E-government has gained considerable attention and the number of research studies and academics conducting research in the field has increased particularly in the last five years while basic e-government services have been in place for over ten years, the attention has now shifted towards more comprehensive services. These comprehensive services require more advanced and intelligent mechanisms and often require that public organizations collaborate with each other. With the introduction of the European Service directive, cross-border collaboration and services have gained considerable attention. All these efforts demand high-levels of integration and interoperability.

Since the late 1990s, most countries have released their e-government strategies and defined various approaches resulting in significant progress on e-government at all levels of public administration. Current e-government efforts are often complicated by a lack of interoperability and integration of systems. Creating interoperability and integration is a complex endeavor (Scholl & Klischewski, 2007; Weerakkody, Janssen, & Hjort-Madsen, 2007). Service provisioning in networks is likely to fail if the systems of the public agencies are not properly integrated. The integration of activities extends to greater collaboration and integration between agencies (Kamal, Weerakkody, & Jones, 2009) and can provide substantial benefits (Irani, Themistocleous, & Love, 2003).

Within most governments the basic infrastructure and components are in place and interoperability frameworks further support their development. Yet, although many technology standards are available, many other problems hamper the development of these services. For example, knowledge might be available but not easily made accessible and complex ontologies are necessary to enable information finding and retrieval. The investments and benefits of these efforts are often unclear and thus need to be detailed and highlighted clearly as blurred benefits might not result in the investment necessary to progress. On the other hand, the concentrating of services in a shared service center can result in all types of benefits (Janssen & Joha, 2006). These types of projects are often large-scale and many stakeholders are involved, each providing their own perspective. As such, technical, economical as well as organizational and strategic problems need to be tackled.

This special issue aims to capture some of the issues and complexities of e-government integration and interoperability in the public sector and includes papers showing various angles on this issue. Interoperability is defined by the IEEE as the ability of two or more systems or components to exchange informa-
tion and to use the information that has been exchanged (Institute of Electrical and Electronics Engineers (IEEE), 1990). In the context of e-government, interoperability is a property referring to the ability of diverse systems and organizations to work together (Scholl & Klischewski, 2007). Interoperation takes place if information systems operate in a coordinated and meaningful fashion. Enterprise Application Integration (EAI) is an approach to architecture design linking systems (Themistocleous, 2004). Organizations face the challenge to integrate applications that were inherently designed to operated standalone (Lam, 2005).

**SPECIAL ISSUE PAPERS**

This issue contains five papers on various aspects of integration and interoperability services.

In the paper “Activity-Based Costing in Public Administrations – a Business Process Modeling Approach” authored by Jörg Becker, Philipp Bergener and Michael Räckers a costing approach is used as an efficiency measurement for public administrations. Especially through the introduction of New Public Management and double-entry accounting Public Administrations get the opportunity to use cost-centered accounting mechanisms to assess process performance and evaluate their activities in a holistic concept. The authors show how process modeling can be a useful instrument to help the public administrations to capture relevant process knowledge and thus create the data basis for activity-based costing.

In the second paper ‘Knowledge Interoperability among Parliaments and Government’ Loukis Euripides and Alexander Xenakis focus on extracting value knowledge from information from parliament. Knowledge is hidden in numerous text documents, so it cannot be efficiently exchanged and exploited. It is therefore highly important to extend the concept of interoperability among the information systems (IS) of Parliaments and Government Agencies, so that it covers not only the ‘operational level’, but also the ‘knowledge level’ as well, in order to enable the efficient exchange of not only data and functionality, but also of public policy related knowledge. It is based on the use of the complex problems representation ontology provided by the ‘Issue-Based Information Systems’ (IBIS) framework for codifying the public policy related knowledge created in the various stages of legislation formulation in Parliaments. An application of the proposed methodology is presented for the case of the Law on the ‘Contracts of Voluntary Cohabitation’ which has been recently passed by the Greek Parliament.

Yannis Charalabidis, Fenareti Lampathaki and Dimitris Askounis compare and outline the current landscape of frameworks in the paper “Investigating the Landscape in National Interoperability Frameworks” in the third paper of this special issue. National Interoperability Frameworks are continually revised and expanded across the globe in an effort to support the increasing need for seamless exchange of information. They found that most frameworks have a certain degree of maturity and provide recommendations for countries to develop their frameworks. This paper intention is to contribute to discussions about the interoperability progress.

