Foreword: The Research View

The collection of articles dedicated to the various aspects and challenges of interoperability in this book covers the subject matter comprehensively and demonstrates the diversity of perspectives and approaches, when tackling the issues and concerns in theory and practice.

Elsewhere, my colleague Ralf Klischewski and I have argued that it was worthwhile to distinguish between (process) integration and (information systems) interoperation (Scholl & Klischewski, 2007). In our analysis, we found system interoperation (including its dynamic invocation in real time, that is, dynamic or ad-hoc “interoperability”), although not trivial, yet the less difficult part when two or more government entities engage in interoperating their information systems). The far more difficult portion of ad-hoc, project, or more permanent exchanges of data and information appears to lie in the non-technical areas of “integration,” in which the perspectives and interests of times divergent or even opposing stakeholders have to be reconciled. In this context, Klischewski has provided another insightful observation, that is, integration might pertain to either simply the sharing of information between two or more entities (Klischewski, 2005); or, it might take on the format of transactional engagement, in which case the business processes of the interacting entities have to be “integrated” to a certain extent. Certainly, many hybrids combine the two perspectives. Negotiating the integration of processes between entities, and then keeping the integrated processes integrated, Klischewski and I found in our second study far more ambitious and complicated than we had expected (Klischewski and Scholl, 2008).

Interoperability hinges on many factors and processes, which are interwoven and may change over time. Information systems and networking infrastructures, hence, need to be or become scalable so they can adjust to emerging or changing needs, which might be of technical nature, or, organizational and social, or both. Organizational experts and architects increasingly and quickly have to understand the potential of emerging information and communication technologies in terms of how they might contribute to better integration and interoperation when desired.

Frequently overlooked or even ignored is an aspect of intra- and inter-governmental integration and interoperability, which has a potentially undesired tail end: Democratic societies heavily rely on the principle of dividing up powers and maintaining systems of checks and balances. The idea is to prevent single-handed and “smooth” decision-making, which might be more efficient than lengthy negotiations over the reconcilement of interests. However, “unchecked,” “efficient” and “single-handed” decision-making carries the high risk of veering areas of democratic government into the murky waters of authoritarianism. Some scholars say that too much of integration and interoperation in government could have exactly that effect.

In other words, interoperability is like a rose with beautiful colors and a tantalizing scent helping advance important missions and purposes in government. Yet, like all other roses interoperability also has its thorns and stingy capacities, which cannot be avoided but must be managed. After September
of 2001, governments around the world have integrated processes and made information systems interoperable in a way never seen and considered possible before. As a result, no terrorist attacks of the same order of magnitude have been recorded since. Yet, this eerie “safety” carries a price tag, which we should also stay aware of.

Consequently, Klischewski and I challenged ourselves and our colleagues to study not only cases in terms of the technicalities, but also along various dimensions such as foci and purposes of interoperability projects, or the limitations and constraints in such projects, and also the underlying socio-organizational processes and technical and non-technical outcomes in interoperability cases. We provided a matrix, which lets outcomes classify as unproblematic outcomes (successful, results desirable; unsuccessful, results undesirable), or problematic outcomes (unsuccessful, desirable results; successful, undesirable results).

Many articles in this book address the above-mentioned dimensions and systematically advance our understanding. Much empirical research in this book could further be classified and categorized along those lines, which help chart out and develop the interoperability research agenda even further.

I congratulate Prof. Dr. Charalabidis on proposing and then coordinating this fine effort and its results.

I am wishing this book great commercial and academic success.

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Hans Jochen Scholl is an Associate Professor in the University of Washington’s Information School. He earned a PhD in Information Science from the University of Albany, NY/SUNY and also holds a Master's degree in Business Administration from the GSBA Zurich, Switzerland. His research interests revolve around human-originated complex systems, in particular, in the contexts of technology evolution, information management, electronic government, organizational transformation, process change, business intelligence, information systems success, and private-sector firm survival. He is the PI of the NSF-funded Fully Mobile City Government research project (2005 to 2011). Jochen is a member of the NSF-funded working group on transnational government research (2007 to 2010). He chairs the Electronic Government Track at the Hawaii International Conference on System Sciences (HICSS) and as a member of the organizing committee the IFIP/EGOV conferences. He also serves as the president of the Digital Government Society of North America (2010 to 2011).