

## Chapter 8

# Enterprise Architecture Applied Towards Sustainable IT Governance

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### ABSTRACT

*Evidence shows that investments made in the IT (Information Technology) area have a positive effect on organizational performance, even if these benefits are difficult to measure and associated with the real intention of those investments. IT presents itself as a tool and not as a guarantee of success, as this determining factor depends on how it is used and directed towards strategic alignment. This chapter sought to evaluate how much IT governance positively interferes in the achievement of strategic goals, based on the control of investments and its correct management. The results show that the organizations which adopt IT governance have their performance highly improved in relation to other companies, especially concerning profitability. Besides, the use of enterprise architecture in IT governance shows a positive correlation with corporative governance elements, encouraging the use of more efficient management mechanisms to promote sustainable IT.*

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## INTRODUCTION

Since the first systems were developed, executives and scholars have been facing constant challenges related mainly with the efficiency of IT investment measurement, IT management effectiveness and IT alignment with the organizations' strategic goals (Matlin, 1979; Weill & Oslon, 1989; Bacon, 1992; Fitzgerald, 1998; Dehning, Dow & Stratopoulos, 2004). The importance of such challenges and their reach contributed to the increase of exploratory research into IT management, mainly on the efficiency of IT investments in organizational performance (Luftman & Mclean, 2004; Dehning, Richardson & Zmud, 2007).

Recent research is conducted into the correlation of types of IT investments and into its impacts on organizational performance. Statistical techniques and methods have been used in an attempt to measure costs and benefits from investments (Gunasekaran, Ngai & McGaughey, 2006).

Other studies suggest that IT investments either do not bring competitive advantages to organizations (Brynjolfsson, 1993; Strassman, 1997), or just avoid competitive disadvantages (Carr, 2003; Tiernan & Peppard, 2004). However, there is contrary data which asserts that investments in IT assure competitive advantage to the organizations (Hitt & Brynjolfsson, 1996; Stratopoulos & Dehning, 2000; Dehning, Richardson & Zmud, 2003; Becker, Lunardi & Maçada, 2003; Maçada, Becker & Lunardi, 2005).

Many IT projects with high initial investments ended up not presenting the expected earnings nor did they meet the clients' expectations. In the worst cases, the projects were not even completed (Peterson, 2004a; Turban, Mclean & Wetherbe, 2004). This fact makes the correlation between the amount of IT investments and organizational performance harder due to some conflicting results (Strassman, 1997; Dehning & Richardson, 2002).

A common error among IT executives lies in the thought that IT investments are a guarantee

of profits for the organization (Marchand, 2005). An expressive number of studies take into account the quantitative aspect of IT investments, but disregard the way those investments are allocated and consequently disqualify the qualitative aspects (Smith & Mckeen, 1993; Devaraj & Kohli, 2003; Peterson, 2004). However, it is a complex task to determine how the investments should be set aside. This task is the goal of many researchers. (Schwarz & Hirschheim & 2003).

Besides this, there are other factors that may influence the organization's performance, for example, the field of performance, sector of competitiveness, type of business, etc. This aspect does not depend on the good application of IT investments (Porter & Millar, 1985; Dedrick, Gurbaxani & Kraemer, 2003; Melville, Kraemer & Gurbaxani, 2004). Thus, it is necessary that IT managers know the main aspects that currently guide the organizations.

Indeed, the leading purpose of this chapter is to orient IT managers on the better use of IT resources considering the main aspects which guide the organization's business through enterprise architecture.

The implementation of enterprise architecture aligned with the concept of IT sustainable governance may generate a competitive differential once the resultant solution provides a better exploration of the attributes of interoperability, flexibility cost effectiveness and innovation power.

This chapter will review the current situation regarding IT management and governance. Additionally an approach will be presented that aims at IT development from a sustainable point of view.

## THEORETICAL REFERENCE

The theoretical reference presents the main knowledge base that underpinned the proposed model. The concepts of corporative governance to be addressed in the theoretical reference are IT

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