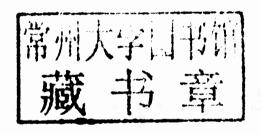
Andrea Carugati Cecilia Rossignoli *Editors* 

Emerging Themes in Information Systems and Organization Studies



Andrea Carugati • Cecilia Rossignoli Editors

# Emerging Themes in Information Systems and Organization Studies





Editors
Andrea Carugati
Department of Business Administration
Aarhus University, Business and Social Sciences
Haslegaardsvej 10
8210 Aarhus V
Denmark
andreac@asb.dk

Cecilia Rossignoli
Department of Business Administration
University of Verona
Via dell'Artigliere 19
37129 Verona
Italy
cecilia.rossignoli@univr.it

ISBN 978-3-7908-2738-5 e-ISBN 978-3-7908-2739-2 DOI 10.1007/978-3-7908-2739-2 Springer Heidelberg Dordrecht London New York

Library of Congress Control Number: 2011930135

© Springer-Verlag Berlin Heidelberg 2011

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, reuse of illustrations, recitation, broadcasting, reproduction on microfilm 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.

The use of general descriptive names, registered names, trademarks, etc. in this publication does not imply, even in the absence of a specific statement, that such names are exempt from the relevant protective laws and regulations and therefore free for general use.

Cover design: SPi Publisher Services

Printed on acid-free paper

Physica-Verlag is a brand of Springer-Verlag Berlin Heidelberg Springer-Verlag is part of Springer Science+Business Media (www.springer.com)

# **Biography of the Editors**



Andrea Carugati is an Associate Professor and Director for the Information Systems Research Group at Århus School of Business and Social Sciences, in Århus, Denmark. Andrea received a Ph.D. from the Technical University of Denmark in 2004. In his career he has held permanent positions in IESEG School of Management and visiting positions in various universities including MIT, Grenoble School of Management, LUISS University, LIUC University. Andrea's research focuses on the use of information technology in organizations and on IT driven organizational change. Andrea

Carugati has published, among others, on the European Journal of Information Systems, Database for Advances in Information Systems, Electronic Markets, at the International Conference on Information Systems, EGOS, and at the European Conference on Information Systems.



Cecilia Rossignoli is an Associate Professor of Organization Science at the University of Verona (Italy). Previously she taught and researched Information Systems at the Catholic University of Milan, where she began as a researcher in 1995. She has been the Director of the Masters Program in Business Intelligence and Knowledge Management at the University of Verona since 2003. She is a member of AIS and also a member and cofounder of ItAIS (Italian Chapter of Association for Information Systems). She served in the Organizing Committee of the 17th ECIS 2009, "Information Systems in a

Globalizing World: Challenges, Ethics and Practices", held in Verona in June, 2009. Her research interests cover the areas of IS and organizational change, the role of IS in inter-organizational information systems, electronic markets and the impact of Business Intelligence Systems in organizations. On this subject she has published more than 50 papers and books. Her latest works were published in the Journal of Electronic Commerce Research, the Journal of Information Systems and e-business Management and Electronic Markets.

### Biography of Marco De Marco



Marco De Marco is a Full Professor of Organization and Information Systems at the Università Cattolica in Milan. He also teaches the Business Organization course at the LUISS Guido Carli University in Rome. Before embarking upon his academic career he worked as a research engineer and product planning manager in the aerospace (Boeing) and computer (IBM, GE, and Honeywell) industries. He is the author of four books and numerous essays and articles; mainly on the development of information systems and the impacts of technology on organizations. Marco De Marco has worked as

