Chapter 3

Information Systems for Organizational Effectiveness Model: A Rationale Alignment

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ABSTRACT

Despite the proposal of various Information Systems (IS) evaluation models and approaches, IS evaluation has never been straightforward. There are issues and challenges in proving the business value of IS. Adding to the difficulty, a vast number of measures have been employed conveniently for evaluation purposes without going through a rigorous validation process. Recognising the complexity for IS researchers, IS specialists, and business managers to agree on a common model for the evaluation of IS business value, this chapter presents an empirically validated IS evaluation model, the IS for organisational effectiveness (ISOE) model, for planning, designing, implementing, and appraising IS. There also emerges a new theory, the Information System business value (ISBV) theory, from the ISOE model to establish that IS business value is multifaceted and are observable in the form of improvements in organisational effectiveness.

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INTRODUCTION

When organisations spend more on information systems (IS), it becomes more critical to keep track of investment returns. The significant amount of resources required for such investments prompts organisations to be careful with their IS spending. To justify an increase in IS spending and understand utilisation of limited organisational resources on IS, the correlation between IS and business performance has been of great interest to business managers. They are keen to find out how, and to what extent, IS performs to deliver the intended benefits (Klecun & Cornford, 2005). However, conflicting findings on the business value of IS reported in past studies have not helped solve the problem which has been bothering IS researchers, IS specialists, and business managers for years.  

Lederer and Mirani (1995) reckon that an understanding of IS benefits is critical to effective IS planning as this helps business managers and IS specialists to align their interests and perspectives with a common set of expected benefits in new IS projects. Business managers, who share their experiences in using IS, can help IS specialists to propose and design IS that meet business priorities and requirements. Tillquist and Rodgers (2005) add that if business managers are not clear about how and what IT does to contribute value to organisations, they would not be able to make the right IT investment decision. Love et al. (2004) suggest that the ability to prescribe what benefits are to be expected in an IS investment helps organisations make better investment decisions. 

As businesses spend more on IS, the issue of IS business value becomes more prevalent. However, IS researchers, IS specialists, and business managers still have not agreed on a single IS evaluation method, although cost-benefit analysis seems to be favoured. The decision as to which evaluation method is more appropriate in a particular situation is largely context dependent. Evaluators commonly face a difficult situation in choosing the right method for a particular context. Bernroider and Koch (2002) highlight that an evaluation model is particularly critical for business managers who are trying to reduce uncertainty when making a major IS investment decision. Gunasekaran et al. (2006) propose that a comprehensive, integrated IT evaluation approach is needed to better justify IT investments.

Performing an IS evaluation is not a simple task. Marthandan and Tang (2010) identify eight IS evaluation issues and challenges: evaluation scope, evaluation timing, unit of analysis, level of analysis, different perspectives, different dimensions, different measures, and underpinning theoretical frameworks. Cronk and Fitzgerald (2002) describe IS evaluation as complex, context-based, and multidimensional. Stefanou (2001) highlights that there is a need for a multidimensional and multi-perspective evaluation approach which includes both quantitative and qualitative perceived costs and benefits.

Having understood the need for business managers to have an IS evaluation model for either investment decision-making or post-implementation evaluation purposes, this chapter presents an empirically validated IS evaluation model—the IS for organisational effectiveness (ISOE) model (Marthandan & Tang, 2009; Tang & Marthandan, 2011). Using the balanced scorecard (BSC) as the underpinning framework, the ISOE model examines the role of IS on organisational effectiveness. The model suggests that when business managers are able to distinguish the various dimensions of organisational effectiveness and detect positive improvements that are enabled by IS within the individual dimensions of organisational effectiveness, the business value of IS will be evident.

Organisations can use the ISOE model to study business requirements before deciding on the systems specification. The model specifies the intended business benefits as the criteria IS specialists and business managers should pay attention to when designing a system, helping to align business and IT strategies. Organisations can also use the model to do post implementation
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