Applying the FAP Model to the Evaluation of Strategic Information Technology Projects

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ABSTRACT

Over the past two decades, we have seen a growth in enterprise resource planning (ERP) systems adoption by organisations. Even with the many benefits offered by such systems, there have also been many failures. One of the important reasons for these failures is inappropriate project evaluation and selection. In order to reduce the level of project failures, we introduce an innovative methodology, the Financial Appraisal Profile (FAP) model, which seeks to address some of the issues and limitations posed by standard appraisal and evaluation approaches for strategic technologies and programs. By making the right decision in the first place and involving senior managers in the appraisal process, the organisation will be better placed to achieve project success. The adoption of a management team approach to investment appraisals will not only enhance the information base, but will also result in greater managerial commitment to a project. We believe by adopting the FAP model, greater awareness to strategic issues and goals will also be achieved, which should lead to a more focused top management team — with all members pulling in the same direction.

Keywords: enterprise resource planning; investment appraisal; strategic information technology; technology management

INTRODUCTION

Manufacturing Resource Planning (MRPII) systems are systems that coordinate resource planning with shop-floor control, inventory, and other aspects of material management. Even as these systems proliferated in businesses in the last two decades and improved operational planning and decision making, managers began to realise that information needs to be integrated across the supply chain and across functions. Thus, over the last two decades, we have seen growth and adoption of Enterprise Resource Planning (ERP) systems. The benefits of such an integrative system are especially likely to be felt by companies with a global outreach and with many business units, causing Fortune 100 firms to invest heavily in these systems with the
goal of gaining or maintaining strategic advantages. The market has also started to shift to medium- and small-sized organisations. Even though there has been a stabilisation of the ERP market since the bursting of the Internet bubble, the ERP market within the manufacturing sector is forecasted to rebound through the next few years and grow from $8.9 billion in 2002 to $11.9 billion by 2007 (ARC, 2003). The market for non-manufacturing, service, and government agencies for these types of systems also represents significant opportunities for growth and investment.

These systems are expensive, with prices ranging from tens of thousands to millions of dollars per implementation (Sarkis & Sundarraj, 2000). A survey of 63 companies with annual revenues ranging from $12 million to $63 billion indicated that the average implementation cost was $10.6 million and took 23 months to complete (Umble & Umble, 2002). Thus, the budgetary pressures on organisations are great when seeking to invest in these technologies. With the many benefits of ERP, there have also been significant failures (Barker & Frolik, 2003; Brown, 2001; Steadman, 1999). Reasons for failure are manifold, with one of the more important reasons including poor planning and inappropriate selection of vendor and system (Umble & Umble, 2002). Thus, an appropriate approach to appraisal of these systems overall and specific selection should be a strategic exercise involving multiple levels and functions within the organisation. The strategic justification problem is very much relevant, considering the short- and long-term sustainability of the organisation may be put in jeopardy with inappropriate and detailed evaluation of these systems.

In this article, we expand upon an innovative methodology that seeks to address some of the issues and limitations posed by standard appraisal and evaluation approaches for strategic technologies and programs. The procedure and models are meant to help integrate the organisations’ disperse decision vectors and influences such that an appropriate (if not an optimum) solution is determined. We begin this article by first providing some additional background on ERP systems, what they are and their influences, and the various factors that need to be considered in their evaluation. We then provide a brief review of various appraisal techniques, traditional and more advanced, that can prove useful in their evaluation. The following section provides an overview of a technique that we call the Financial Appraisal Profile (FAP) approach (Lefley, 1997, 2000, 2004; Lefley & Morgan, 1998). Although the FAP model was designed as a general application model for the appraisal of capital investments, the approach is equally applicable to specific projects such as ERP and strategic information technology, where the risk and strategic and new dimensions of the FAP model can be focused on those issues specific to such systems and technologies. An illustrative example provides some insights into the application. We then summarise the article, identifying various issues that may arise with the technique, with managerial implications clearly defined.

**ENTERPRISE RESOURCE PLANNING SYSTEMS**

The definition of ERP systems may vary depending on the source and description. One characteristic that defines these systems is their cross-functionality across the organisation. Typically, these systems have modular characteristics, where vari-
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