Editorial

Strategic information systems: Reflections and prospectives

Welcome to this, a very special issue of the *Journal of Strategic Information Systems* – the 20th anniversary issue of the journal. Launched in December 1991, *JSIS* has become one of the leading Information Systems journals in the world – recognized, for example, by the Association for Information Systems senior scholars as one of eight high quality journals in the IS field (www.aisnet.org). Winner of the Anbar Golden Page Award in 1999 for “Best Research Implications” in the Information Management category, *JSIS* was ranked third of all of Elsevier’s Business and Management journals in terms of its 2010 Impact Factor http://about.elsevier.com/impactfactor/author-reports-4864031/webpage/author-webpage-4864031.html).

The editorial in the very first issue of the journal contained the following:

Information Technology (IT) needs to be taken seriously, its management needs to be integrated into the mainstream activities of executives and we need to do much more in ensuring that IT ‘delivers the goods’ by providing the business and social benefits.

These are messages that we have heard for a number of years now. But it still seems to be the case that many managers do not take IT seriously: in fact some dismiss the topic as an irrelevance. In business schools around the world, it is often the case that IT, IT strategy and information management are considered at best as optional topics unworthy of being included in the core program. And where they do receive greater attention, it is often the case that a discussion of information and IT issues is not integrated into other business topics.

The *JSIS* seeks to do something about this sad state of affairs. It will provide a forum for debate on these and associated issues . . .

The *Journal* will provide an international, balanced and integrated perspective on such topics as:

- Organizational re-engineering and the role of information systems and technology in this context;
- The justification and evaluation of information systems, and strategies to ensure that benefits ensue from such investments;
- The business implications of emerging ITs;
- Human resource issues associated with the integration of information systems with business;
- The implementation of business systems strategies and the management of change; the determination of strategic information requirements and the development of information systems that meet these requirements. (Galliers, 1991: p. 3).

Of course, a great deal has occurred over the past 20 years: we have seen, for example, the advent of the Web; the dot.com bubble burst; the phenomenon of outsourcing and offshoring; the introduction of new information and communication technologies (social media, mobile computing, cloud computing), and financial crises in Asia, Europe and North America that few predicted. Notwithstanding, the above agenda has stood the test of time, and the issues we set out to confront then still remain. The scope may have changed, as we shall see, but the focus and concerns expressed remain apposite.

In this 20th anniversary issue, we wanted to both reflect on the past and provide something of a prospective for the field of strategic information systems. First, though, it would be remiss of us were we not to mention the various senior editors who have given of their time so willingly over those years, and who have made the journal what it is today. In chronological order they are:

Bob Galliers, Editor-in-chief 1991–present day

0963-8687/$ - see front matter © 2012 Published by Elsevier B.V.
http://dx.doi.org/10.1016/j.jsis.2012.07.001
Tapio Reponen, Scandinavia editor 1991–1992
Julian Watts, Case studies editor 1991–1993
David Grimshaw, Book reviews editor 1991–1993
Paul Gray, Honorary associate editor 1993–1995
Clay Sprowls, Book reviews editor 1993–1994
Ramon O’Callaghan, Case studies editor 1994–2006
Philip Powell, Book reviews editor 1994–2006
Chris Sauer, Asia–Pacific editor 1997–1999
Blake Ives, Americas editor 2000–2002
Sirkka Jarvenpaa, Joint editor-in-chief 2000–present day
Dorothy Leidner, Case studies editor 2000–2006
V Sambamurthy, Americas editor 2003–2003
David Feeny, European & African editor 2003–2004
Guy Cable, Asia–Pacific/Senior editor 2003–present day
Arun Rai, Americas/Senior editor 2004–2007
Claudia Loebbecke, European & African/Senior editor 2004–present day
Youngjin Yoo, Senior editor 2007–2010
Yolande Chan, Senior editor 2010–present day
Christina Soh, Senior editor 2010–present day

You will note from the above listing that JSIS has had a long tradition of emphasizing global issues as they relate to the strategic issues and impacts of information systems and Information and Communication Technologies (ICTs), given the regional basis on which editors worked from its inception up until December 2006, and the incorporation under its banner of the journal – *International Information Systems* – founded by Paul Gray, as of Vol. 2, in 1993. It is with deep sadness that we note Paul’s recent passing – his departure is a huge loss to our field. A founding father of the IS discipline, we will miss his insight, excitement, perseverance and humanity.

