Managing Information Technology for Strategic Flexibility and Agility: Rethinking Conceptual Models, Architecture, Development, and Governance

John Mooney  
*Pepperdine University*

Cynthia Beath  
*University of Texas at Austin*

Guy Fitzgerald  
*Brunel University*

Jeanne Ross  
*Massachusetts Institute of Technology*

Peter Weill  
*Massachusetts Institute of Technology*

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Chair: John Mooney, Pepperdine University

Panelists: Cynthia Beath, University of Texas at Austin  
Guy Fitzgerald, Brunel University  
Jeanne Ross, Massachusetts Institute of Technology  
Peter Weill, Massachusetts Institute of Technology

Introduction

The concepts of strategic flexibility and strategic agility have received much attention recently as businesses face increasingly uncertain and competitive markets (Hitt et al. 1998; Sanchez 1997). However, for many firms, existing IT assets and capabilities pose a serious impediment to strategic agility. Some firms that have successfully implemented enterprise systems are now finding that these systems can be inflexible and difficult to change. Other recent work illustrates that specific choices about IT can enable or constrain a firm’s strategic abilities to respond to changes in the competitive marketplace (Sambamurthy 2000; Weill et al. 2002). If indeed strategic flexibility and agility have become critical imperatives for businesses, then a critical question for IS researchers and practitioners is what can be done to better position IT to enable strategic agility?

This panel session proposes to examine the implications of the strategic agility and flexibility imperatives for the IS discipline from four critical perspectives: conceptual models of IS and strategic enablement, IT architecture, IS development, and IT governance. Our rationale is that these comprise four key domains that impact IT use within business organizations, specifically how we think about the role of IT in business, how we design and manage core IT infrastructure and architecture, how new IS applications are developed and implemented, and the allocation of roles and responsibilities for managing IT resources and capabilities. The panelists will argue that significant rethinking and new insights are required to guide IS practice in satisfying the demands for business flexibility and agility, and that future research is needed to identify ways in which IT can be managed to provide these outcomes.

Panel Format

John Mooney, panel chair and moderator, will open the panel by providing the background on the emerging imperative for strategic flexibility and agility. He will argue that IS research and practice in areas such as strategic IT alignment, legacy IT systems, formal (i.e., inflexible) IS development processes, development backlogs, measures of and accountability for IS outcomes have resulted in IT systems that have constrained rather than enabled strategic agility. He will then introduce the panelists, and challenge them to (1) offer insights into how key IS and IT management practices might be changed in order to address the demands for business agility; and (2) identify the areas that IS researchers need to examine in order to facilitate these shifts in thinking and practice.

Jeanne Ross will argue that well-designed IT architecture can position firms for greater agility, as long as IT and business managers come to agreement on what kind of agility they wish to pursue (Weill et al. 2002). IT architecture is the organizing logic for infrastructure, applications, and data captured in policies and technical choices designed to achieve desired standardization and integration. Just as Upton (1995) found that manufacturing firms had to define the kind of flexibility they
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wanted, a given IT architecture provides degrees of agility. A firm designs for agility by clarifying what processes and data are core. The IT architecture captures the core, which becomes the engine for business innovation and agility. Although modular IT architectures are typically viewed as critical to strategic agility (Hagel and Seely Brown 2001), evidence at firms like ING Direct, UPS, DuPont, and USAA suggests that the core engine is the real key. Modular components merely enact the potential. How do firms become more agile? Jeanne will argue the most essential ingredient is for them to clarify what kind of strategic agility they want and to design an IT architecture that commits them to that vision, thereby simultaneously constraining and creating strategic opportunities.

Guy Fitzgerald will argue that traditional SDLC-oriented development methodologies are increasingly viewed as being too slow and cumbersome relative to the demands for strategic flexibility and organizational agility, and consequently IS development has become a bottleneck. Guy will argue that flexibility in IS development is a critical part of business flexibility and that, although there have been some improvements, these are by no means adequate. The concept of flexibility in IS development will be examined, and initiatives such as agile software development and flexibility analysis will be introduced, and a framework for ISD flexibility proposed.