a consultant for a wide range of important public institutions, such as the Venice City Council, the Rome City Council, the Lombardy Regional Government, the Hospital Administration Authority, and the Ministry of Justice as well as the Italian parliament. He has also been a consultant to the major trades unions of Italian bank employees. He is a member of the editorial board of several academic journals, including the Journal of Information Systems, the Journal of Digital Accounting Research, Banking and Information Technology, Information Systems and e-Business Management. Marco De Marco was a founder in 2003 and former President of the Italian Association for Information Systems (ITAIS), the Italian Chapter of the Association for Information Systems. In 2008 and 2009, he was a Board committee member of the Association for Information Systems, representing Europe, Africa, and the Middle East. He is the editor-in-chief of the Informatica e Organizzazioni book series published by Franco Angeli. He has worked on several projects of European breadth and has served as ECIS conference officer, acting as conference chair at ECIS2009 in Verona. In the past, his main research interests have included information system development and performance measurement methodologies, while bank information systems and their specificities were a particular study and focus. More recently, he has investigated the impact on organizations of information systems and Information Technology generally, leading him to focus on the themes of ERP systems due to their strong influence on the organization of companies and Business Process Management, perceived as a fundamental aspect in optimizing the delivery of services. Marco has been a driving force in getting the Italian scientific community to integrate with the international community, a success attested to by the fact that both ECIS 2003 and ECIS 2009 were staged in Italy, where also ICIS 2013 will be held.

## **Biography of the Contributors**



David Avison is Distinguished Professor of Information Systems at ESSEC Business School, near Paris, France. In 2008-2009 he was President of the Association of Information Systems (AIS). He is joint editor (with Guy Fitzgerald) of the Information Systems Journal, one of the AIS basket of six top IS research journals. So far, twenty-five books are to his credit along with many research papers. He researches in the area of information systems development and more generally on information systems in their natural organizational setting, in particular using action research, though he has also used a number of other qualitative research approaches.



Barbro Back is Professor in Accounting Information Systems at Åbo Akademi University in Turku, Finland. Her research interests include business intelligence, neural networks, data mining and text mining. She has presented her research amongst others in Journal of Management Information Systems, Accounting Management and Information Technology, European Journal of Operations Research. She currently serves on the editorial boards of various international journals including the International Journal of Business Information Systems.



Joerg Becker is Professor of Information Systems and Information Management, head of the Department of Information Systems at the University of Muenster, managing director of the European Research Center for Information Systems (ERCIS) and principal shareholder of the Prof. Becker GmbH. His research focuses on information management, management information systems, information modeling, e-business management, e-government, data management, logistics and industry information systems, workflow management and retail information systems.



Alinaghi Ziaee Bigdeli is a PhD researcher in the Department of Information Systems and Computing at Brunel University (UK). His current research focuses on the area of inter-organisational information integration and sharing in e-Government. Alinaghi is involved in teaching undergraduate and postgraduate courses within the Department of Information Systems and Computing.



Alessio Maria Braccini holds a PhD in Information Systems for the LUISS Guido Carli University (Rome, Italy) where he is currently working as a research fellow at the Research Centre on Information Systems (CeRSI). He is actively involved in national and international research projects and he contributes as an author and as a reviewer to several national and international conferences and journals. His research interests include: IT business value, open source software, organizational aspects of information systems.



Leonardo Caporarello holds a Ph.D. in Management Information Systems, LUISS University (Rome). He is Research Fellow of the Department of Management and Technology at the Bocconi University, and Professor of Leadership and Organization at SDA Bocconi School of Management, where he is also the Director of the Learning Lab. Leonardo is Faculty member of the MBA full-time and Executive MBA Programs. His research interests include: managing complex IT projects; project and change management; organizational governance.



Maurizio Cavallari graduated at Università Cattolica, Milan, where he has been serving as Adjunct Professor on Information Systems since 1992. He has been a visiting lecturer at University of Vaxjo (Sweden) and a visiting scholar at Templeton College – Oxford University (UK); He is appointed at several board of directors in banks and industry in Italy and had been working since 1989 as a consultant for private and public organizations on information systems security and organizational matters.



Yu Chen is Professor at Information School of Renmin University of China since 1990. He got his master degree on Computer Science and Application at 1981. His main work is on Management Information System, both in teaching and research. He has published more than 10 textbooks and about 70 papers. He has worked as consultants for many important projects in China, and has been at several leading position in organizations like the Chinese National Representative in IFIP TC8, the Chinese Information Economics Society, and CNAIS.



Alessandro D'Atri is a Full Professor of Information Systems and Director of the IS Research Centre at LUISS Guido Carli University of Rome. He is the Vice-President of ItAIS, the Italian Chapter of the International Association for IS. He is a member of the Editorial Board of the Journal on IS and e-Business Management and of the Journal on Information, Communication and Ethics in Society. His main research interests include: IS, virtual enterprises, e-commerce, telemedicine, databases, computational complexity, and graph theory. In these fields, he has more than 100 articles published in journals and books.