Indeed, of the over 300 articles published in JSIS in the first 20 years of its history, the number of different nationalities represented by our authors is remarkable. As noted in the editorial in the March 2012 issue, and in summary, the nationality of the lead author of JSIS articles during the period 1991–2011 is roughly 35% from the Americas; 25% from the UK and Ireland; 20% from Continental Europe, and 20% from Asia–Pacific. There has been a pleasing trend in recent years of increasing submissions from non-native English speaking countries – something we would certainly encourage as the pertinence of the global nature of the phenomena we study continues to increase.

In addition to our concern for ‘things international’, JSIS has also attempted to be a front-runner in identifying new and emerging issues in the strategic information systems domain. Examples include special issues on such topics as knowledge management; enterprise systems; security and privacy; and sustainability, as can be seen from the following list.

March 1999  Information Technology in the Asia–Pacific: Implications of the financial Crisis (Editor: Chris Sauer)
September 2000  Knowledge Management and Knowledge Management Systems (Editor: Dorothy Leidner)
March 2002  Strategy and Policy in the New Digital Economy (Editors: Blake Ives, Emerson Tiller & Michael Vitale)
December 2002  Trust in the Digital Economy (Editors: V. Sambamurthy & Sirkka Jarvenpaa)
December 2003  The LEO Conference 2001: celebrating the 50th anniversary of the world’s first business computer (Editors: John Aris, Frank Land & Victor Maller)
July 2004  Strategic Information Systems in the Post-Net Era (Editors: Jatinder Gupta, Mohammed Quaddus & Bob Galliers)
December 2004  Understanding the Contextual Influences of Enterprise Systems Part I (Editors: Debra Howcroft, Sue Newell & Erica Wagner)
June 2005  Understanding the Contextual Influences of Enterprise Systems Part II (Editors: Debra Howcroft, Sue Newell & Erica Wagner)
September 2005  The Future is UNWIRED: Organizational and Strategic Perspectives (Editors: Akira Takeishi, Bertil Thorngren & Sirkka Jarvenpaa)
September 2007  Security and Privacy (Editors: Gurpreet Dhillon, James Backhouse & Amy Ray)
March 2011  The Greening of IT (Editors: Pierre Berthon & Brian Donnellan)
June 2011  Special section: Health Information Systems (Editor: Sue Newell)
September 2011  Strategic IS for Global Supply Chains (Editors: Angappa Gunasekaran & E.W.T. Ngai)
Forthcoming special issues or sections include *Information Systems Strategy as Practice: Micro Strategy and Strategizing*, reflecting the growing interest in relating research to practice (e.g., Johnson et al., 2003; Senn, 1998; Whittington, 2002, 2006). This special issue is being edited by Bob Galliers, Joe Peppard and Alan Thorogood. Another forthcoming special issue relates to *Service Management & Engineering: Aligning Business & IT Services* (editors: Guy Gable, Erwin Fielt, Axel Korthaus, Tilo Böhmann & Sue Conger), and a third considers *Managing Information and Knowledge in Inter-Organizational Networks* – a theme to which we will return in terms of the contents of this particular issue of *JSIS* (editors: Hannu Salmela, Albert Lederer, Vijay Sethi, Ton Spil & Sirkka Jarvenpaa).

In addition to these topics, during its first twenty years, *JSIS* has published articles on a wide range of topics from information systems and business strategies, to sourcing strategies, to policy and societal issues. Throughout, we have perceived strategic information systems, information systems strategy, and the strategic impacts of information technology in broad terms at unit, organizational, industry and societal levels. As noted by Guy Gable in his recent review of topics covered in the journal during the period 1991–2009, over 50% of the articles published have focused on the strategic use of IS (Gable, 2010). In this category, he included such topics as alignment, globalization, competitive advantage, e-commerce, enterprise systems, and knowledge management systems use. Over 30% of the articles published in this timeframe related to what he termed “strategies for IS issues”. Along with such topics as IS management and planning, this grouping covered additional issues, including the IS organization, implementation and evaluation. Our interpretation of the term SIS has therefore been encompassing: we have not simply followed the fashions associated with, for example, connecting SIS narrowly to deploying IT for short-term competitive advantage. In contrast we have embraced a more reflexive and critical standpoint, viewing the impacts of technology from an explorative as well as exploitative perspective (cf. March, 1991).

