Chapter 8

Architecting Enterprises for IT-Enabled Value Creation

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ABSTRACT

In spite of rapid strides in evolving architecture processes that can help enterprises leverage IT for creating value, shortcomings are widely perceived. In this paper, the author discusses four points beginning with structuring the enterprise, partitioning enterprise capabilities, standardized core and support functions, and the internal and external relations contain the complexity of architecture initiatives and prioritize value-enhancing changes. Next, business value and its measurement is discussed. Although value is ultimately economic, it is difficult to measure. The author proposes an enhanced version of the standardized and functionally-partitioned Level 1 Performance Measures proposed by the Supply Chain Council. Maximizing returns from IT assets is then examined, with globalization increasing the complexities of scale and scope, the major benefits from IT are increasingly in deploying science to automate enterprise planning. Lastly, architecting for value, IT enabled Part II is addressed. A subsequent paper will study the application through a case study and share recommendations for IT services vendors.

INTRODUCTION

Malcolm Baldridge (1998) surveyed Chief Executive Officers from top US companies on the challenges in creating value for themselves and their customers. Two of the top four challenges were linked to globalization and its direct consequences. This globalization has accentuated the complexities of scale in a hyper-competitive economy (Brynjolfsson et al., 2008; McAfee, 2008). While IT has widely been perceived to be a panacea and innovative capability to address this challenge, its real results are unsatisfactory. Thinking orthogonally, some enterprises attempt to survive in this environment, by diversifying and banking on IT to address the opportunities.
of scope (Dewan et al., 1998; Hernaus, 2008), but many get “stuck in the middle” (Tallon, 2007).

A situation has emerged where both business executives and IT practitioners are seriously seeking answers to how IT may be used to create value (Carr, 2005; Sessions, 2007). In a global study of 659 CEOs by the London School of Economics, only 25% expressed satisfaction with the performance of their IT investments (Tallon et al., 2000). Ironically, US executives continue to invest in IT in the face of evidence about declining productivity (PricewaterhouseCoopers, 2008). Examples are cited of FoxMeyer’s ERP-driven bankruptcy (Davenport, 1998) and market cap leader CISCO’s downslide (IE, 2000; Kraemer & Dedrick, 2002) notwithstanding its sophisticated and well-architected IT. Barua et al. (2010) have summarized several facets of this current status, literature and viewpoints, focusing on value generated from IT investments (Figure 1).

However, there is great hope that IT does and will continue to create value (OECD, 2003; PricewaterhouseCoopers; 2008; Kohli & Devaraj, 2004; etc.), though the conversion of IT capabilities and assets needs attention to ensure results. Grauer et al. (2010) have proposed a framework that dwells at the IT level for the integration and interoperability of manufacturing enterprises that are being subjected to the uncertainties of globalization. The model addresses flexibility and adaptability of the supply chain, a crucial part but not the complete value chain. Typical more recent research (e.g., Lange & Mendling, 2011) also admit that there is a gap in relating theory and practice in the realization of enterprise architecture (EA) goals, in spite of the ‘goals’ being largely those relevant for CIOs and not CEOs. Similarly, Stenzel (2010) also focuses on the alignment and synergy between IT and enterprise strategies, but again from more a CIO’s rather than the entire organizational perspective that we address here.

The very recent work on architecture effectiveness model (van Steenbergen, 2011) relates EA practice through its results to organizational performance and finally to the ultimate “business goals” that are not always restricted to financial goals. She applies design-science research to design the model that we hope will be enhanced by the approach suggested in Part II of this work.

We contribute from four perspectives to this research on how to create business value, especially from IT. They cover the purpose; goal-directed processes that use partitioning to overcome the complexities of scale of large, increasingly globalized enterprises; and a matching standardized performance measurement methodology. IT assets

Figure 1. CISCO’s value was not shored up by its IT (Google Finance)
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