Sergio de Cesare is Lecturer and Director of Postgraduate Studies in the Department of Information Systems and Computing at Brunel University. Sergio's work focuses on the adoption of ontologies in IS development. Sergio has over 50 peer-reviewed publications in leading journals and conferences and has organized several international events related to modeling in IS development. Sergio is also currently the Managing Editor of the European Journal of Information Systems



Meiqi Fang is Professor at Information School of Renmin University of China since 1993. She got her M.D. on Computer Science and Application at 1981 on RUC.. Her B.D. on mathematics has been received at 1967 at Tsinghua University. Her main work is on MIS in teaching and research. She has published more than 15 textbooks and about 80 papers in MIS, EC and computer simulation Her "Introduction of Electronic commerce" is main text book on EC in China. She has been Vice Chairman of Chinese Information Economics Society, Vice Chairman of MIS group in Chinese System Engineering.



Antonella Ferrari has a Business Administration degree from the Catholic University and a Phd in Information Systems at Guido Carli – Luiss University, Italy. She's been teaching since 1992, first at Catholic University of Milan and University of Trento and now at Politecnico of Milan. She researches in the area of information systems organizational impacts and more specifically on Business Intelligence organizational implications.



Guy Fitzgerald is Professor of Information Systems in the Department of Information Systems and Computing (DISC) at Brunel University, UK. His research interests are concerned with the effective management and development of information systems and he has published widely in these areas. He is founder and co-editor, with David Avison, of the Information Systems Journal (ISJ), he is the author (also with David Avison) of Information Systems Development: Methodologies, Techniques and Tools, and is Vice-President of Publications of the Association for Information Systems (AIS).



Cyrus (Chuck) Gibson is a Senior Lecturer at the MIT Sloan School of Management where he teaches primarily in executive education programs. He is associated with the Center for Information Systems Research. His teaching, research, and consulting focus on IT-enabled business change. He is author or co-author of three books and more than forty case studies and articles. Prior to coming to MIT in 1996, he was a senior vice president at CSC Index. He worked as an associate professor at the Harvard Business School where he conducted research on the impact of new IT systems on work behavior.



Nobuyuki Ichikawa graduated from Department of Civil Engineering, Tokyo University of Science in 1995 and worked in Japan Highway Public Corporation. He is currently a project Lecturer in Graduate School of Interdisciplinary Information Studies, the University of Tokyo, Japan. His research interests are in "Advanced Infrastructure with ICT" to achieved the efficiency improvement of infrastructure maintenance that takes care about the flow of information.



Yusho Ishikawa holds a doctorate in Engineering from the University of Tokyo in 2005. He was a manager of Tokyo highway office in Ministry of Land, Infrastructure and Transport and a chief information officer of Kochi Prefecture. He is currently a project professor in Graduate School of Interdisciplinary Information Studies, the University of Tokyo. His interests are in "Advanced Infrastructure with ICT" in the future, and "Public Involvement" for policy making.



Pertti Järvinen is a former IT mathematician in OVAKO steel factory 1963-67, chief in the Computing Centre of University of Tampere 1967-1970. He is a Permanent Professor at the University of Tampere 1970-1974, at the University of Jyväskylä 1974-75 and at the University of Tampere 1976-2003. He served as Secretary 1990-95) and Chairman (1996-98) of International Federation of Information Processing Technical Committee 9 (Computers & Society); he is one of the founders of IRIS.



Eirini Kalliamvakou is a research officer and a PhD candidate in the Department of Management Science and Technology at the Athens University of Economics and Business (AUEB). Her research interests concern the communication and coordination processes in global software development projects active in Open Source Software development. She has been involved with digital identity in the eGovernment environment.



Minna Kallio is a Ph.D. student at the Department of Information Technologies at Åbo Akademi University. She has received her master degree from Turku School of Economics. The topic of her doctoral thesis will be the use of self-organizing neural networks in selecting companies for tax auditing.



Kalinka Kaloyanova is Associate Professor, Faculty of Mathematics and Informatics, at University of Sofia. Her research interests are Database Systems, Data Mining, Software Engineering, Project Management. She has more than 40 publications on these topics. Dr. Kaloyanova participated in industrial and research projects and is member of Association of Information System and the President of Bulgarian Chapter of AIS.



