

## Chapter 9

# Deployment of Information Technology Governance Using Architectural Framework

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### ABSTRACT

*The goals of every organisation are unique. It is difficult to find a single information technology governance framework that will embrace the functions of every organisation. This is attributed to the primary reason why organisations tend to select multiple IT governance frameworks, for their processes and activities. However, many organisations later realised that some of the frameworks are very similar and others are inappropriate. This evidently and inevitably causes complexities and negatively impacts return on investment in organisations. This highlights the need for an architectural framework that guides the selection and implementation of an appropriate framework, as presented and discussed in this chapter. The qualitative case study and interpretive method and approach are followed in conducting this research, which is to develop an architectural framework for the implementation of IT governance in organisations. A South African organisation was used as a case, focusing on the IT division. The data collection method presented in this research was semi-structured interviews.*

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## **INTRODUCTION**

For many organizations, it is not just about information technology (IT), but about governance of systems and technologies, which is inseparable from people and processes. In a similar manner, as business management is governed by generally accepted principled practices, IT must be governed by practices that facilitate and make sure an organization's IT resources are used responsibly and that its risks are managed appropriately. According to Van Grembergen and De Haes (2007), the widespread application of technology has generated a critical reliance on IT, necessitating a special focus on IT governance.

The importance of IT governance for any organization to be successful to provides the mechanism by which the IT and the entire organization's employees can capture the appropriate information and then leverage that information to plan, manage and verify decision making to transform the organization. Most organizations which has inadequate IT governance will face challenges such inefficient processes and practices, lack of standards and principles, and lack of coordination between IT and business. If these challenges are not addressed it will pose a risk to the IT investments and the competitiveness of the organization.

The past decade has seen the term 'governance' moved to the forefront of business thinking in response to instances indicating the importance of good governance of IT. Governance is not an approach by itself, it is guided by architecture. The ISO/IEC/IEEE Std 42010-2011, defined an architecture as the fundamental organization of a system which mainly consists of components and the relationships between them.

Enterprise architecture (EA) consists of four main domains, business, information, technical and application (Iyamu, 2014). Technical architecture means IT architecture in the context of this chapter. This chapter focuses on the technical architecture in the context IT governance. Technical architecture involves the design of systems or sets of systems. Iyamu (2011) defined technical architecture as a logically constant array of principles, standards and models that are originating from business requirements. It guides the engineering of an organization's information systems and technology infrastructure across. According to The Open Group Architecture Forum's (TOGAF) document, IT architecture provides some governance aspects, such as change management and quality assurance. In other words, it is the grouping of systems, represented in components, their relationships to each other and the environment, and the principles governing design and development (Josey, 2016).

IT architecture is driven by the need to bridge the gap between IT and business people and process towards a common goal of the organization. Klein and Gagliardi (2010) described IT architecture as "the logical software and hardware capabilities that are required to support the deployment of business, data and application services. This includes IT infrastructure, middleware, networks, communications, processing

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