Chapter 59
Deployment of Enterprise Architecture From the Activity Theory Perspective

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ABSTRACT

Enterprise architecture (EA) is employed primarily to resolve and address factors and challenges, such as complexities, inconsistencies, and disparities, in information systems (IS) and technologies. This includes collaborations, implementations, and integrations of systems and technologies, and the overall governance of the computing environment of an organization including governments' administrations. However, the challenges persist even with the emergence and deployment of EA in organizations. Some of the challenges have cost and affected many organizations in their zeal and goal to compete, realize their investment, and efforts to bridge the gap between the IT and business units. Thus, the deployment of EA to addressing the challenges as stated above needs to be strategically relooked or reengineered. The authors therefore employ the activity theory (AT) as a lens to assess the deployment of EA in an organization. Based on the analysis and assessment, a model that identifies the key influencing factors in the deployment of EA was developed.

INTRODUCTION

Enterprise architecture (EA) is defined as an integrated and holistic vision of a system's fundamental organisation, embodied in its elements (people, processes, applications, and so on), their relationships to each other and to the environment, and the principles guiding its design and evolution (Janssen & Kuk, 2006). According to Kaisler, Armour and Valivullah (2005), EA identifies the main components of the organisation, its information systems, the ways in which these components work together in order to achieve defined business objectives and the way in which the information systems support the business

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processes of the organisation. Kamogawa and Okada (2009) asserts that the compelling need of EA is to enable strategic business goals and organisations to derive strategic outcomes from EA in terms of operational excellence.

Organisations do admit and acknowledge the importance of service delivery to their clients and citizens respectively. However, many clients and citizens continue to be dissatisfied with the type of services that they get. In attempt to get solution, some countries opt for transformation of their governments' activities into e-governments (Janssen and Kuk 2006; Marawar, Kale and Araspure 2010; Mohamed et al, 2012). According to Lee et al, (2013) the conception of Government-wide EA is the result of e-government considerations. Notably, EA is promoted as a key tool in the transformation and modernisation of country governments (Madsen & Heje, 2009).

The rationale for the deployment (development and implementation) of the EA may vary from one organisation to another. However, the underlying aim is to provide a better structure in order to effectively manage IT-related projects and development activities across an organisation (Janssen and Kuk, 2006). Mohamed et al. (2012) posit that reasons for EA adoption include reducing the cost of IT and business operations by identifying duplications and opportunities for reuse and enabling interoperability and providing technical and managerial standards for agencies.

In some countries, the Government-wide EA's aim is for each ministry's investments in IT to be aligned with government-wide policy goals (Lee et al., 2013). The author argues that, government Ministries experience challenges in the planning, development and implementation of their information systems and supporting technologies. Government-wide enterprise architecture is seen as the strategy to eliminate inconsistencies and duplication of efforts in information systems across government Ministries. It enables improved citizens and business relationships, where by citizens can interact with Ministries as intergrated businesses (Janssen and Cresswell 2005). The objectives of this study was to presents the influencing factors in the deployment of EA in organisations. This will assist organisations including government to assess and examine how EA could be deployed for efficiency and effectiveness in addressing the challenges of uniformity integration, of processes, systems and technologies within their organisations.

The remainder of this paper is structured into four sections. In the first section, activity theory is discussed. The second section presents analysis of EA deployment from the perspective of activity theory. The third section presents a model and discussion on the factors which influences the deployment of EA in an organisation. A conclusion is finally drawn in the last section.

BACKGROUND

Activity Theory as a Lens

This study uses Activity Theory (AT) to analyse the factors that influence the deployment of EA. The AT is a socio- technical theory that is concerned with the development of social activities. As shown in Figure 1below, AT consists of six main components. According to Golsorkki, Rouleau, Seidl and Vaara (2010), the theory "conceptualises the on-going construction of activity as a product of activity systems comprising the subject; the community within which subject interacts with other subjects; the tools that mediate between subjects, community and objective" (p. 127). In activity theory, subject is referred to as any living being with needs. As noted by Kaptelinin and Nardi (2006) in activity theory not every actor is a subject. According to Kaptelinin and Nardi (2006) in AT a subject have needs that