

Chapter 12

Institutionalisation of the Enterprise Architecture: The Actor–Network Perspective

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ABSTRACT

Despite impressive technical advances in tools and methodologies and the organizational insights provided by many years of academic and business research, the underperformance of Information Technology (IT) remains. In the past and even today, organizations experience difficulty in managing technology, changing from system to system, implementing new technology, maintaining compatibility with existing technologies, and changing from one business process to another. These challenges impact significantly on business performance and will continue to do so if not addressed. As a result, many organizations have deployed Enterprise Architecture (EA) in an attempt to address these challenges. However, the design and development of EA has proven to be easier than its institutionalization. The study explored the development and implementation of EA to determine the factors, which influences the institutionalization. Two case studies were conducted and Actor-Network Theory (ANT) was employed in the analysis of the data.

INTRODUCTION

Over the years, there have been efforts to improve information technology (IT) operations, most critically, its relationship with the business and its role in the vision and strategy of the organization (Radeke, 2010). This has led to improvement in the processes and activities in the computing environment of many organizations. According to Kang et al. (2009, p. 3275), using an Enterprise

Architecture (EA), enterprises can manage strategies, flexible processes, and supportive resources systematically and can maintain their relations such as: relations between business strategies and execution processes, relations between execution processes and supportive enterprise resources, and so on. Despite these efforts, some organizations still find it difficult to realize the full potential of their IT investments and others are considered woeful. Unfortunately, none of these efforts seem to have solved the problems of how to ensure that

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the organization's goals are properly met, and that the best value is achieved from investments in new information technology infrastructure (Kilpeläinen, 2007).

EA is a technical mechanism which defines the role of the business, information, technical and application architectures that best enable the business needs of the enterprise, and it provides the migration plan which moves the enterprise from the current to the future architecture. This definition is provided to guide the study. This definition is buttressed by many studies such as Harmon (2009) who argued that architecture is becoming the prime representation of the enterprise. It is being used more and more as the basis for determining enhancement requirements and rationalizing investments in capability development.

In the last decade, EA has become a popular topic of debate and discussion in recent years, primarily in the IT industry but also elsewhere (Ross et al., 2006). Despite the interest, it is very difficult to find an organization that has successfully designed, developed, implemented and institutionalized the EA concept. In some organizations, EA has been well developed as a blueprint but was never implemented (Armour, et al., 2007), while other organizations experienced challenges during implementation (Iyamu, 2010). In a similar study, Zachman (1987, p. 281) points out that "Many organizations face complex and unwieldy challenges in assessing and articulating the components required in the implementation of EA in their organizations". Institutionalization of EA has not been a smooth process. This is attributed to the importance attached to the subject.

In this study, institutionalization is the process where a practice is assimilated into the norm. It is not easily disassociated, dismantled or re-designed. Callon (1991) refers to institutionalization as the degree of irreversibility, which depends on

1. The extent to which it is subsequently impossible to go back to a point where that translation was only one amongst others, and

2. The extent to which it shapes and determines subsequent translations.

The general expectation is that the EA is a promising means of reducing the development cycle time and cost, thus improving quality, and leveraging existing efforts by constructing and applying multi-use and reuse of assets such as patterns, components, and frameworks. The study explored whether, in practice, there is conspiracy which makes EA difficult to be delivered more successfully than one is led to believe by debates and discussions (Yin, 2003).

As such, the problematisation, development and implementation of the EA are critical to the success or failure of its institutionalization. The non-technical factors such as people and policy are critical in the development, implementation and practice of the EA in the organisations. The enrolment of employees in the implementation of the EA primarily dictates its competitive advantage particularly in large organizations. EA is fundamental to processes and activities in the computing environment, this including selection of technologies and modelling of business patterns. Some of the challenges in the deployment of the EA include skill-set. According to Burke (2007), not everyone is an architect. Other challenges include the lack of alignment between IT and Business.

The study adopted a case study, qualitative research method and employed Actor Network Theory (ANT) in the analysis of the data.

RESEARCH APPROACH

Two organizations, a financial institution and a government institution, were selected on the basis that each provides a good example of an organization subject to change, and each provides some evidence of success and failure of institutionalization of EA.

The financial institution is referred to as "Company A" and "Company B" the government

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