Claudia Loebbecke is Director of the Department of Media and Technology Management at the University of Cologne. In 2005-2006 she served as President of the Association for Information Systems (AIS). Her research focuses on business models and management aspects of digital and creative goods and on the innovative use of new media covering aspects such as electronic business, knowledge management, and new organizational forms.



Piercarlo Maggiolini is Associate Professor at the Politecnico di Milano. He carried out research activity in the field of the management and economic and socio-organizational assessment of information systems in business organizations and Public Administrations. At present his mainly research activity is concerning Computer Ethics, Business Ethics and Corporate Social Responsibility, e-Government.



Marcello Martinez is a Professor of Organization Studies at the University of Naples, Italy, Economics Faculty. He obtained his PhD in Business Administration and Management at the University of Catania. He specialized in Public Transportation Service at the Massachusetts Institute of Technology. In his academic research, he has explored the governance and organization of public utilities, the organizational change processes within the railway industry, and the impact of information systems on organizational dynamics and structures.



Antonio Marturano is an Adjunct Professor of Business Ethics at the Sacred Heart Catholic University of Rome and Visiting Lecturer in Leadership and Communication at the LUISS University of Rome. Previously Dr. Marturano has worked at the Jepson School of Leadership, University of Richmond, at the Centre for Leadership Studies, University of Exeter (2003-2007) and Lancaster University (2000-2002). He has published extensively on leadership and computer ethics.



Lapo Mola is Assistant Professor in Organization Science at the University of Verona where he undergraduate and graduate courses. He is member of the scientific committee of the master program of Business Intelligence and Knowledge Management. He is coauthor of several papers presented in international conferences (ECIS, ICIS, itAIS, Academy of Management) and journals (Sinergie, Electronic Commerce). His research focuses on the organizational impact of ICT and organizational design



**Ina Naydenova** is a Ph.D. student at the Sofia University. Her teaching and research interests are in the fields of relational databases, data-warehousing and OLAP technologies.



Hanne Westh Nicolajsen is an Associate Professor at the Department for Communication and Psychology, Aalborg University. Hanne Westh Nicolajsen teaches within the fields of organizational learning and organizational implementation and use of new communication technologies. In the later years her research focused on service innovation and user involvement in service innovation.



Toshie Ninomiya worked in Toyota Motor Corporation, Keio University, Ibaraki University and University of Electro-Communications. She is currently a project researcher in Graduate School of Interdisciplinary Information Studies, the University of Tokyo, Japan. Her research interests are in "environment and governance" to increase social capital of human network, and "architecture" of expert support system in social infrastructure maintenance.



Fernando Pennarola is an Associate Professor of Organization and Management Information Systems at Bocconi University, Milan. Delegate Rector for E-Learning at Bocconi University. Chairman of the Board of Directors of ISBM (International Schools of Business Management). His research focus on MIS productivity and change initiatives initiated by IS.



Angela Perego is lecturer at SDA Bocconi School of Management. She received her Ph.D from Luiss University of Rome and the Paris-Dauphine University. She is member of the faculty of Masters in Information Systems Management and in Energy and Management of Transport, Logistics and Infrastructure at Bocconi University. Main research interests include: IS performance measurement and management, decision making process and IT, data warehouse and business intelligence systems and customer relationship management.



Athanasia (Nancy) Pouloudi is an Associate Professor in Information Systems Management at the Athens University of Economics and Business. Her research focuses on organizational and social aspects in information systems adoption. She serves on the editorial boards of the European Journal of Information Systems, IT & People and Information & Management. She is currently Representative of Region 2 (Europe-Middle East-Africa) in the Association for Information Systems (AIS).



Soley Rasmussen is a researcher at the Center for Applied ICT at Copenhagen Business School and at the Danish media company JP-Politikens Hus A/S. She holds an MA in Philosophy of Education. Since 2004 her professional focus has been on innovation, media and ICT. Her primary research interests are Web evolution, social media, media-asaservice and the innovation methods and business models of the networked economy.



