and Receivers in Knowledge Transfer: 
An Exploratory Study ........................................................................................................................................ 2319
B.K. Hasty, A.P. Massey, and S.A. Brown

Understanding the Factors Influencing the Value of Person-to-Person 
Knowledge Sharing ................................................................................................................................................ 2329
S.A. Brown, A.R. Dennis, and D.B. Gant

Knowledge Management in IT Organizations from Employee’s Perspective ................................................. 2339
B.M. Han and V.S. Anantatmula

A Case Study of a Longstanding Online Community of Practice Involving 
Critical Care and Advanced Practice Nurses ........................................................................................................ 2348
N. Hara and K.F. Hew

Experienced Community of Practice and Knowledge Transfer 
in a Science/Technology Company .................................................................................................................... 2358
D. Cadiz, T.L. Griffith, and J.E. Sawyer

Knowledge Dynamics in Regional Economies: A Research Framework ......................................................... 2367
R. O’Callaghan and R. Andreu
Presenting the Past: A Framework for Facilitating the Externalization and Articulation of User Activities in Desktop Environment ................................................................. 2377  
K. Wideroos and S. Pekkola

Flowing of Information in Decision Systems ........................................................................................................... 2387  
R. Kuusisto

Examining the Role of Knowledge, Source, Recipient, Relational, and Situational Context on Knowledge Transfer among Face-to-Face ISD Teams ................................................................. 2397  
K.D. Joshi and S. Sarker

The Consideration of Meta-abilities in Tacit Knowledge Externalization and Organizational Learning ................................................................. 2407  
J. Choudrie and M. Hisyam Selamat

Knowledge Transfer: Short-Circuiting the Learning Cycle? .......................................................................................... 2416  
S. Newell and R. Galliers

Systems Thinking and Information Literacy: Elements of a Knowledge Enabling Workplace Environment .......................................................................................... 2426  
M.M. Somerville, A. Mirijamdotter, and L. Collins

Knowledge Management/Organizational Memory Implementation and Other Issues  
Co-Chairs: Murray E. Jennex, Stefan Smolnik, and Susan Gasson

Minitrack Introduction .................................................................................................................................................. 2434

Contextualizing Knowledge Management Readiness to Support Change Management Strategies .......................................................... 2435  
M. Keith, M. Goul, H. Demirkan, J. Nichols, and M.C. Mitchell

Knowledge Management and Organizational Performance: An Exploratory Survey .......................................................... 2444  
J.D. McKeen, M.H. Zack, and S. Singh

The Role of Knowledge Management Governance in the Implementation of Strategy .......................................................... 2453  
S. Zyngier, F. Burstein, and J. McKay

A Paradigmatic and Methodological Examination of KM Research: 2000 to 2004 .......................................................... 2463  
Z. Guo and J. Sheffield

A Preliminary Model for Generating Experience Knowledge Based Artifacts .......................................................................................... 2474  
J. Kokkoneni

Encouraging Knowledge Sharing in Knowledge-Based Organizations: Individual and Organizational Aspects of Knowledge Management Leadership .......................................................... 2484  
T. Menkhoff, C.Y. Wah, B. Loh, and H.-D. Evers

S. Joseph, J. Yukawa, D. Suthers, and V. Harada
Graph Transformations for Dynamic Knowledge Processing ......................................................... 2505
B. Kraft and D. Retkowitz

Evaluation of Knowledge Management Technologies for the Support of Technology Forecasting ................................................................. 2515
M. Henselewski, S. Smolnik, and G. Riempp

A Typology of Knowledge Management System Use by Teams ........................................................................................................ 2525
J.-G. Bernard

Criminal Investigation Knowledge System: CRIKS ........................................................................ 2535
C.M. Donalds and K.-M. Osei-Bryson

An Evolutionary Model for KMS Success ......................................................................................... 2544
L.P. Cooper

Quantitative Measures for Evaluating Knowledge Network Node Clusters: Preliminary Results ............................................................................ 2554
M. Pendergast and R. Orwig

Classifying Knowledge Management Systems Based on Context Content...................................................... 2560
M.E. Jennex

Knowledge Mobilization and Enterprise Coordination Capability
Co-Chairs: Michael Goul, Haluk Demirkan, and Andy Philippakis

Minitrack Introduction ................................................................................................................... 2568

