Chapter 8

Collaborative Planning of ERP Implementation:
A Design Science Approach

Babak Sohrabi
University of Tehran, Iran

Iman Raeesi Vanani
University of Tehran, Iran

ABSTRACT

Enterprise Resource Planning (ERP) is the process of optimizing the performance of enterprise business processes through the utilization of integrated IT-based solutions. Such systems are mostly based on best practices gained through years of software analysis, design and deployment in the competitive markets. Planning for enterprise-wide system implementation requires all of the stakeholders to integrate views on considering strategic approaches toward a unified vision on how to develop and improve the collaborative ERP implementation planning process. This paper develops a framework which critically evaluates the final implementation plan based on considerations taken in design science methodology. Using the guidelines provided in this methodology, managers gain the capability of evaluating the overall artifact of planning in the total value system, and also gain the ability to measure the progress of ERP implementation plan based on the provided indicators.

INTRODUCTION

IT and IS have experienced dramatic changes in the last few decades. Their major role in business has shifted from tools to support "back-office" operations to an integrated part of business strategies and the maintenance of core competencies (Buzzell & Gale, 1987). As companies pursued larger market share, a number of growth strategies—such as horizontal integration, vertical integration, diversification, franchises, mergers and acquisitions, and joint ventures—were developed. Strategic management now encompasses corporate strategy, functional business strategy, information strategy, and IT strategy (Tang & Walters, 2006).

A more comprehensive way of conceptualizing the interplay of IT software and infrastructure and strategic management is needed. How will

emerging IT, such as cloud computing, Web services, BPM and SOA, change strategic dynamics of organizations? Those questions need to be addressed by both IS and strategic management researchers. Clearly, the intersection of IT and strategy is ripe for research (Tang & Walters, 2006). This paper attempts to bring the major concerns of future ERP planning projects to front and arrange the strategic planning requirements of enterprise information systems according to the methodology of design science guidelines, a method concentrating on finding practical solutions to current and future problems.

Although introducing Enterprise Resource Planning (ERP) to an organization has enormous benefits, it may entail new hazardous challenges if it cannot be well managed (Zarei & Naeli, 2010). The implementation of Enterprise Recourse Planning systems has also grown rapidly, but limited research has been conducted to investigate the utilization of ERP systems (Mouakket, 2010). Enterprise resource planning systems are widely implemented as the backbone of many manufacturing and service firms. They are designed to address the problem of information fragmentation or "islands of information" in business organizations (Muscatello, Small, & Chen, 2003). A typical ERP system integrates all of a company's functions by allowing the modules to share and transfer information freely (Hicks & Stecke, 1995; Chen, 2001; Muscatello & Chen, 2008).

ERP systems offer tremendous opportunities to more consistently provide information to organizations in a standardized, centralized, and cost efficient manner (Olson, Chae, & Sheu, 2005). Many industry reports extol the virtues of ERP and its multiple benefits for those firms that can successfully implement these systems. One of the primary objectives for installing ERP is the ability to integrate business processes (Brakely, 1999; Davenport, 1998, 2000). ERP has also been found to be effective in reducing inventory costs, improving efficiency, and increasing profitability (Appleton, 1997; Brakely, 1999). In

addition, ERP has been credited with reducing manufacturing lead times (Davenport & Brooks, 2004; Goodpasture, 1995;; Muscatello & Chen, 2008). There are also many highlights of factors that can improve ERP implementations such as large resource commitment to the project, adoption of corporate standards that promote process harmonization, making hard yet important decisions that are irreversible, and top management support which are all of importance in implementing ERP systems (Sankar, 2010). Such factors should be taken into account when designing the approach of collaborating on ERP implementation planning.

Implementation of an ERP does not come without significant technical and managerial challenges, huge financial investments, and a great deal of organizational change (Muscatello & Chen, 2008). ERP also has the reputation of being notoriously over-sold and under-delivered (Millman, 2004). A considerable number of projects have been reported to fail or take longer than it was initially planned, while previous studies show that the aim of rapid implementation of such projects has not been successful and the failure of the fundamental goals in these projects have imposed huge amounts of costs on investors (Hanafizadeh et al., 2010). There are also many papers which discuss the importance of considering the market targeting, qualitative training, stakeholder participation, e-business relationships, and web-enablement of ERP systems in the implementation planning efforts (Acuña et al., 2010; Alwabel et al., 2006; Argyropoulou et al., 2009; Boonstra, 2009; Bradley & Lee, 2007; Jakupovic et al., 2010). Motives of adopters of ERP systems have focused primarily on revolutionizing transaction handling by improving business processes and integrating operations and data. The current generation of ERP packages holds the promise of improving online analytical capabilities to enhance the organization's business intelligence as well (Kamhawi, 2008). A capability which requires new and high-performing technologies

Related Content

An Analytical Model to Measure IS-Enabled Organizational Effectiveness

Chun Meng Tangand Govindan Marthandan (2011). *International Journal of Enterprise Information Systems (pp. 50-65).*

www.irma-international.org/article/analytical-model-measure-enabled-organizational/53844

Continuous Database Availability

Drazena Tomicand Brano Markic (2010). *Always-On Enterprise Information Systems for Business Continuance: Technologies for Reliable and Scalable Operations (pp. 129-148).*

www.irma-international.org/chapter/continuous-database-availability/36595

E-Commerce Security Research in Big Data Environment

Mei Zhang, Huan Liuand Jinghua Wen (2018). *International Journal of Enterprise Information Systems (pp. 63-76).*

www.irma-international.org/article/e-commerce-security-research-in-big-data-environment/198430

Valuing Learning Objects Shared in an Online Community

Jacqueline Guzmán, Regina Motzand Alberto Rodrigues da Silva (2014). *Handbook of Research on Enterprise 2.0: Technological, Social, and Organizational Dimensions (pp. 529-549).*

www.irma-international.org/chapter/valuing-learning-objects-shared-in-an-online-community/81125

A Fast-Moving Consumer Goods Company and Business Intelligence Strategy Development

Paul Hawkingand Carmine Sellitto (2017). *International Journal of Enterprise Information Systems (pp. 22-33).*

www.irma-international.org/article/a-fast-moving-consumer-goods-company-and-business-intelligence-strategy-development/182431