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A PROCESS APPROACH FOR UNDERSTANDING STRATEGIC ENTERPRISE SYSTEM IMPLEMENTATION DECISIONS

A thesis presented in partial fulfillment of the
requirements for the degree of

DOCTOR OF PHILOSOPHY
in Information Systems
at Massey University, Albany campus, New Zealand

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2004

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A PROCESS APPROACH FOR UNDERSTANDING STRATEGIC ENTERPRISE SYSTEM IMPLEMENTATION DECISIONS

ABSTRACT

Enterprise system (ES) implementation involves large investment of resources for a long period of time before business benefits can be realized, meaning the choice of system is one of the most critical decisions an organization makes. However, a right choice does not guarantee a successful working system because ES implementation is a complex and a dynamic process that involves a mix of technological and organizational decisions. These decisions cannot be structured and need to be revised and reformulated with the pace of implementation. As a result, the understanding of these decisions cannot be separated from the understanding of the implementation process.

A review of the IS literature suggests that the dominant stream of strategic decision-making (SDM) research follows a strategy formulation approach, while research into implementation of strategic IT decisions receives little attention. To fill this gap, this study takes the latter approach both to understand 15 key ES implementation decisions, and to establish a model for facilitating ES implementation that has both a theoretical and a practical significance.

Using the multiple theoretical perspectives of SDM models and through two case studies of ES implementation, qualitative data on the SDM process pertaining to the 15 decisions was gathered to inductively develop a model of the ES implementation process as it unfolded over time. The SDM model reveals ES implementation as a four-phase process: (1) preparation, (2) design, (3) configuration, and (4) realization. For each phase of the model, key activities pertaining to the decision process for these 15 decisions that enabled implementation to move forward are described.

Key words: Enterprise system (ES), enterprise resource planning (ERP), strategic decision-making (SDM), decisions models, process approach, case studies.

ACKNOWLEDGEMENTS

This section pays tribute to the many individuals and organizations that contributed to both research and support activities that made this study possible. Firstly, I would like to thank both of the two organizations featured in this study, and the other three organizations that assisted with the pilot case studies, for their generosity in devoting the time to describe their experiences and respond to many questions in the process. To protect their anonymity, their details cannot be disclosed.

Acknowledgements also go to the organizations that provided valuable input for an exploratory study of ES implementation practice that was part of this research. These included Baan (E-Enterprise Software Ltd), Cap Gemini Ernst & Young NZ, Gartner Ltd, Compaq NZ, Intentia NZ Ltd, Ernst & Young NZ, IDC NZ, J. D. Edwards NZ, KPMG Consulting NZ, Navision NZ, PricewaterhouseCoopers NZ, Oracle NZ, PeopleSoft NZ, and SAP NZ Ltd.

I was privileged to have the support of many people during this long and difficult journey. I would like to thank my supervisors, Dr Dennis Viehland, Dr Liaquat Hossain, and Dr Scott Overmyer for their guidance and support. I am indebted to Dennis for his commitment, constant encouragement, and prompt feedback on successive drafts of thesis chapters. I am grateful to Liaquat for believing in me, his ambitious ideas, and maintaining his supervisory duties despite his moving overseas. Scott, with his extensive practice experience, provided sound advice for the exploratory investigation of ERP implementation practice in NZ.

I would also like to acknowledge the support of Professor Robert McKibbin, Head of Institute, for always leaving his door open to listen, discuss, and help solve many problems along the way. Gratitude also goes to Mrs Lorri O'Brien who ensured that no computer problem took more than a day to be resolved. Thanks to Mrs Merrill Bowers who always took the initiative to get in touch with the isolated community of PhD students. My appreciation is extended to Collen O'Brien, the supervisor of the Massey University Childcare Center for her wisdom, understanding, and cooperation, which gave me the peace of mind, knowing that my pre-school son was always well cared for.

Profound thanks to Dr Ellen Rose who despite her heavy work commitments agreed to both review the final draft of the thesis and provide comprehensive feedback. Many other colleagues have contributed their feedback and ideas. In particular, I would like to thank Janette Hamilton-Pearce, Nitha Palakshappa, and Joy Oehlers of Massey University, Dr David Sandaram, Dr Cathy Urquhart, Bill English, and Moses J. C. Lee of The University of Auckland, Henrik Agndal from Jönköping International Business School, and Walter Fernandez of Queensland University of Technology. Colleagues at the University of Auckland also kept me abreast of ES research in New Zealand through the enterprise system and supply chain management (ESSCM) forums they organized over the past three years. Dr Jay Sankaran and Dr David Robb chaired this forum during this period.

I would like to acknowledge the value of the Massey University doctoral scholarship, which provided me with the financial support I needed during this research project.

Finally, deep appreciation goes to my family, my mother, my husband, and my three children for their patience and constant support. This thesis is dedicated to them.

PUBLICATIONS

The publications that have been generated from this project so far are:

Hossain, L. and Shakir, M. "Stakeholder Involvement Framework for Understanding the Decision Making Process of ERP Selection," *Journal of Decision Systems: Special Issue on ERP and its Impact on Decision Making* (10:1), 2001, pp. 11-27.

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Shakir, M. "Book Review: Technology Acquisition: Buying the Future of Your Business," *ACM SIGSOFT Software Engineering Notes* (27:2), 2002, pp. 73-74.

Shakir, M. "The Selection of Case Studies: Strategies and their Applications to IS implementation Cases Studies," *Research Letters in Information and Mathematical Science* (3:1), 2002, pp. 191-198.

Shakir, M. "Current issues of ERP implementations in New Zealand," *Research Letters in Information and Mathematical Science* (4:1), 2003, pp. 151-172.

Shakir, M. and Hossain, L. "A Study of the ERP Selection Process in New Zealand," In *Enterprise Resource Planning: Global Opportunities and Challenges*, L. Hossain, J. D. Patrick and M. A. Rashid (Ed.), Idea Group Publishing, 2002, pp. 223-244.

Shakir, M. and Hossain, L. "A Study of the ERP Selection Process in New Zealand," In *Enterprise Resource Planning: Solutions and Management*, F. F.-H. Nah (Ed.), IRM Press, Hershey, PA, 2002, pp. 221-242.

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