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## Introduction

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**Biographical notes:** Dimitris Assimakopoulos is a Professor of Information Systems and Technology Management, Founder and Director of the Laboratory for Learning and Innovation in Networks and Communities (LINC Lab), and the Director of the Doctorate of Business Administration programmes in partnership with the Universities of Newcastle (UK) and Tongji (China), at Grenoble Ecole de Management. He holds an HDR in Economics from the University of Grenoble and a PhD from the University of Sheffield, UK. Assimakopoulos was also a visiting scholar in Economic Sociology at Stanford University, California. The broad area of his research is social and business informatics, with particular focus on the emergence of new technological communities and networks of practice across organisational and national boundaries; and informal collaboration networks fostering learning and innovation in computer-based technologies across the European Union, Silicon Valley and China. His latest monograph on *Technological Communities and Networks* was published by Routledge in 2007.

Andrew White is a Fellow in Strategic Management at Said Business School and Research Fellow at Templeton College, University of Oxford. His research focuses on understanding how organisations can successfully manage innovation, particularly discontinuous innovation. These innovations are of a strategic, product, market or technology based nature, and they often occur in the context of networks of organisations. The outputs of his research have been published in several international journals, and have been presented at numerous international conferences. He acts as a Consultant to a number of global organisations, and has recently co-authored a review of how information technology will create intelligent infrastructure systems over the next few decades for the UK Governments Department of Trade and Industry.

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The focus of this special issue deals with a broad range of issues that are central in the management of Information Communication Technologies (ICT) of the knowledge societies and network economies today across all sorts of institutional and geographical boundaries. Seven papers were selected and reviewed for this special issue dealing with such key issues as software development as a dynamic capability, open source software security, as well as the network architecture of a very large software technological community on the internet; e-business applications for achieving business performance, and in particular the adoption and use of an electronic marketplace for supply chain management in one of the largest multi-national electronic firms, as well as the introduction of e-business strategy in selling a new entry-level car on the internet; and last but not least, managing globally dispersed R&D teams for supporting multinational R&D projects.

The geographical coverage and research methodologies for empirical data collection and analysis varied from quantitative surveys deploying statistical and network analysis to exploratory single case studies based solely on semistructured interviews and related qualitative data; carried out by a dozen contributing authors in places as far apart as France, the UK, the USA, Brazil, China and Finland. The commonality for all this empirical work was that it was presented and discussed in its early draft form in the 2005 and 2006 Conferences of the International Association for the Management of Technology (IAMOT) held at UNIDO in Vienna, Austria, and Tsinghua University in Beijing, China, where the first editor was IAMOT track coordinator in the area of ICT management. Further rounds of peer-reviews and empirical work and analysis resulted in the final form of this set of papers in 2007 for publication in this special issue with the broad theme of managing ICT, both in terms of software and e-business development in the network economies of advanced and less developed countries.

The first three papers of the special issue deal with software development, and more specifically with two sets of issues: software security via open source software and the emergence of huge software professional communities on the internet enabling sharing of knowledge about software development across firm boundaries. Mäkelä *et al.* deploy a dynamic capabilities conceptual framework for understanding new product development in the software process by advancing a novel typology for resource transformation in new product development activities of software developing companies in Finland and world wide. Heili and Heraud study software security in open source software and ground their research in the information systems security literature reflecting on evidence from the French Ministry of Defense and related cases in the USA. Yan and Assimakopoulos study with log data a very large online software community in Chinese speaking Asia, the China Software Developer Net (CSDN), with regard to two network topology models: small world and scale free; and according to a key socio-technical relation, seeking technical advice for software development among the one million members of the CSDN technological community.

Subsequently the next three papers explore broadly e-business performance and strategy also deploying two specific cases in supply chain management and e-commerce. Boulianne puts forward a contingency conceptual framework for e-business application design and performance that aims to provide guidance for effective information systems design and adoption in a broad range of organisational contexts within management accounting functions. On the other hand, White and Mohdzain carry out an exploratory case study for the adoption of an electronic marketplace in the supply chain of one of the largest and most successful global electronic manufacturing companies in the

USA and the UK for contributing in the industry level inter-organisational information systems development theory for innovative supply chain management, including the application service provision model. Zilber also highlights through a case study approach the strategic use of e-business and business to consumer e-commerce from a large automotive manufacturer for launching an entry level new car to the Brazilian market through its local subsidiary by facilitating and managing successfully information flows on the internet among customers, dealers and local assembly plant of the automotive manufacturer.

Last but not least, Thamhain investigates with an exploratory field research design and mixed quantitative and qualitative methods including questionnaire surveys in conjunction with in-depth interviews and participant observation data more than 180 R&D projects in 14 countries for identifying drivers of and barriers to innovative team performance for managing such globally dispersed teams.