

Chapter 9

Theoretical Analysis of Strategic Implementation of Enterprise Architecture

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ABSTRACT

In the past and present, organizations experience difficulty in managing information, technology, changing from system to system, implementing new technology, maintaining compatibility with existing technologies, and changing from one business process to another. It is thought that these challenges could be prohibitive to the organization, and in this regard, many organizations deploy Enterprise Architecture (EA) in an attempt to manage the situations. The deployment of EA does not go without its challenges from development to implementation. This study focuses on the implementation of EA by using two case studies. The case studies are theoretically analysed from the perspective of Actor-Network Theory (ANT) to gain better understanding of the socio-technical influence in the implementation of EA in the organisations. This was done by following the negotiation process that took place among the actors, both humans and non humans.

INTRODUCTION

From the perspective of computing, Enterprise Architecture (EA) is a paradigm, which promises to address and reduce the challenges currently encountered by both business and technology (Kappelman, 2002). The development and implementation of EA has impact on the entire organisation that deploys it. This could be attributed to its intention to enable the organisation in addressing

and achieving the balance between Business efficiency and IT innovation. Despite some constraints, EA has the potential to solve problems of imbalance during transition and implementation (Zachman, 1996). EA allows the organisation to directly, or through its individual business units, to innovate safely in their pursuit of competitive advantage. At the same time, it assures the needs of the organization for an integrated IT strategy, permitting the closest possible synergy across the extended enterprise (Spewak, 1992).

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There is no unique approach for developing EA (Zachman, 1996; Cook, 1996). Irrespective of the development approach adopted, the output is intended to address business and technology needs. This involves meaning, interaction and translation associated to EA during implementation. This is the main justification of the study.

There are many domains of EA. The study explored the approach which prescribes four main domains, namely, Enterprise Business Architecture (EBA), Enterprise Information Architecture (EIA), Enterprise Application Architecture (EAA), and Enterprise Technical Architecture (ETA) (Ross et al., 2006; Tapscott & Caston, 1993). These domains are interdependent in implementation, primarily because of the relationship in their focuses and deliverables. The problematisation, development and implementation of EA hugely depend on people, technology and process. The interdependency and interrelated nature of the activities makes implementation heterogeneous and encompasses networks.

The deployment of EA within the context of a specific business enables an organisation to create a joint Business and IT planning and execution process (Cook, 1996). Spewak (1992) emphasised planning as a concrete foundation for development and implementation. Rationale for the deployment of EA in many organisations include integration of business and IT planning, which could result in quicker time to market; an increase in customer intimacy; and greater operational efficiency enterprise-wide (Zachman, 1996).

Many organisations have developed (blueprint of) EA. The executives and stakeholders approval for the deployment of EA is arguably based on the promising nature as presented by the promoters. Many of the developed EA encounter problem during implementation. Others are never implemented. According to Ross et al. (2006, p. 65), “most of these architecture exercises end up abandoned on a shelf”. Some of the problems encountered during implementation have social context orientation. Implementation requires the

power to enforce. According to Mintzberg (1983), power has the capability to effect (or affect) organisational outcomes. Power is a productive force that organises, formats and solidifies actors into various sorts of agents that perform actions. As such, the relationship in the union between the business and IT units is seen as critical factor, particularly in the areas of roles, responsibilities and ownership related to EA implementation in many organisations. The study seeks to understand better strategic approach for the implementation of EA in the organisation. The case study approach was adopted and Actor-Network Theory (ANT) was applied for the analysis of the data.

The paper is organized into five main sections. The first section presents the literature review, exploring available literature on enterprise architecture (EA) and information technology (IT) strategy. The second section covers the research methodology and approach that was adopted in the study. In the third and fourth sections, the paper presents and discusses the analysis and empirical findings, respectively, of the study. Finally, the paper concludes with highlights of the contributions of the empirical findings of the study.

LITERATURE REVIEW

For a company to be successful, it must adapt quickly and spend less time reminiscing about the norms of the organisation's pursuits (Porter, 2008). The EA approach is a framework for developing business driven objectives through architecture. Through an evolutionary, iterative process, the current and future state definitions of the architecture are continuously developed, evaluated, and updated in order to assure EA alignment with changing business requirements and emerging technology (Zachman, 1996). It is suggested that EA has “audiences” across the organisation, fundamentally because it serves as a basis for analysis and decision-making in the business and in the life cycle of systems.

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