

Lecture Notes in Business Information Processing

22

Series Editors

Wil van der Aalst

Eindhoven Technical University, The Netherlands

John Mylopoulos

University of Trento, Italy

Norman M. Sadeh

Carnegie Mellon University, Pittsburgh, PA, USA

Michael J. Shaw

University of Illinois, Urbana-Champaign, IL, USA

Clemens Szyperski

Microsoft Research, Redmond, WA, USA

Christof Weinhardt Stefan Luckner
Jochen Stößer (Eds.)

Designing E-Business Systems

Markets, Services, and Networks

7th Workshop on E-Business, WEB 2008
Paris, France, December 13, 2008
Revised Selected Papers



Springer

Volume Editors

Christof Weinhardt

Stefan Luckner

Jochen Stößer

Universität Karlsruhe (TH)

Lehrstuhl für Informationsbetriebswirtschaftslehre

Englerstr. 14, 76131 Karlsruhe, Germany

E-mail: {weinhardt,luckner,stoeßer}@iism.uni-karlsruhe.de

Library of Congress Control Number: 2009930312

ACM Computing Classification (1998): J.1, H.3.5, J.2, C.3

ISSN 1865-1348

ISBN-10 3-642-01255-8 Springer Berlin Heidelberg New York

ISBN-13 978-3-642-01255-6 Springer Berlin Heidelberg New York

This work is subject to copyright. All rights are reserved, whether the whole or part of the material is concerned, specifically the rights of translation, reprinting, re-use of illustrations, recitation, broadcasting, reproduction on microfilms or in any other way, and storage in data banks. Duplication of this publication or parts thereof is permitted only under the provisions of the German Copyright Law of September 9, 1965, in its current version, and permission for use must always be obtained from Springer. Violations are liable to prosecution under the German Copyright Law.

springer.com

© Springer-Verlag Berlin Heidelberg 2009

Printed in Germany

Typesetting: Camera-ready by author, data conversion by Scientific Publishing Services, Chennai, India
Printed on acid-free paper SPIN: 12661350 06/3180 5 4 3 2 1 0

Preface

The 7th Workshop on e-Business (WeB 2008) was held on December 13, 2008, in Paris. As a pre-ICIS workshop, it provided an open forum for e-business researchers and practitioners to share research findings, explore novel ideas, discuss success stories and lessons learned, and map out major challenges with regard to the design of e-business systems.

The workshop theme was “Designing e-Business Systems: Markets, Services and Networks.” With WeB 2008 having been located in Europe, we wanted to highlight the increasing importance of the design science approach for information systems research, which has a long tradition in the European IS community.

We received a large number of submissions that addressed key issues specific to the workshop theme as well as e-business in general. Based on a rigorous review process, a total of 31 full papers and 30 research-in-progress papers were accepted for presentation at the workshop, covering a broad range of technical, empirical, managerial, and economic aspects of e-business. Of the 31 full papers, 17 selected papers are contained in this volume of *Lecture Notes in Business Information Processing*. We hope that you will find them an interesting read and that you will benefit from the authors’ fine contributions.

We acknowledge the great contributions by the following individuals for organizing and managing 17 focused sessions at the workshop:

- Mu Xia: E-Business Standards
- Jan Krämer and Stefan Seifert: Economic Modeling of Telecommunication Markets and Services
- Ravi Sen and Chandra Subramaniam: Economics of E-Commerce
- Dirk Neumann and Omer F. Rana: Grid Economics
- Clemens van Dinther and Christoph Mayer: IS in eEnergy
- Gregory Kersten and Stefan Klein: Market and Service Engineering
- Tuure Tuunanen: Mobile Technologies
- Wolf Ketter and Jörg Müller: Multiagent-Based Business Process and Supply-Chain Management
- Victoria Y. Yoon, Rahul Singh and Stephen Russell: Multiagent System, Semantic Web, and Context-Aware Computing
- John Zhang: Organizational Implications of Electronic Markets
- Andreas Gräfe and Martin Spann: Prediction Markets
- Samuel Fosso Wamba and Ygal Bendavid: RFID and Supply Chain Management
- Raj Sharman and Daniel Zeng: Security Informatics
- Nanda Kumar: Social Networks
- Raquel Benbunan-Fich: Social Computing Applications
- Xiao Fang and Lin Lin: Web Intelligence
- Minder Chen and Dongsong Zhang: Web Services and Architectures

We would further like to acknowledge the contributions and support of the conference Co-chairs Ting-Peng Liang and Michael J. Shaw who gave us numerous comments, suggestions and support in preparing WeB 2008, keynote speakers Eric van Heck, Vikas Krishna and Andrew B. Whinston, Local Arrangements Chair Frank Goethals, International Liaison Chairs Steven Miller, Fethi Rabhi and Michael Chau, as well as all the Program Committee members and reviewers. We also thank our sponsors, the Karlsruhe Institute of Technology (KIT), Germany; AIS SIGeBIZ; Electronic Commerce Research Center, National Sun Yat-Sen University, Taiwan, R.O.C.; Center for IT and e-Business Management, University of Illinois, Urbana-Champaign; Institute of Information Systems and Management (IISM), Universität Karlsruhe (TH), Germany; IESEG School of Management, France.