The role of key stakeholders in integration project is discussed in the paper ‘Examining the Role of Stakeholder’s in Adopting Enterprise Application Integration Technologies in Local Government Domain’ authored by Muhammad Kamal and Vishanth Weerakkody. Stakeholder management has been given much attention in e-government and can make or break a project. It would therefore be judicious to give greater contemplation to the research on examining the role of a number of stakeholders in EAI adoption process in Local Government Authorities (LGAs). The authors apply the concept of stakeholder theory to analyse the importance of stakeholders during the EAI adoption process. In particular, the paper explores the perception of different stakeholders on the factors influencing EAI adoption in LGAs and their involvement in the adoption lifecycle phases. The authors
highlight that each stakeholder involved in the EAI adoption process has a significant role by utilising their knowledge and expertise, contributing towards the success of the EAI projects and improving organisational performance.

Shared Services have been extensively adopted in practice as one means for improving organizational performance. Suraya Miskon, Wasana Bandara, Erwin Fielt and Guy Gable provide an overview of this field in their paper ‘Understanding Shared Services: An Exploration of the IS Literature’. Yet, archival analysis of IS the academic literature reveals that Shared Services, though mentioned in more than 100 articles, has received little in depth attention. The paper presents detailed review of literature from main IS journals and conferences, findings evidencing a lack of focus and definitions and objectives lacking conceptual rigour. The paper concludes with a tentative operational definition, a list of perceived main objectives of Shared Services, and an agenda for related future research.

As highlighted the five papers presented in the special issue, interoperability is posing some of the biggest challenges for ensuring progress in e-government. This special issue contributes to the various aspects of interoperability and shows that the research emphasis is now shifting from enhancing interoperability and integration at the data exchange level towards higher and strategic levels. Obstacles are not merely technological in nature. In fact, the technological aspects may turn out to be far less of a challenge than the strategic, organizational, legal, political and social aspects (Scholl & Klischewski, 2007) and are complicated by the diverse interest of stakeholders that need to trust each other to cooperate (Feenstra, Janssen, & Wagenaar, 2007; Kamal et al., 2009).

REFERENCES


Yannis Charalabidis is Assistant Professor in the University of Aegean, in the area of eGovernment Information Systems, while also heading eGovernment & eBusiness Research in the Decision Support Systems Laboratory of National Technical University of Athens (NTUA), coordinating policy making, research and pilot application projects for governments and enterprises worldwide. A computer engineer with a PhD in complex information systems, he has been employed for 8 years as an executive director in Singular IT Group, leading software development and company expansion in Eastern Europe. He writes and teaches on eGovernment Information Systems, Interoperability and Standardization, eParticipation and Government Transformation in NTUA and the University of Aegean. He has published more the 100 papers in international journal and conferences. He is Best Paper Award winner of the EGOV 2008 Conference, Best eGovernment Paper Nominee in the 42nd HICSS Conference and 1st Prize Nominee in the 2009 European eGovernment Awards.

Marijn Janssen is an Associate Professor within the Information and Communication Technology section and Director of the interdisciplinary SEPAM Master programme of the Faculty of Technology, Policy and Management at Delft University of Technology. He is also in charge of the “IT and business architecture” of the Toptech executive master. He has been a consultant for the Ministry of Justice and received a Ph.D. in information systems (2001). He serves on several editorial boards (including International Journal of E-Government Research, International Journal of E-Business Research, Government Information Quarterly and Information Systems Frontiers), has conducted and managed several research projects and is involved in the organization of a number of conferences. His research interests are in the field of e-government, design science, orchestration, composition and shared services. He was ranked as one of the leading e-government researchers in 2009 and published over 180 refereed publications. More information: www.tbm.tudelft.nl/marijn.

Vishanth Weerakkody is a member of faculty in the Business School at Brunel University. He holds an MSc in Business Systems Analysis and Design from City University in London and a PhD in Business Process and Information Systems Reengineering from the University of Hertfordshire, UK. His current research interests include electronic government, process transformation and change, and technology adoption in the public sector. He has guest-edited special issues of leading journals and published over 100 peer reviewed journal articles and conferences papers on these themes. As well as being the Editor-in-Chief of the International Journal of Electronic Government Research, he is Associate Editor for a number of leading journals. He was previously a faculty member in the department of IS and Computing at Brunel University and held various IT positions in multinational organizations. His final appointment in industry was as a Methods and Process Analyst at IBM UK. Dr Weerakkody is a Chartered IT professional and a Member of the British Computer Society.