This broader interpretation is also manifested in articles published in *JSIS* that have had particular resonance in the academy. Below, we list the top five articles in descending order based on the average number of citations received per year since publication. The special issue on Knowledge Management and Knowledge Management Systems, edited by Dorothy Leidner in 2000, has clearly had particular impact, as has the Peppard and Ward work on IS capability, and the Pan and Leidner research on knowledge sharing across communities of practice.


Articles that had high impact in the early years of the journal included:
The latter two articles reflected on topical issues – Electronic Data Interchange (EDI) and Business Process Reengineering (BPR) – of key interest in the early to mid 1990s. But, what of the future? *JSIS* has not spurned the opportunity of including Viewpoint articles – somewhat polemic in nature – with a view to raising issues and topics that, in the view of the editors, pointed to new directions for our field. These have included, for example:

- Critiques of the business process reengineering movement (Earl, 1994; King, 1995; Land, 1996)
- An inquiry into the nature and limits of IS models and methods (Ciborra, 1998)
- A call for the IS field to expand its horizons and deal with complex issues confronting society, such as drug trafficking and cyber crime (Mumford, 1998)
- A call to integrate policy considerations into our strategic discourse (Jarvenpaa and Tiller, 1999)
- A critique of the rational engineering paradigm in systems development (Lanzarra, 1999)
- The introduction of the concept of ‘defensive intelligence’ – to go alongside competitive intelligence (Helms et al., 2000)
- Problems of knowledge sharing in organizations – introducing the concept of ‘communal resource’ (von Krogh, 2002)
- Unpacking the concept of ‘development’ and a proposed attendant IS research agenda (Walsham, 2005)
- The open source software phenomenon and its implications (von Krogh and Spaeth, 2007)
- The quality of group tacit knowledge (Erden et al., 2008)
- Individualistic and collectivist perspectives on knowledge in organizations (von Krogh, 2009)
- Global knowledge transparency (Leidner, 2010)
- Challenging design science in the context of reuse and joint development (von Krogh and Haefliger, 2010)
- A rallying cry for IS and civic engagement (Wastell and White, 2010)
It is in line with this proud tradition that we present this 20th anniversary special issue of *JSIS*. The aim of this issue is to provide reflections on the critical topics of strategic information systems, critiques of extant research, and a prospectus for our agenda moving forward. As may be expected given the above commentary, our authors are representative of the international nature of the phenomena and the topics we study, hailing from institutions in the US, UK, France, Germany, Hong Kong and Switzerland.

We begin with an article by Richard Nolan. His contribution is based on a rich case that provides an analysis of the development of the Boeing 787 aircraft and how it was enabled by a new approach to IT and digital capabilities. He notes that strategic information systems (SIS) in the traditional sense are, “becoming a thing of the past. IT is now everywhere”, while IT leadership is “nowhere”. By this, he means that the traditional manner in which SIS have been considered in the past, like the American Airlines Sabre reservation system for example, is no longer adequate. Rather, as illustrated by the Boeing case, the SIS concept has shifted from IT systems *per se* to a business architecture: ubiquitous IT enabling and facilitating the creation of bold corporate strategies, operations and networks that span outside the corporation proper.

Thus, Nolan makes the point that “the role of IT in corporations has shifted from supporting and being aligned with business strategies to being an integral part of business strategies. As shown in the Boeing case, strategic IT can’t be simply functionalized and positioned into the traditional twentieth century organization structures; IT now enables the emerging global network structures allowing breakthrough products for breakthrough economics.” The conclusion he draws is *not* the siren call of the likes of Nicholas Carr (2003): IT *does* matter, and it matters crucially – to corporate executives, business school leaders and IS researchers alike. There is a crucial need to understand this paradigm shift as we leverage the new technology capabilities, and formulate our research agendas and business school curricula moving forward. The shift in our thinking reinforces issues raised by Patrick Besson and Frantz Rowe – in the second paper of this special issue in which Besson and Rowe reflect on organizational transformation.