March 2009

Christof Weinhardt
Stefan Luckner
Jochen Stößer

Organization

WeB 2008 was organized by the Institute of Information Systems and Management, Universität Karlsruhe (TH), in cooperation with AIS SIGeBIZ.

Organizing Committee

Conference Chairs	Ting-Peng Liang, National Sun Yat-Sen University Michael J. Shaw, University of Illinois at Urbana-Champaign
Program Chairs	Christof Weinhardt, Universität Karlsruhe (TH) Stefan Luckner, Universität Karlsruhe (TH)
Review and Publication	
Chair	Jochen Stößer, Universität Karlsruhe (TH)
Local Chair	Frank Goethals, IESEG School of Management
International Liaisons	Michael Chau, The University of Hong Kong Steven Miller, Singapore Management University Fethi Rabhi, The University of New South Wales

Program Committee

Raquel Benbunan-Fich	The City University of New York
Ygal Bendavid	Ecole Polytechnique de Montreal
Jamal Bentahar	Concordia University
Martin Bichler	Technische Universität München
Minder Chen	California State University Channel Islands
Kenny Cheng	University of Florida
Tsang-Hsiang Cheng	Southern Taiwan University of Technology
Clemens van Dinther	Forschungszentrum Informatik Karlsruhe
Torsten Eymann	Universität Bayreuth
Ming Fan	University of Washington
Xiao Fang	Toledo University
Judith Gebauer	University of Illinois, Urbana-Champaign
Andreas Gräfe	Forschungszentrum Karlsruhe
Paul Hu	University of Utah
San-Yih Hwang	National Sun Yat-sen University
Patrick C. K. Hung	University of Ontario Institute of Technology
Gregory Kersten	Concordia University
Wolf Ketter	Erasmus University Rotterdam
Stefan Klein	Westfälische Wilhelms-Universität Münster
Jan Krämer	Universität Karlsruhe (TH)
Nanda Kumar	The City University of New York

VIII Organization

Hsiangchu Lai	National Sun Yat-sen University
Steffen Lamparter	Universität Karlsruhe (TH)
Karl Reiner Lang	The City University of New York
Divakaran Liginlal	University of Wisconsin-Madison
Fu-ren Lin	National Tsing Hua University
Lin Lin	Lehigh University
Christoph Mayer	OFFIS Oldenburg
Jrg Mller	TU Clausthal
Matt Nelson	Illinois State University
Dirk Neumann	Universität Freiburg
Manoj Parameswaran	Santa Clara University
Selwyn Piramuthu	University of Florida
Omer F. Rana	Cardiff University
Stephen Russell	George Washington University
Gerhard Satzger	Universität Karlsruhe (TH)
Stefan Seifert	Universität Karlsruhe (TH)
Ravi Sen	Texas A&M University
Raj Sharman	University of Buffalo, SUNY
Olivia Sheng	University of Utah
Rahul Singh	University of North Carolina at Greensboro
Martin Spann	Universität Passau
Chandra Subramaniam	University of North Carolina, Charlotte
Vijay Sugumaran	Oakland University
Stefan Tai	Universität Karlsruhe (TH)
Tuure Tuunanan	Auckland University
Daniel Veit	Universität Mannheim
Samuel Fosso Wamba	The Ecole Polytechnique de Montreal
Chih-Ping Wei	National Sun Yat-sen University
Andrew B. Whinston	University of Texas at Austin
Mu Xia	University of Illinois, Urbana-Champaign
Victoria Y. Yoon	University of Maryland, Baltimore County
Daniel Zeng	University of Arizona
Dongsong Zhang	University of Maryland
Han Zhang	Georgia Tech
John Zhang	University of Connecticut
Xianfeng Zhang	Xi'an Jiaotong University
Leon Zhao	University of Arizona

Focused Session Chairs

– E-Business Standards

Mu Xia (University of Illinois at Urbana-Champaign)

– Economic Modeling of Telecommunication Markets and Services

Jan Krämer (Universität Karlsruhe (TH))

Stefan Seifert (Universität Karlsruhe (TH))

- Economics of E-Commerce

Ravi Sen (Texas A&M University)

Chandra Subramaniam (University of North Carolina at Charlotte)

- Grid Economics

Dirk Neumann (Albert-Ludwigs-Universität Freiburg)

Omer F. Rana (Cardiff University)

- IS in eEnergy

Clemens van Dinther (Forschungszentrum Informatik Karlsruhe)

Christoph Mayer (OFFIS Oldenburg)