Exploring the Role of Knowledge Management for Enhancing Firm’s Innovation and Performance ................................................................ 2569
C. Liao and S.-H. Chuang

Learning in the Presence of Self-Interested Agents ..................................................................... 2579
H. Aytug, F. Boylu, and G.J. Koehler

Knowledge Networks and Distributed Knowledge Systems
Co-Chairs: Dave Croasdell, Richard Orwig, and Caroline Haythornthwaite

Minitrack Introduction ................................................................................................................... 2586

An Ontology-Based Architecture for Knowledge Commerce ........................................................................ 2587
K. Kafentzis, P. Georgolios, A. Bouras, and G. Mentzas

An Ontology-Based Architecture for Tracking Information across Interactive Electronic Environments ................................................................ 2598
A. Scharl, A. Weichselbraun, and W. Liu

Knowledge Simulation via Relationship Mapping and Network Science ....................................... 2607
S.M. Halladay and C.A. Milligan
Philosophical Foundations of KM Research  
*Co-Chairs: Jim Courtney, Dianne Hall, and Jim Sheffield*

**Minitrack Introduction** ............................................................................................................................... 2615

Escaping the Veil of Maya: Wisdom and the Organization ....................................................................................... 2616  
*J.P. Carlisle*

On the Nature of Knowledge: Rethinking Popular Assumptions ..................................................................................... 2624  
*B.T. Keane and R.M. Mason*

Habermasian Inquiring System: Toward a General Framework for Knowledge Management Research ........................................... 2633  
*Z. Guo and J. Sheffield*
Organizational Systems and Technology Track

Chair: Hugh J. Watson

Track Introduction

Competitive Strategy, Economics and IS

Co-Chairs: Eric K. Clemons, Rajiv M. Dewan, and Robert J. Kauffman

Minitrack Introduction

Transmutability: Digital Decontextualization, Manipulation, and Recontextualization as a New Source of Value in the Production and Consumption of Culture Products

J. Hughes and K. Lang

Using Software Stacks to Explain Complementarities: The Case of Mergers and Acquisitions in the Software Industry

L. Silva and B. Iyer

The Economics of Software Upgrades throughout the Product Life Cycle

A. Mehra and A. Seidmann

Impact of Users’ Expertise on the Competition between Proprietary and Open Source Software

L. Lin

The Impact of Financial Market and Resale Market on Firm Strategies

Z. Guo and A.B. Whinston

Using IT to Open Previously Unprofitable Markets

K. DeMaagd and S. Moore

The Impact of Information in Electronic Auctions: An Analysis of Buy-It-Now Auctions

B. Yoo, K. Ho, and K.Y. Tam

Governance of the IT Function: Valuing Agility and Quality of Training, Cooperation and Communications

F. Csaszer and E. Clemons

Complementarities between IT and Firm Diversification and Performance Implications

Y. Liu, T. Ravichandran, S. Han, and I. Hasan

Antecedents of Business Process Outsourcing in Manufacturing Plants

I.R. Bardhan, J. Whitaker, and S. Mithas

Optimizing an IT Project Portfolio with Time-Wise Interdependencies

I.R. Bardhan, R.J. Kauffman, and S. Naranpanawe
Data Warehousing and Business Intelligence

Co-Chairs: Barbara Wixom and Hugh J. Watson

Minitrack Introduction ............................................................................................................................................. 2758

The Data Warehouse in a Distributed Utility Environment ................................................................. 2759

C.A. Milligan

An Efficient Algorithm for Real-Time Frequent Pattern Mining for Real-Time Business Intelligence Analytics ................................................................. 2767

R. Dass and A. Mahanti

Knowledge Creation Opportunities in the Data Mining Process ................................................................. 2777

M.K. Brohman

Developing Value through Organizational and Inter-organizational Alignment

Co-Chairs: Deb Armstrong, H. James Nelson, Kay M. Nelson, and Vernon J. Richardson

Minitrack Introduction ............................................................................................................................................. 2787

Assessing the Risks of IT Infrastructure—A Personal Network Perspective ................................................................. 2788

D.J. Hinz and J. Malinowski

ERP Acceptance: Organizational Change Perspective .............................................................................................. 2796

K.-Y. Kwahk

IT Business Alignment and IT Usage in Operational Processes: A Retail Banking Case ................................................................. 2806