Besson and Rowe undertake a review of the literature on the topic, concluding that organizational transformation remains “still” a new frontier for strategic IS research since its inauguration about two decades ago. They identify ten salient avenues for future research in IS and organizational transformation on the basis of their review. These include conceptualizing the process of transformation; examining the construction and routinization phases; paying attention to all dimensions of socio-technical inertia; examining path dependencies; investigating governing agency; understanding the nature of risk; identifying a typology of organizational transformation causes of failure; using organization transformation theories as a basis for future studies; assessing inertia due to new digital architectures; and investigating the evolving role of governing agency in the design, implementation and monitoring of these digital architectures. They conclude with the following (italics added) call for action, indicating a future role for SIS-related research in this context:

> [If we consider that organizational transformation (OT)] is a process through which an organization (e.g., a system of routines) is re-aligned with its environment, one theoretical issue particularly needs to be explored. While it is recognized that this process of re-alignment is difficult and risky due to organizational inertia, *there is a bias in the general OT literature toward negative psychology inertia* (e.g., employees resistance mainly) and socio-cognitive inertia. *Socio-technical inertia and economic inertia are underestimated, if not overlooked*, in the general OT literature. *IS-enabled OT research should become a major contributor to rebalance the general OT theory towards a much more systemic, socio-technical and economical approach to the OT phenomenon.*

The third paper in this issue of *JSIS* is by Yasmin Merali, Thanos Papadopoulos and Tavnee Nadkarni. They, too, conduct a literature review, undertaking a meta-analysis based on a longitudinal review of SIS research over the past 30 years or so. As a result of their analysis, and “contrary to contemporaneous SIS literature, which suggests that a paradigm shift may be necessary to address the increased turbulence, uncertainty and dynamism in the emerging competitive landscape”, they conclude that SIS research “has the requisite adaptive capacity to evolve gracefully to address the challenges of the emerging networked competitive landscape”. So, here, we need to contrast the view expressed by Nolan, and Merali and colleagues. What draws the latter to their conclusion?

The authors identify five dimensions of change in SIS research over three decades: the dominant alignment challenge; the integration focus; emergent and/or adopted trends in the technology; the conceptualization of the strategic scope, and the scope of business model conceptualizations. They demonstrate how the field has evolved, and has extended its scope along these dimensions. For example, in terms of the integration focus, the scope has moved from internal alignment *within* the organization to integration within *global networks*. Similarly, in terms of participation, the movement has been from the engagement of *internal* stakeholders to engaging *external* stakeholders and society more generally. Similar trends are seen with respect to leveraging human, social, relational and intellectual capital *dynamically and across boundaries* from a focus on *internal* IT resource management. The SIS field’s “adaptive capacity” over successive decades is thus demonstrated and leads to their conclusion that a paradigm shift is not in fact necessary. The authors do, however, identify a future research agenda for SIS by drawing on complexity science and network theory. The authors’ four priority areas for future SIS research are identified as follows:

- The conceptualization of the SIS domain as a complex adaptive system for the co-evolution of physical and social technologies
- The adoption of the network paradigm for on-going research
- Access to a science of networks
The adoption of complexity science as an articulation device within SIS and across disciplines

This paper is followed by another thought-provoking contribution, this time by Georg von Krogh. His topic is the impact of social software on our conceptions and practice related to knowledge management. He notes that our past conception of knowledge management – at least in the mainstream literature – has often focused on processes of knowledge creation, sharing, and capture, as enabled by IS implementations. He makes the point, however, that such perceptions of knowledge management at the firm level are changing rapidly. While approaches to knowledge management have tended to include "centrally managed, proprietary knowledge repositories, often involving structured and controlled search and access", the advent of social software has had a marked impact on the topic, raising fundamental issues. Five key issues that form the basis for a revised program of research on knowledge management are:

- The choices and implications of social software for knowledge processes in organizations, and how these differ from those of traditional knowledge management
- The barriers and enablers to the adoption of knowledge management by social software in firms
- How firms ensure the value of knowledge when implementing knowledge management by social software
- How firms balance implementations of knowledge management, both in terms of more traditional systems and social software
- The consequences of knowledge management by social software for competitive advantage

The proposed research agenda, while focusing on knowledge creation, thus takes into account the impact of new technologies, such as social software. In addition, however, it raises key concerns with respect to the focus of SIS moving forward, and indeed, the explorative aspects of IS strategizing (cf. Galliers, 2007; 2011). As such, the paper links nicely to the fourth paper in this anniversary special issue, authored by John Ward. This is a personal retrospective that traces the evolution of the topic of IS strategy (ISS) from its emergence in the late 1970s to the current day.

