Chapter 9

Enterprise Architecture for Business Objectives: Understanding the Influencing Factors

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ABSTRACT

The demand for better services by customers and citizens keeps increasing at a rapid rate, enabling organizations the leverage towards competitive advantage. The enterprise architecture (EA) has merged as a possible solution for addressing organizational challenges, as well as for competitiveness and sustainability. The EA deployment involves agents, which are both human and non-human. The agents, based on their interest, influences and determines how the EA is deployed. During the deployment of EA, agents transform themselves in accordance to their interest at the time and space, making the process challenging in achieving the organizational needs. As examined and presented by this chapter, understanding of agents’ interests is significant if the challenges that they pose are to be managed for successful deployment of EA. The chapter presents the impact of agents on the deployment of EA in organizations, through the lens of structuration theory.

1. INTRODUCTION

Many organizations, including government agencies, have realized the significance of the EA. There is a growing interest in organizations to adopt the EA, to assist mitigating the challenges of constant and complex changes (Strohmaier & Deng, 2006). Some of the factors that pose challenges to competitive advantage of organizations are adaptiveness, uniformity and scalability. EA is a tool that enhances the organization in terms of the objectives pursued at the time. This is argued to be done through its capability to improve the business processes, applications, data and infrastructure through standardization (Van de Raadt & Vliet, 2008).

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The EA consists of different domains, which include business, information, application, technology, infrastructure and service oriented architecture. According to Iyamu (2010), the focus and deliverables of the EA domains manifests in the relationship and connectivity among the domains during the implementation phase of the EA. Thus, the completion of each domain contributes towards the success of developing and implementing the EA in the organization. However, organizations continue to fail to define the individual domains and their connectivity, thereby increasing complexity in the deployment of EA (Glissmann & Sanz, 2011).

Each of the domains of EA has its distinct roles and boundaries. According to Hafner and Winter (2008), the business architecture represents the enterprise model, which includes service exchanges and financial flows in value networks and strategies. The domain of information architecture covers data and information of all types, and their usage, interrelationships and demographics, as well as their definitions, ownership, distribution, and composition (Iyer & Gottlieb, 2004). The application domain provides a foundation and guidance to the organization, on how to develop and implement application for business competitive advantage (Pereira & Sousa, 2004). According to Pulkkinen (2006), the “Technical dimension covers the technologies and technological structures used to build the information and communication systems in the enterprise”.

EA is developed and implemented sequentially, in accordance to the domains: from business to technical architectures. This is to enable logical flow and manage the dependence of the domains. During the development and implementation interactions happen among technical and non-technical agents (factors). Some of the factors include people, process and technology. According to Wang and Zhao (2004), the development of the EA means adopting approaches that incorporate the people, processes, business and technology to achieve the organizational goals and objectives. The interaction that takes place during development and implementation makes the processes and technologies to be understood and interpreted differently by individuals and groups. This is often to assert individual power. Iyamu (2009) argued that during the implementation, power is exercised to protect individual’s interests, which shapes the outcome of information technology strategies in the organization.

The primary aim of the chapter was to understand the impact of social dynamics as embedded into organizational structure, on the deployment of the EA in organizations. Based on this goal, interpretive case study was employed, and structuration theory (ST) was selected as the theory that underpinned the chapter.

Structuration theory involves and focuses on processes and interactions that take place between actors and structural features within social context. The key tenets of structuration theory are agent (or agency) and structure. Agents are both technical and non-technical. To be categorized as an agent, individuals or technical artifacts need to have the capability to make a difference (Giddens, 1984).

2. ENTERPRISE ARCHITECTURE

The scope of enterprise architecture (EA) includes various domains such as information, business, and technical within an organization. The domains constitute both technical and non-technical artifacts, such as people, process and technology. The scope of EA emphasizes processes, people, information and technology, and their relationship (Orlikowski, 1992). The EA is intended for various objectives, such as transformation, from one organization to another. As organization transform, both human and non-human agents also transform. According to Aier and Weiss (2002), the Enterprise Architecture Management is intended to