Portal Information Integration and Ownership Misfits: A Case Study in a Tourism Setting ................................................................. 2815

F. Landqvist and D. Stenmark

End Users in Information Systems Development: Perceptions, Involvement, Practice and Implications

Co-Chairs: Hannakaisa Isomäki and Samuli Pekkola

Minitrack Introduction ............................................................................................................................................. 2823

The Impacts of Different Levels of Object-Oriented Systems Development Usage on End-Users’ Perceptions of the Effectiveness of ISD Processes: An Experience Inspired Empirical Investigation ................................................................. 2824

L. Lee and L. Luesukprasert

On the Role of Interpretation Schemes in Organizational IS Implementation ................................................................. 2834

M. Koskinen
How to Include Users in the Development of Off-the-Shelf Software:
A Case for Complementing Participatory Design with Agile Development ............................................................ 2844
    C. Hansson, Y. Dittrich, and D. Randall

Varieties of User-Centeredness ................................................................................................................................ 2854
    J. Iivari and N. Iivari

Evaluating End-User Support: Validating the Use of Multiple Media
in a CSCW Application ............................................................................................................................................ 2864
    S. Pekkola and H. Isomäki

Enterprise Architecting: Theory, Practice and Challenges
Co-Chairs: Stephen H. Kaisler and Frank Armour

Minitrack Introduction .................................................................................................................................................. 2874

Enterprise Architecture: A Social Network Perspective ......................................................................................... 2875
    D. Dreyfus and B. Iyer

On the Syntax and Semantics of Architectural Principles .......................................................................................... 2885
    Å. Lindström

Optimal Design of E-Commerce Site Infrastructure from a Business Perspective .................................................. 2895

Systemic Management of Architectural Decisions in Enterprise Architecture Planning. Four Dimensions and Three Abstraction Levels ............................................................... 2904
    M. Pulkkinen

A Case Study in SOA and Re-architecture at Company ABC ....................................................................................... 2913
    I. Wong-Bushby, R. Egan, and C. Isaacson

SeamCAD: Object-Oriented Modeling Tool for Hierarchical Systems
in Enterprise Architecture .............................................................................................................................................. 2921
    L.-S. Lê and A. Wegmann

ERP/EAI System Issues and Answers: A Research Journey
Co-Chairs: Gail Corbitt, Marinos Themistocleous, and Zahir Irani

Minitrack Introduction .................................................................................................................................................. 2931

Supporting the Module Sequencing Decision in the ERP Implementation Process .................................................. 2932
    P. Hallikainen, H. Kimpimäki, and H. Kivi-järvi

Salient Factors for Maintenance Standard Adoption in Enterprise Resource Planning Context: An Exploratory Study ................................................................................................................ 2942
    C.S.-P. Ng, P.-Y. Hsu, and W.-H. Tsai

A Model Driven Architecture for Enterprise Application Integration ............................................................................ 2952
    A. Al Mosawi, L. Zhao, and L. Macaulay
Critical Success Factors of Implementing Enterprise Portals

U. Remus

Towards a Methodology for the Development of Integrated IT Infrastructures

M. Themistocleous and Z. Irani

Implementation and Usage of Radio Frequency Identification (RFID)

Co-Chair: Frederick J. Riggins

Minitrack Introduction

RFID Application in Hospitals: A Case Study on a Demonstration RFID Project in a Taiwan Hospital


A Taxonomy for RFID

T. Hassan and S. Chatterjee

The Role of Collective Mental Models in IOS Adoption: Opening the Black Box of Rationality in RFID Deployment

F.J. Riggins and K.T. Slaughter

IS in Global Business

Co-Chairs: Christopher P. Holland and Pieter Ribbers

Minitrack Introduction

Trust, Dependence and Global Interorganizational Systems

M. Ibrahim and P. Ribbers

A Stakeholder Perspective on Successful Electronic Payment Systems Diffusion

S. Oh, H. Lee, S. Kurnia, R.B. Johnston, and B. Lim

The Tacit Liaison between Networkability and Supply Chain Performance

M. Smits, W.-J. van den Heuvel, and W. Huisman

Formal and Informal IS Control Mechanisms in Multinational Corporations: A Test of Resource Dependence Theory