- Market and Service Engineering

Gregory Kersten (Concordia University)

Stefan Klein (Universität Münster)

- Mobile Technologies

Tuure Tuunanen (Auckland University)

- Multiagent-Based Business Process and Supply Chain Management

Wolf Ketter (Erasmus University)

Jörg Müller (Technische Universität Clausthal)

- Multiagent System, Semantic Web, and Context-Aware Computing

Victoria Y. Yoon (University of Maryland Baltimore County)

Rahul Singh (University of North Carolina at Greensboro)

Stephen Russell (George Washington University)

- Organizational Implications of Electronic Markets

John Zhang (University of Connecticut)

- Prediction Markets

Andreas Gräfe (Forschungszentrum Karlsruhe)

Martin Spann (Universität Passau)

- RFID and Supply Chain Management

Samuel Fosso Wamba (Ecole Polytechnique de Montreal)

Ygal Bendavid (Ecole Polytechnique de Montreal)

- Security Informatics

Raj Sharman (University at Buffalo, SUNY)

Daniel Zeng (University of Arizona)

- Social Networks

Nanda Kumar (The City University of New York)

- Social Computing Applications

Raquel Benbunan-Fich (The City University of New York)

- Web Intelligence

Xiao Fang (Toledo University)

Lin Lin (Lehigh University)

- Web Services and Architectures

Minder Chen (California State University Channel Islands)

Dongsong Zhang (University of Maryland Baltimore County)

Sponsoring Institutions

The Organizing Committee gratefully acknowledges the sponsoring of the following institutions:

- Karlsruhe Institute of Technology (KIT)
- AIS SIGeBIZ
- National Sun Yat-Sen University
- Center for IT and e-Business Management, University of Illinois at Urbana-Champaign
- Institute of Information Systems and Management (IISM), Universität Karlsruhe (TH)
- IESEG School of Management

Table of Contents

Electronic Markets

IDEM: A Prediction Market for Idea Management	1
<i>Efthimios Bothos, Dimitris Apostolou, and Gregoris Mentzas</i>	
Understanding Dynamic Competitive Technology Diffusion in Electronic Markets	14
<i>Cheng Zhang, Peijian Song, Yunjie Xu, and Ling Xue</i>	

Electronic Services

Examining Agencies' Satisfaction with Electronic Record Management Systems in e-Government: A Large-Scale Survey Study	25
<i>Fang-Ming Hsu, Paul Jen-Hwa Hu, Hsinchun Chen, and Han-fen Hu</i>	
Practical Security of Large-Scale Elections: An Exploratory Case Study of Internet Voting in Estonia	37
<i>Guido Schryen</i>	
Situational Effects on the Usage Intention of Mobile Games	51
<i>Ting-Peng Liang and Yi-Hsuan Yeh</i>	

Radio Frequency Identification

Modelling and Simulation of National Electronic Product Code Network Demonstrator Project	60
<i>John P.T. Mo</i>	
Benefit Analyses of Technologies for Automatic Identification to Be Implemented in the Healthcare Sector	71
<i>Mike Krey and Ueli Schlatter</i>	

Service-oriented Architectures

An Exploratory Study of Risk Factors for Implementing Service-Oriented IS Projects	83
<i>Hsin-Lu Chang and Chia-Pei Lue</i>	
Cloud-Based DSS and Availability Context: The Probability of Successful Decision Outcomes	96
<i>Stephen Russell, Victoria Yoon, and Guisseppi Forgionne</i>	

Do Clouds Compute? A Framework for Estimating the Value of Cloud Computing	110
<i>Markus Klems, Jens Nimis, and Stefan Tai</i>	

Virtual Communities

Analyzing Members' Motivations to Participate in Role-Playing and Self-Expression Based Virtual Communities	124
<i>Young Eun Lee and Aditya Saharia</i>	
Evolution of Virtual Communities	135
<i>Eunyoung Cheon and JoongHo Ahn</i>	
The Future of Professional Communities of Practice	144
<i>Murray Turoff and Starr Roxanne Hiltz</i>	

Web Intelligence

A Feature-Reinforcement-Based Approach for Supporting Poly-Lingual Category Integration	159
<i>Chih-Ping Wei, Chao-Chi Chen, Tsang-Hsiang Cheng, and Christopher C. Yang</i>	
On Logic and Standards for Structuring Documents	172
<i>David M. Eyers, Andrew J.I. Jones, and Steven O. Kimbrough</i>	
Patent Analysis for Supporting Merger and Acquisition (M&A) Prediction: A Data Mining Approach	187
<i>Chih-Ping Wei, Yu-Syun Jiang, and Chin-Sheng Yang</i>	
Use of Ontology to Support Concept-Based Text Categorization	201
<i>Yen-Hsien Lee, Wan-Jung Tsao, and Tsai-Hsin Chu</i>	
Author Index	215