ABSTRACT

With IT affecting all aspects of university’s/school’s academic and professional affairs, an efficient IT governance (ITG) is required to assure that all kinds of expensive and complex information technology is appropriately governed. Despite the importance of IT, there has been limited research looking at how ITG is implemented in higher education institution or how to harness its benefits. This research focuses on how ITG is adopted and implemented in higher education institutions in UAE by considering the case of two different universities. The research proposes a theoretical framework derived from COBIT and Six Sigma to help in governing IT in higher education institutions. The framework will help in directing different processes toward evaluating any decision concerning the alignment and compatibility of IT with the overall strategies and goals of higher education institutions. This is achieved to increase services quality over time, aligning and supporting business strategies, and controlling and minimizing IT risks in order to increase stakeholder’s value and reduce cost.

Keywords: Control Objectives for Information and Technology (COBIT), Higher Education, Information Technology (IT), IT governance (ITG), Six Sigma

1. INTRODUCTION

IT Governance (ITG) is a term that indicates specifying decision rights and accountability framework to encourage desirable behaviour in the use of IT (Weill & Ross, 2004). In other words, ITG describes who makes which decisions, who sets priorities, who provides inputs and who analyse issues. ITG is not about making specific decisions, management does that, but rather determines who systematically makes and contributes to those decisions (Weill & Ross, 2004; ITGI, 2007).

ITG started to appear in the literature in late 90’s. Since then, implementation and improvements need was recognized by IT management across the world. Haes and Grembergen (2005) anticipated that ITG can be implemented through a framework that consists of three main key elements; Structures, Processes and Relational Mechanisms. The Structure component consists of the IT organization structure and main roles and responsibilities, processes and relational mechanisms. Processes entail the strategic Information System planning and the use of different ITG frameworks. Whereas Relational mechanisms involve partnership rewards and incentives, collaboration between stakeholders, and IT training and rotation (Haes & Grembergen, 2005; Bhattacharjya & Chang, 2006; Bhattacharjya, 2006).

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With IT affecting all aspects of university's/school’s academic and business affairs, an efficient ITG is required to assure that all kinds of expensive and complex information technology is appropriately governed. Dewey and DeBlois (2006) found that Governance, Organization and Leadership have constantly stood among the top 10 issues of strategic importance in organizations. Despite the development of procedures in terms of ITG for business organizations, many higher education institutions have shown great interest in implementing these procedures to manage their IT (Dewey & DeBlois, 2006). However, despite the importance of IT in the education industry, there has been not enough research focusing on how ITG may be implemented in higher education institutions. “An effective ITG structure is the single most important predictor of getting value from IT (ITGI, 2009; Weill, 2004). Accordingly, the following research question is posited: how can we improve ITG adoption and implementation in higher education institutions in UAE. Answering this question can be reached by answering the following sub-questions:

1. **Process:** How IT is aligned to corporate Goals and strategies in UAE universities?
2. **Identification:** What are the most commonly used ITG frameworks in UAE universities?
3. **Selection Criteria:** On what basis ITG frameworks and tools were chosen in UAE universities?
4. **Outcomes:** How ITG implementation effect higher educational institutions in UAE universities?

This research will propose a framework based on COBIT (ITGI, 2007) and Six Sigma (Pande & Holpp, 2001). The reasons for selecting COBIT and Six Sigma is due to their appropriateness to the educational context (Al-Atiqi & Deshpande, 2009; Ribeiro & Gomes, 2009).

To understand how education institutions distribute input and decision making rights and apply ITG, this research examines different dimensions of participation in ITG:

1. Who takes part in ITG among different categories of participants, including provost/chancellor, senior institutional IT leaders, IT managers, department managers, academic unit leaders, faculty and students.
2. Whether participation takes the form of providing input or making decisions.
3. How often participants take part in ITG processes.

In the following, section 2 introduces ITG literature review. Section 3 presents the most commonly known and used ITG tools and frameworks. Section 4 discusses ITG in education. Section 5 introduces the research framework to govern IT in higher educational institutions. Section 6 presents the research methodology. Section 7, 8, and 9 depicts the two case studies, findings and discussions respectively.

2. **ITG IN THE LITERATURE**

IT Governance Institute (ITGI, 2000) defined as the responsibility of the Board of Directors and executive management. It is an integral part of enterprise governance and consists of the leadership and organizational structures and processes to ensure that the organization sustains and extends its strategy and objectives. ITG is also defined as the organizational capacity exercised by the board, executive management and IT management, to control the formulation and implementation of IT strategy and in this way ensure the fusion of business and IT (Grembergen, 2002). On the other hand, Luftman (1996) described ITG as the selection and use of to obtain key IT competencies. Such choices cover a complex array of relationships such as strategic alliances, joint ventures, marketing exchange, and technology licensing. Governance reflects the leadership and organizational structures and processes that ensure IT sustains and extends organization’s strategies (Raghupathi, 2007). ITG can be defined, as well, as the capacity of an organization to control and manage the formation and implementation of IT strategy, to provide direction to achieve a corporation competitive advantage in the market (Raghu-
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