M.T. Rao

Innovation and Innovation Management

Chair: Desai Narasimhalu

Minitrack Introduction

Understanding Patterns of Technology Evolution: An Ecosystem Perspective

G. Adomavicius, J. Bockstedt, A. Gupta, and R.J. Kauffman

Aligning R&D to Business Strategy: A Longitudinal Study from 1997 to 2002

F.T.J.M. Fortuin and S.W.F. Omta
IT and Project Management
Co-Chairs: Joseph Weiss, Sue Newell, and Jacky Swan

Minitrack Introduction ................................................................................................................................................. 3068

Storytelling as Method for Sharing Knowledge across IT Projects .......................................................... 3069
L. Nielsen and S. Madsen

Implementing New Management Initiatives in Project-Based Environments:
The Role of Organizational Practices and Power Dynamics .................................................................................... 3078
A. Goussevskaia, H. Scarbrough, J. Swan, and M. Bresnen

The Ostensive and Performative Effects of a Formal IT-Based Process for New Product Development ............................................................................................................................................... 3088
J. Tidd, M. Hales, and J.K. Whyte

Project Capabilities—A Recipe against Inertia ................................................................................................. 3097
L. Lindkvist

An Autoethnographic Account of Knowledge Creation: Seeing and Feeling Knowledge Creation in Project Teams ......................................................................................................................................................... 3105
S. Newell, S. Adams, M. Crary, P. Glidden, V. LaFarge, and A. Nurick

The Role of Perceived Control, Attention-Shaping, and Expertise in IT Project Risk Assessment .................................................................................................................................................................................................. 3115
S. Du, M. Keil, L. Mathiassen, Y. Shen, and A. Tiwana

IT Governance and Its Mechanisms
Chair: Wim Van Grembergen

Minitrack Introduction ................................................................................................................................................. 3125

Attempting to Define IT Governance: Wisdom or Folly? .................................................................................. 3126
P. Webb, C. Pollard, and G. Ridley

An Integrated Framework for IT Governance and the Development and Validation of an Assessment Instrument ......................................................................................................................................................... 3136
T. Dahlberg and H. Kivijärvi

A Governance Model for Managing Outsourcing Partnerships: A View from Practice ......................................................................................................................................................................................... 3146
H. Gewald and K. Helbig

An Empirical Study on Business/ICT Alignment in European Organisations ....................................................... 3155
B. Cumps, S. Viaene, G. Dedene, and J. Vandenbulcke

Information Technology Governance Best Practices in Belgian Organisations .......................................................... 3165
S. De Haes and W. Van Grembergen