Peter Weill will argue that new approaches to, and mechanisms for, IT governance must be part of the IT response to the strategic agility imperative. The traditional, control-oriented approach to IT governance generally acts—and is intended to act—as a constraint on flexibility. This approach is aimed at making certain that IT delivers what it promised, sometimes at the expense of what the organizations really needs, and can be particularly problematic in times of rapid change (Sambamurthy et al. 2003). Similarly, traditional IT governance mechanisms—steering committees, for example—can slow response time to the point that IT becomes the limiting factor in an organization’s ability to adapt. New approaches and mechanisms for IT governance are being developed, initially by organizations for whom agility is the most imperative. Peter will describe the new IT governance landscape and its importance in assuring that IT is an enabler, not a hindrance, to achieving strategic flexibility and agility.

Finally, Cynthia Beath will describe some conceptual frameworks and theories for thinking about, achieving, and evaluating the role of strategic factors, such as IT, in enabling and constraining strategic agility. For example, strategists argue that firms position themselves for timely response by being able to both sense the demands of their environments (Bradley and Nolan 1998; Haekel and Slywotzky 1999), and dynamically integrate existing competencies (Teece and Pisano 1994). Organization theorists suggest that for organizations facing uncertain environmental conditions, the ability to either decouple or loosen their linkages with external elements to moderate the impact of negative events can be highly desirable (Orton and Weick 1990; Weick 1982). Building on these concepts, some IT researchers have argued that IT capabilities can promote modularity (Mitchell and Zmud 1999) and strategic agility (Hagel 2002), others position IT as a critical element in a firm’s quest for strategic agility (Sambamurthy 2000), while others expose the contingencies underlying IT as an enabler of strategic agility (Weill et al. 2002). Reflecting upon these theories and conceptual frameworks, Cynthia will argue that IS researchers need to be more judicious in their application of these theories as they study whether or when IT can enable strategic agility.

The remaining 40 minutes will be used to engage in an open forum that will allow for exchange of ideas among the audience and the panel.

Participant Biographies

Cynthia Beath is a Professor of Information Systems at the Red McCombs School of Business at the University of Texas at Austin. Currently she is conducting research on effects of e-business initiatives on organizations, the management of software sourcing, and on the creation, utilization, and preservation of IT-client partnerships. Her research has been published in Information Systems Research, MIS Quarterly, Sloan Management Review, Decision Sciences and the Communications of the ACM. She is a senior editor emeritus for MIS Quarterly, senior editor for Information Systems Research and MIS Quarterly Executive, and an associate editor for Management Science.

Guy Fitzgerald is Professor of Information Systems at Brunel University and is Director of Research in the Department of IS and Computing. His research interests are concerned with the effective management and development of information systems. His publications have appeared in Communications of the ACM, Journal of Information Technology, European Journal of Information Systems, and Journal of Strategic Information Systems. He is founder and coeditor of Information Systems Journal from Blackwell Publishing.
John Mooney is an Associate Professor of Information Systems at the Graziadio School of Business and Management at Pepperdine University. His current research interests include the management of information technology resources and services, IT outsourcing, and eBusiness adoption. He is an associate editor of Communications of the AIS and eService Journal, a member of the editorial boards of MIS Quarterly Executive and Journal of Strategic Information Systems, and is the cochair of the ICIS 2003 Doctoral Consortium.

Jeanne Ross is Principal Research Scientist at MIT’s Center for Information Systems Research (CISR). Her research focuses on the relationship between IT architecture and governance with business strategy. Her work has appeared in Sloan Management Review, Harvard Business Review, Journal of Management Information Systems, MIS Quarterly, and MIS Quarterly Executive. She is a former associate editor of MIS Quarterly and serves as a founding senior editor of MISQ Executive.

Peter Weill is Director of the Center for Information Systems Research and Senior Research Scientist at the MIT Sloan School of Management. His research centers on the role, value and governance of information technology in enterprises. Before joining CISR, Peter was Foundation Professor and Chair of Management (Information Systems) and the Director of the Center for Management of Information Technology the Melbourne Business School. Peter has coauthored numerous books and articles, and will have a new book on effective IT governance, coauthored with Jeanne Ross, coming out in early 2004.

Bibliography