**Tapio Reponen** is Professor of Information Systems at the Turku School of Economics, University of Turku, Finland. Currently he is the Vice-Rector of the university. His research interests are: information management, strategic information systems, organizing the IS function and knowledge management. He has published, reviewed and edited articles and books linked to these themes.



Francesca Ricciardi is a lecturer in ICTs and Information Society at the Catholic University in Milan and Brescia, Italy. Her main research interests span epistemological problems in IS and organizational studies, network theories and territorial networks, e-government, e-tourism, organizational and technological innovation for the ageing society.



Frantz Rowe is the co-Editor of the European Journal of Information System. He is the founding Director of the graduate program in IS at the University of Nantes. He is the President of the French-speaking IS Association. Professor Rowe's principal research interests pertain to organizational transformations and performance especially as related to information systems projects and use.



Ada Scupola is an Associate Professor at Roskilde University, Denmark. She holds a Ph.D in social sciences from Roskilde University, an MBA from the University of Maryland at College Park, USA. She is the editor-in-chief of The International Journal of E-Services and Mobile Applications.



Maddalena Sorrentino researches in organisational change, particularly in the public sector, at the University of Milan, Italy. She is professor of e-Government. Maddalena has been published in academic proceedings, such as EGOS, ECIS, EURAM, DEXA-eGOV, Bled eConference, journal articles and books. She is a member of the editorial boards of the "Government Information Quarterly" and the "Information Systems and e-Business Management".



Dov Te'eni is the Mexico Chair for Information Systems at Tel Aviv University. Dov studies how computers support people deciding, communicating, sharing knowledge and interacting. He was elected President of AIS, has served Senior Editor for MIS Quarterly, AIS Transactions of HCI, and associate editor for Journal of AIS, Information and Organizations, European Journal of IS, and Internet Research. Dov was awarded AIS Fellowship in 2008.



Manfred Thaller is Professor of Humanities Computer Science at the University of Cologne, Germany. He is in the Library Committee of the German National Research Council and participated in more than 20 projects in the digitization of the Cultural heritage including 3 in digital long term preservation.



Duane Truex is an Associate Professor at Robinson College of Business, Georgia State University and Professor and Chair of Industrial Economics, Mittuniversitetet (MidSweden University). Duane researches the social impacts of IS and how emergent properties of organizations are reflected in emergent ISD, and enterprise architectures. He is currently examining the construct called 'scholarly influence' and the nature knowledge dissemination and uptake in academic communities.



Francesco Virili, is tenured Assistant Professor a the University of Cassino, Italy. He published in peer reviewed international journals including the *International Journal of Information Management*, the *Journal of Information Systems and e-Business Management*, and *Computational Statistics*. He had five accepted papers at the *European Conference on Information Systems* and one accepted paper at the *International Conference on Information Systems*.



Jan vom Brocke holds the Martin Hilti Chair in Business Process Management (BPM) at the University of Liechtenstein. He is Director of the Institute of Information Systems and President of the Liechtenstein Chapter of the Association for Information Systems (AIS). He is a standing member in the EU Programme Committee of the 7th Framework Research Programme on ICT. Jan has published his work in more than 160 refereed papers at internationally perceived conferences and journals. He is author and editor of 14 books, including the International Handbook on BPM published by Springer in 2010.



Robert Winter is Full Professor of business & information systems engineering at University of St. Gallen (HSG), director of HSG's Institute of Information Management and founding academic director of HSG's Executive Master of Business Engineering programme. He is a member of the scientific board of several institutions and authored/edited over 15 books as well as over 150 journal/conference articles in the fields of situational method engineering, information logistics management, enterprise architecture management, integration management, healthcare networking and corporate controlling systems.



Shuren Zhang is an Associate Professor of Information Management and Web Science at Hangzhou Dianzi University of China. He holds a PhD in Information system from the Renmin University of China. Shuren Zhang's research studies the collective behaviors in net community, discovers the mechanism of the emergent phenomena in cyber world, and examines the social interaction patterns in online-business.