IT Governance: Reviewing 17 IT Governance Tools and Analysing the Case of Novozymes A/S .................................................................................................................................................................................................. 3174
M.H. Larsen, M.K. Pedersen, and K.V. Andersen
<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enhancing the Prognostic Power of IT Balanced Scorecards with Bayesian Belief Networks</td>
<td>3185</td>
</tr>
<tr>
<td>S.A. Blumenberg and D.J. Hinz</td>
<td></td>
</tr>
<tr>
<td>Process Governance and Optimization for IT Reliant Business Processes: An Empirical Analysis of Financial Processes in Germany’s Fortune 1,000 Non-banks</td>
<td>3195</td>
</tr>
<tr>
<td>T. Weitzel</td>
<td></td>
</tr>
<tr>
<td>Re-engineering IT Internal Controls: Applying Capability Maturity Models to the Evaluation of IT Controls</td>
<td>3205</td>
</tr>
<tr>
<td>R.S. Debrecény</td>
<td></td>
</tr>
<tr>
<td>On How the Feasibility Study Is Influenced by an ICT Project’s Main Trigger</td>
<td>3215</td>
</tr>
<tr>
<td>K. Milis, S. Viaene, and P. Ribbers</td>
<td></td>
</tr>
<tr>
<td>IT Projects: Conflict, Governance, and Systems Thinking</td>
<td>3225</td>
</tr>
<tr>
<td>D. Johnstone, S. Huff, and B. Hope</td>
<td></td>
</tr>
<tr>
<td>Managing the Impact of IT on Firm Success: The Link between the Resource-Based View and the IT Infrastructure Library</td>
<td>3234</td>
</tr>
<tr>
<td>H.-T. Wagner</td>
<td></td>
</tr>
<tr>
<td><strong>Outsourcing of Information Systems</strong></td>
<td>3244</td>
</tr>
<tr>
<td><strong>Co-Chairs: Benoit Aubert, Suzanne Rivard, and Wendy L. Currie</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Minitrack Introduction</strong></td>
<td></td>
</tr>
<tr>
<td>Offshore Software Projects: Assessing the Effect of Knowledge Transfer Requirements and ISD Capability</td>
<td>3245</td>
</tr>
<tr>
<td>S. Balaji, M.K. Ahuja, and C. Ranganathan</td>
<td></td>
</tr>
<tr>
<td>Project Management Capabilities: Key to Application Development</td>
<td>3255</td>
</tr>
<tr>
<td>Offshore Outsourcing</td>
<td></td>
</tr>
<tr>
<td>J.M. Erickson and C. Ranganathan</td>
<td></td>
</tr>
<tr>
<td>Impact of IT Service Provider Process Capabilities on Service Provider Performance: An Empirical Study</td>
<td>3265</td>
</tr>
<tr>
<td>M. Swinarski, R. Kishore, and H.R. Rao</td>
<td></td>
</tr>
<tr>
<td>A New Instrument to Measure the Success of IT Outsourcing</td>
<td>3275</td>
</tr>
<tr>
<td>T. Dahlberg and M. Nyrhinen</td>
<td></td>
</tr>
<tr>
<td>A Model for Simulation Analyses of Cooperative Sourcing in the Banking Industry</td>
<td>3285</td>
</tr>
<tr>
<td>D. Beimborn</td>
<td></td>
</tr>
<tr>
<td>Game Theoretical Analysis of Cooperative Sourcing Scenarios</td>
<td>3295</td>
</tr>
<tr>
<td>D. Beimborn, H.-J. Lamberti, and T. Weitzel</td>
<td></td>
</tr>
</tbody>
</table>
Research Methods and Applications  
*Co-Chairs: Sajda Qureshi and Doug Vogel*

Minitrack Introduction ..........................................................................................................................................3305

Using Social Network Analysis to Test an IT-Enabled Business Process Reengineering Theory .................................................................3306
  
  *N.R. Hassan, T.C. Richards, and J.D. Becker*

PLS, Small Sample Size, and Statistical Power in MIS Research ..................................................................................3316
  
  *D. Goodhue, W. Lewis, and R. Thompson*

Adaptation in Distributed Projects: Collaborative Processes in Digital Natives and Digital Immigrants ..................................................3326
  
  *S. Qureshi and C. Noteboom*

Is Information Systems a Reference Discipline? ............................................................................................................3336
  
  *S.P. Nerur, R. Mahapatra, V. Balijepally, and G. Mangalaraj*

Social Issues in Organizations  
*Chair: Donald L. Amoroso*

Minitrack Introduction ..........................................................................................................................................3345

An Anshin Model for the Evaluation of the Sense of Security ......................................................................................3346
  
  *Y. Murayama, N. Hikage, C. Hauser, B. Chakraborty, and N. Segawa*

Examining Factors Associated with IT Disaster Preparedness ....................................................................................3356
  
  *K. Nelson*

The Impact of Electronic Monitoring on Hazard Communications ....................................................................................3366
  
  *C.F. Holton and R.M Fuller*

An Experimental Study of the Factors Influencing Non-work Related Use of IT Resources at Workplace .........................3376
  
  *D. Zhang, L.-B. Oh, and H.-H. Teo*

Organizational Transformation through Business Models: A Framework for Business Model Design ................................3386
  
  *P. Keen and S. Qureshi*

Ethical Decision-Making in an IT Context: The Roles of Personal Moral Philosophies and Moral Intensity ..............3396
  
  *C.A. Dorantes, B. Hewitt, and T. Goles*

Affective Quality and Cognitive Absorption: Extending Technology Acceptance Research .........................................3406
  
  *P. Zhang, N. Li, and H. Sun*

Computer-Based Training and Assessments: An Exploratory Study of Social Factors ..................................................3416
  
  *S. Schneberger, D.L. Amoroso, and A. Durfee*
Topics in Organizational Systems and Technology  
Co-Chairs: Kelly Rainer and Mark Frolick

Minitrack Introduction .................................................................................................................................................. 3426

Enhancing Decision Making with Process Metadata: Theoretical Framework, Research Tool, and Exploratory Examination .................................................................................................................. 3427  
A. Even, G. Shankaranarayanan, and S. Watts

