

# Chapter 31

## Architectural Framework for the Implementation of Information Technology Governance in Organizations

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### **ABSTRACT**

*The goals of every organization are unique. As a result, it is difficult to find a single information technology (IT) governance framework that will embrace the functions of every organization. This is attributed to the primary reason why organizations tend to select various (multiple) IT governance frameworks, for your processes and activities. However, many organizations later realized that some of the frameworks are very similar (duplications), and others are inappropriate. This evidently and inevitably causes complexities, and negatively impacts return on investment in organizations. 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 methods and approaches were followed in conducting this research, which was to develop an architectural framework for the implementation of IT governance in the organizations. A South African organization was used as a case, focusing on the IT division. The data collection method presented in this research was semi-structured interviews. Through a framework, the chapter presents and discusses the fundamental factors that influence the selection and implementation of IT governance in organizations. The factors include organizational needs, managing, assessment, and innovation. These factors are influenced and interact with other tenets, which include adherence, competitiveness and sustainability, training and education, governance and compliance.*

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## **INTRODUCTION**

For many organisations, 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 organisation'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 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.

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 paper. This paper 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 organisation's information systems and technology infrastructure across. According to The Open Group Architecture Forum's (TOGAF) document of 2009, 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.

IT architecture is driven by the need to bridge the gap between IT and business people and process towards a common goal of the organisation. Klein and Gagliardi (2010) describe 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 and standards". Along the same vein, in 2009, TOGAF described IT architecture as the hardware, software and network infrastructure needed to support the deployment of core, mission critical applications of an organisation. These activities require management and governance in achieving the objectives as well as a return on investment (ROI) for the organisational purposes.

## **BACKGROUND: IT GOVERNANCE AND ARCHITECTURE**

Some organisations view both IT governance and architecture from two different perspectives, in implementation and operationalisation. The main and most commonly adopted IT governance frameworks include COBIT, ITIL, ISO/IEC 17799/27002 and TOGAF (Simonsson & Johnson, 2006; Niemann, Eckert, Repp & Steinmetz, 2008). Enterprise architecture (EA) is the focal point, though some organisations do sometimes focus on one or two domains of EA.

Mårten, Lagerström and Johnson (2008) asserted that the aim of IT governance is to support IT's function as a business enabler in order to realise the internal effectiveness in an organisation. IT governance enables and improves IT and business strategies gain alignment, including management of risks. Brown (2006) argued that IT governance governs the crafting and execution of the IT strategy, and also help to aligns both IT and business strategies.

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