Ward considers the nature and practice of ISS in organizations. He notes that ISS practice has been influenced by the interplay of a number of factors over time. Not only has there been the impact of new technologies, as noted by von Krogh, but the IS strategizing process has also had to contend with "the combined effects of economic cycles and an increasingly global business context" – effects that have been felt "both [by] the organizations themselves and the development of the IT industry". Given this context, Ward argues that, "the changing fortunes of the IT suppliers and their strategies are two of the most significant influences on organizations' ISSs". Noting that our research has tended to follow practice, he argues, along similar lines to the final article in this issue, that a more collaborative approach, involving both academics and practitioners, is required.

We, thus, bring this special issue to a close with a paper by colleagues in the German Business Information Systems Engineering (BISE) tradition – Hans Ulrich Buhl; Gilbert Fridgen; Wolfgang König; Maximilian Röglinger, and Christian Wagner. They pose the question, echoing Ward's concerns, "Where's the Competitive Advantage in Strategic Information Systems Research?" Arguing for the kind of collaborative, boundary spanning approach that characterizes the BISE tradition, the authors provide practical examples of the kind of academic-industry collaboration that is commonplace in the BISE community, and a set of recommendations for a re-orientation of our efforts as an academy to engage the practitioner community. In terms of the BISE experience, for example, citing Frank and colleagues (2008), they note that, "approximately 44% of the research assistants are funded by industry". They argue that this kind of funding support from industry sources enables BISE professors to employ 20–30 research assistants in some cases. Given the size of research teams such as this, not only does conducting multiple, simultaneous projects of current interest become possible, but they also enable the subsidy of projects that may be of future relevance to industry. Additionally, they note that BISE degree and doctoral programs, as well as post-doctoral research, are closely linked with industry partners, often with those partners also participating in curriculum design. In concluding, they argue that their recommendations "represent a long-term strategic realignment of the SIS research community. They require us to be open to new approaches, not only as authors, reviewers, editors, and members of committees, but also as active members of our economies". They warn that this is indeed a longer-term realignment: "incorporating a strong engagement with industry is not possible overnight".

There are arguments for and against such a tight alignment between academia and industry, of course, with some seeking to ensure that academic programs remain independent – not being developed at the whim of industry, or in line with particular interests. Notwithstanding, there is no doubting the influence of the BISE tradition in the German-speaking world, and, in line with the JSIS tradition, we present such viewpoint articles as food for thought, given concerns that are often expressed about the lack of influence of the academy on actual practice.

Thus, in this single issue, we have attempted to reflect on the nature of our subject matter through reviews of the literature, case examples, and practice-based research, and to provide a range of perspectives on the strategic agenda of information technology and information management. We have reflected on such topics as IS strategizing; organizational forms and networks; knowledge creation and innovation; university-industry collaboration, and the like – all in light of advances in our understanding of our subject matter, and of continuing developments in information and communication technologies.
This 20th anniversary issue closes an era but opens the gates to the third decade of JSIS. JSIS will continue to have the mission to advance strategic agendas of, and behaviors associated with, information and communication technologies and information management in ever increasing dynamic and high velocity environments. JSIS will continue to improve our understanding of IT strategizing as a practice with its own evolving knowledge bases. It will continue to push the envelope in understanding the role of IT in innovation and entrepreneurship. But even more importantly, JSIS will continue to expand the scope of issues to stay abreast as well as anticipate the emerging organizational and societal problems around the world requiring more integrative and transdisciplinary perspectives. While engaging in this endeavor, JSIS strives to be both reflective and prospective while remaining global and diverse. Just as JSIS set out on this adventure over 20 years ago, the journal will have continued to invigorate the conversations around the world on the strategic pertinent questions of information and communication technology, and management and research practice. We hope you join us enthused in moving our research agenda forward.

References


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