Explaining ICT Infrastructure and E-Commerce Uses and Benefits in Industrial Clusters: Evidence from a Biotech Cluster ....................................................................................................................................... 3437  
C. Steinfield and A. Scupola

A Diagnostic for Exploring IT Alignment as a Strategic Weapon ............................................................................ 3447  
J.W. Weiss and A. Thorogood

Measuring General Computer Self-Efficacy: The Surprising Comparison of Three Instruments in Predicting Performance, Attitudes, and Usage .............................................................................. 3455  
J. Downey

Fundamental Ethics in Information Systems ............................................................................................................. 3465  
C.N. Chapman

Use of Internet Technologies and e-Business Solutions: A Structural Model of Sources of Business Value among Canadian Micro-enterprises .............................................................. 3470  
C.H. Davis and F. Vladica
Software Technology Track
Chair: Gul Agha

Track Introduction

Adaptive and Evolvable Software Systems: Techniques, Tools, and Applications
Co-Chairs: Jeff Gray, Raymond Klefstad, and Yvonne Coady

Minitrack Introduction

Adaptive Self-Configuration Architecture for J2EE-Based Middleware Systems
Y. Zhang, W. Qu, and A. Liu

Using Function Generalization to Design a Cosequential Processing Framework
H.C. Cunningham and P. Tadepalli

Evolving System Services to Meet Application Requirements
H. Detmold, K. Falkner, D.S. Munro, T. Olds, and A. Zakarevicius

Static and Dynamic Weaving in System Software with AspectC++
W. Schröder-Preikschat, D. Lohmann, F. Scheler, W. Gilani, and O. Spinczyk

Crosscutting Concerns in Parallelization by Invasive Software Composition
and Aspect Weaving
M. Chalabine and C. Kessler

Understanding Flexible and Distributed Software Development Processes
Co-Chairs: Pär J. Ågerfalk and Brian Fitzgerald

Minitrack Introduction

Controls in Flexible Software Development
M. Harris, A.R. Hevner, and R.W. Collins

Reconciling the Irreconcilable? A Software Development Approach that Combines
Agile with Formal
J. Gonçalo A. Oliveira Basto da Silva and P. Rupino da Cunha

Risk Factors in Distributed Projects
J.M. Erickson and R. Evaristo

Information Security Education and Foundational Research
Co-Chairs: Linda Morales and Melissa Dark

Minitrack Introduction
A Model for Temporal Interval Authorizations

Efficient Algorithms for Batch Re-keying Operations in Secure Multicast
M.H. Heydari, L. Morales, and I.H. Sudborough

A Preliminary Investigation of the Impact of the Sarbanes-Oxley Act on Information Security
J.L. Spears and R.J. Cole

Assessment of Enterprise Information Security—The Importance of Information Search Cost
E. Johansson, M. Ekstedt, and P. Johnson

Programming Education in the Era of the Internet: A Paradigm Shift
W.S. Harrison, N. Hanebutte, and J. Alves-Foss

Foundations for Security Aware Software Development Education
A. Yasinsac and J.T. McDonald

Experiences with Honeypot Systems: Development, Deployment, and Analysis
R. McGrew and R.B. Vaughn

Cyber Defense Competitions and Information Security Education: An Active Learning Solution for a Capstone Course
A. Conklin

Design and Implementation of a Multi-use Attack-Defend Computer Security Lab
S. Caltagirone, P. Ortman, S. Melton, D. Manz, K. King, and P. Oman

Designing a Pedagogy for an IT Security Course and Textbook
R. Panko

Peer-to-Peer Infrastructures and Applications
Co-Chairs: Karl Aberer, Jean-Henry Morin, Aris M. Ouksel, and Bill Yeager

Minitrack Introduction

Semantic HyperCup
H. Rostami, J. Habibi, and A. Rahnama

Benefit and Pricing of Spatio-temporal Information in Mobile Peer-to-Peer Networks
B. Xu, O. Wolfson, and N. Rishe

Distributed Uniform Sampling in Unstructured Peer-to-Peer Networks
A. Awan, R.A. Ferreira, S. Jagannathan, and A. Grama

Security and Survivability of Unbounded Networked Systems
Co-Chairs: Axel Krings, Paul Oman, and Azad Azadmanesh