### **Foreword**

Many disciplines are born within the boundaries of other disciplines, or in strict connection with them, and even after developing a specific identity, they maintain important areas of overlapping. For example, medicine and chemistry are sister disciplines. They may study the very same object, such as a chemical compound, but with two different goals: chemistry studies the characteristics of a compound, and how to synthesize it; medicine studies the effects of this compound on the human organism. The study of the interactions between a drug and the human body may also be studied by psychology, or by evolutionary biology, or by other different disciplines. But this does not mean, of course, that medicine as a discipline has a shared identity with chemistry or with other sister disciplines. In other words, the identity of a discipline, and of a research community, is not defined by the inviolability of its boundaries, nor by monopolizing the objects of its study; rather the identity of a discipline results from the specificity of its purposes, and from the effectiveness of the research relationships established with all the other related disciplines.

The Information Systems (IS) research community is very young: it has not yet accumulated the disciplinary tradition of historical epistemic communities such as medicine, or chemistry. As a consequence, the identity of IS research is not consolidated yet, and the purpose, methods, and objects of study are still open for debate. In a first phase, the major threat to IS identity was that Computer Science had a clearer status and longer tradition. As a consequence, these two disciplines were sometimes considered as mother and daughter, instead of sisters: Computer Science was perceived as a "mother discipline" while IS was considered as its soft branch. Early IS researchers felt that this situation was very limiting in the same way as medicine would react if it were considered a mere branch of chemistry.

Major efforts were made, then, to differentiate IS research from Computer Science. Since the IS research community wanted to focus on ICT-aided "management of information" within organizations it appeared natural to seek reference theories not in mathematics and logic but in organizational theory and behaviour. Many IS groups around the world actively searched for a stronger link with organizational studies. This process was of great importance to contribute to build the current IS identity, because it strengthened the outsiders' perception of a specific purpose for the IS research activities, and (maybe even more importantly) started to legitimate IS research in the business and management academic communities.

Marco De Marco is among those in Europe who played a pivotal role in this affirmation process. When, in the 80's, the business academic community still equated IS studies with computer science, Marco started dedicating himself to supporting the affirmation and growth of the Italian IS research community.

XXIV Foreword

A pioneer in European Union projects, Marco established links with other IS research communities which were rising throughout Europe, and encouraged other Italian IS academics to join these emerging networks.

Many other national communities, like the Italian one, were in fact struggling to have their work and role recognized in the broader academic community. The build-up of an international network of relationships was an essential step to legitimate the topics and methods of the emerging IS research and create an IS identity around the world.

Of the possible roads to take, Marco and a few others, choose to build a particular and privileged relationship between the IS community and organization study community. IS researchers wanted to study a key aspect of organizational life, namely the management of information. As a consequence, IS research outcomes could find a significant disciplinary space engaging in a friendly confrontation between the IS and the organization studies communities.

In the first years, until well into the 90's, the activation of such a disciplinary link was hard. Organization researchers, having a more established community, tended to consider IS studies as alien and technical, and integration took several years. Nevertheless, with a persistent and intense commitment, the IS community increased its dimension and its activities, and today we can observe a good level of cooperation and collaboration between IS and organizational academics. The most visible example is EGOS, the European Group of Organization Studies, where IS academics participate along with academics from all the other management disciplines. On the other side, in order to define and strengthen the IS community, acceptance of IS studies within organizational research may be, although very important, insufficient. Since Web 2.0 services are becoming the most used service on the internet, IS researchers have started focusing on the management of knowledge also outside the classic boundaries of organizations: in fact, ICTs have become a key element not only in organizations, but also in informal networks, within families, among citizens, in the whole society. As we write these lines, the very purpose of IS studies is going through a period of exciting, challenging evolution. IS research has the chance to capitalize on our theories and understandings of technology uses and its impacts act as an innovating factor beyond the context of organization and contribute to social studies at large.

As a consequence of this evolution, an opportunity to further extend the network of sister disciplines is emerging for IS. In addition to computer science on the one side, and to organizational studies on the other side, the complex, interdisciplinary nature of Information Systems requires establishing links also with human sciences, such as sociology and psychology and with design-oriented disciplines, such as engineering. The power and the material characteristics of the IT artefact embedded in social practices enable the emergence of sociomaterial assemblages whose study and understanding will be the key to understand the evolution of organizations and society at large for the time to come.

Some people consider this "multi-disciplinary growth" as a dangerous drift towards identity loss. But multi-disciplinary evolution may result in great opportunities if the IS community will be strong enough and mature to keep focused while