Minitrack Introduction
A Secure Routing Protocol for Wireless Ad Hoc Networks
H. Li and M. Singhal

Exploiting Mobile Agents for Structured Distributed Software-Implemented Fault Injection
T.M. Galla, K.A. Hummel, and B. Peer

Modeling and Simulating System Exploitations through Exploitation Graphs for Security Engineering
W. Li and R.B. Vaughn

Quantitative Cyber Risk Reduction Estimation Methodology for a Small SCADA Control System
M.A. McQueen, W.F. Boyer, M.A. Flynn, and G.A. Beitel

Software Engineering Decision Support/Strategic Software Engineering
Co-Chairs: Rick Kazman, Dan Port, and Guenther Ruhe

Minitrack Introduction

A Reuse Reference Grid for Strategic Reuse Goals Assessment
L.J. Waguespack and W.T. Schiano

Defining Complexity Factors for the Architecture Evaluation Framework
O. Mazhelis, J.A. Lehto, J. Markkula, and M. Pulkkinen

The Tension between Integration and Fragmentation in a Component Based Software Development Ecosystem
J.-M. Arndt and J. Dibbern

Resource Decisions in Software Development Using Risk Assessment Model
W. Jiamthubthugsin and D. Sutivong

The Influence of Checklists and Roles on Software Practitioner Risk Perception and Decision-Making
M. Keil, L. Li, L. Mathiassen, and G. Zheng

Using ABC Model for Software Process Improvement: A Balanced Perspective
H.-W. Tuan, C.-Y. Liu, and C.-M. Chen

Milestone Markets: Software Cost Estimation through Market Trading
D.J. Berndt, J.L. Jones, and D. Finch

Measurement Framework for Assessing Risks in Component-Based Software Development
Y. Ding and N. Napier

Learning IV&V Strategies
M.S. Fisher and T. Menzies
Wireless Personal Area and Ad Hoc Networks

Co-Chairs: Frank Kargl, Elaine Lawrence, and Gergely Záruba

Minitrack Introduction

Bluetooth Discovery Time with Multiple Inquirers
B.S. Peterson, R.O. Baldwin, and R.A. Raines
3801

Fault Tolerance in Bluetooth Scatternet Topologies
L.E. Hodge and R.M. Whitaker
3806

Push-to-Talk over Bluetooth
V. Rönnholm
3814

Reliable Broadcast in Wireless Mobile Ad Hoc Networks
M. Mohsin, D. Cavin, Y. Sasson, R. Prakash, and A. Schiper
3824

Differentiated Priority Scheduling and Adaptive Segmentation for Bluetooth Piconets
J. Kalvala and G. Záruba
3834

Identification in Ad Hoc Networks
F. Kargl, S. Schlott, and M. Weber
3844

Wireless Sensor Networks

Co-Chairs: Giuseppe Anastasi, Edoardo Biagioni, and Stefan Olariu

Minitrack Introduction

Robust and Efficient Data Gathering for Wireless Sensor Networks
L. Gatani, G. Lo Re, and M. Ortolani
3854

Biology Inspired Approach for Communal Behavior in Sensor Networks
K.H. Jones, K.N. Lodding, L. Wilson, and C. Xin
3862

On Scaling Distributed Low-Power Wireless Image Sensors
T.H. Ko and N.M. Berry
3872

Detection Performance and Energy Efficiency of Sequential Detection in a Sensor Network
L. Yu and A. Ephremides
3881

Power/Performance Tradeoffs in Bluetooth Sensor Networks
L. Negri and D. Zanetti
3891

Energy Conserving Architectures and Algorithms for Wireless Sensor Networks
F. Comeau, S.C. Sivakumar, W. Robertson, and W.J. Phillips
3901

Processing of Data Streams with Prediction Functions
S. Ilarri, O. Wolfson, E. Mena, A. Illarramendi, and N. Rishe
3910
Symposia

Introduction .................................................................................................................................................. 3939

Electric Power Systems: Reliability, Control, and Markets
Chair: Robert J. Thomas

Minitrack Introduction ............................................................................................................................... 3940

Issues Associated with the Development of a Wide-Area Analysis and Visualization Environment .......................................................... 3941
J.P. Stovall, B.J. Kirby, T.J. Overbye, J.S. Thorp, and A.G. Phadke

Identification of Market Power in Large-Scale Electric Energy Markets ............................................................................... 3951
B.C. Lesieutre, H. Oh, R.J. Thomas, V. Donde

A Blueprint for Enhancing Future Reliability ............................................................................................ 3961
P.A. Fedora

Condition Data Aggregation with Application to Failure Rate Calculation of Power Transformers .......................................................... 3971
J. Pathak, Y. Jiang, V. Honavar, and J. McCalley

Information Exchange Infrastructures for Independent System Operators and Transmission System Operators: Characteristics and Functionalities ........................................................................ 3981
D.J. Sobajic, D. Becker, W. Pfuntner, and N. Singh

Cyber Security Management for Utility Operations..................................................................................... 3990
D.K. Holstein and J. Diaz

Unified Information Models in Support of Location Transparency for Future Utility Applications ........................................................................ 4000
O. Preiss and T. Kostić

Low Intelligence Agents for Market Testing .................................................................................................. 4009
S. Talukdar

An Agent-Based Optimal Bidding Function............................................................................................... 4012
H. Oh and R.J. Thomas

Comparison of Artificial Life Techniques for Market Simulation ........................................................................ 4020
F. Gao, G. Gutierrez-Alcaraz, and G.B. Sheble

Electricity Markets: How Many, Where and When? ................................................................................. 4028
N. Adilov and R.E. Schuler
Capacity Expansion in Non-regulated Electricity Markets
   A. Ehrenmann and Y. Smeers

Alternative Pathway to Electricity Market Reform: A Risk-Management Approach
   H. Chao, S. Oren, and R. Wilson

Monitoring of Power System Topology in Real-Time
   M. Kezunovic

GPS-Synchronized Data Acquisition: Technology Assessment and Research Issues
   A.P. Sakis Meliopoulos, G.J. Cokkinides, F. Galvan, and B. Fardanesh

Eastern Interconnection Phasor Project
   M. Donnelly, M. Ingram, and J.R. Carroll

Distributing Time-Synchronous Phasor Measurement Data Using the GridStat Communication Infrastructure

An Estimator of Propagation of Cascading Failure

New Probabilistic Method for Estimation of Equipment Failures and Development of Replacement Strategies
   M. Begovic, P. Djuric, J. Perkel, B. Vidakovic, and D. Novosel

System-Wide Replacement Strategy for Substation Protection and Automation Systems
   P.T. Myrda and E.A. Udren

Strategies to Address the Problem of Exiting Expertise in the Electric Power Industry
   D. Ray and B. Snyder

Managing Availability, Quality and Security in a Restructured Electricity Industry with Reference to the Australian National Electricity Market
   H. Outhred

Transmission System Expansion Plans in View Point of Deterministic, Probabilistic and Security Reliability Criteria
   J. Choi, T. Mount, and R. Thomas

Price Discrimination in Organized/Centralized Electric Power Markets
   R.D. Tabors and S. Adamson

Unraveling Geographic Interdependencies in Electric Power Infrastructure
   C.E. Restrepo, J.S. Simonoff, and R. Zimmerman

Understanding Locational Reserves and Reliability Needs in Electricity Markets
   F.L. Alvarado
MOCHA Design: Mobile Computing Hardware Architectures Design and Implementation

Chair: Toomas Plaks

Minitrack Introduction........................................................................................................................................4164

Reconfigurable Security Support for Embedded Systems................................................................................4165
G. Gogniat, T. Wolf, and W. Burleson

The Case Study of Block Turbo Decoders on a Framework for Portable Synthesis
on FPGA.........................................................................................................................................................4173
C. Dezan, C. Jégo, B. Pottier, C. Gouyen, and L. Lagadec

Optimizing the Design of a Configurable Digital Signal Processor for
Accelerated Execution of the 2-D Discrete Cosine Transform.................................................................4183
C. Gloster, Jr., W. Gay, M. Amoo, and M. Chouikha

A Methodology for Generating Application-Specific Heterogeneous Processor Arrays ..................4191
S. Craven, C. Patterson, and P. Athanas

Design and Characterization of a Hardware Encryption Management Unit
for Secure Computing Platforms .................................................................................................................4198
A.J. Mahar, P.M. Athanas, S.D. Craven, J.N. Edmison, and J. Graf

Author Index