

# Chapter VII

## Using Maturity Model to Govern Information Technology

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### ABSTRACT

*This chapter introduces the COBITs' maturity model as a mean of studying the information technology (IT) governance and its affect on the perceived Security Threats. It argues that IT governance using the maturity model offers a probable influence on the level of security breaches frequency; such evidence would be extracted through a complex quantitative and qualitative approach, offers a better understanding of intricate relationships between different factors. Moreover, the authors hope that understanding the above mentioned influence using the maturity model will not only inform the researchers of a better design for IT governance and defining implementation pitfalls, but also assist in the understanding of IT governance practices trend in the Jordanian environment.*

### INTRODUCTION

Over the last decade, an evolution of auditing and IT security occurred as an irreversible movement toward the “electronization” of the business process. (Greenstein and Vasarhelyi, 2000). As a result many efforts herein appeared as increasing interest to evolve the audit model toward a more action-driven method of control, revision and assurance, (Timothy et al, 1998). Several profes-

sional committees have undertaken this endeavor, such as the American Institute of Certified Public Accountants (AICPA). However, these initiatives were in the form of general instructions, and nothing specific can be considered as detailed guidance to the auditors in their work.

Accordingly, the responsibility has increased dramatically on the profession, to recognize and assess the threats which are associated with Control Systems (CS) in the IT environment. This

partly due to the fact that technology in many cases developed faster than the advancement in CS, )Ryan & Bordoloi, 1997).

In addition, knowledge advancement in technology and related practices in the current age verify that the right practical employment is the key factor of technology and knowledge success (Oak Report, 2004). Enterprises realize that growing importance of information technology (IT) and consider it as a treasure enhancing their competitive position, adding value to their businesses. But what remains as a challenge is, which key practices that organizations should apply to get IT under control in order to deliver that desirable value? In other words what should be done to govern IT activities? (Li et. al., 2007).

To date, little experience-based studies have been conducted in Jordan and internationally to investigate security threats and what IT governance arrangement work best (Weill and Ross, A, 2004), where devising IT governance arrangements is challenging because the success of IT strategies and procedures is contingent upon a variety of internal and external factors (Bowen et. al., 2007).

This chapter aims to find the characteristics of IT governance in the Jordanian environment by using a developed model that are suitable to the domestic environment since no one size fits all (Rau, 2004), then applying this model on a sample from the Jordanian industrial companies. In addition, this study aims to investigate the security threats and control vulnerabilities that face the industrial companies.

## **THEORETICAL BACKGROUND**

Here below the theoretical discussion is split into two main sections, IT governance and Security Threats.

### **First Section: IT Governance**

For many organizations, IT and IT infrastructure that constitute major investments, if not managed properly, may impair and incur losses rather than enhance the organization's competitive position, on other words, organizations with effective IT governance have profits that are higher than other companies pursuing similar strategies. Moreover, the lack of effective IT governance has been shown to have adverse impacts on organizations, such as business losses, bad reputation, 'runaway projects', and inefficient operational activities (Weill and Ross,C, 2004).

The research into IT management practices at hundreds of organizations around the world has shown that most organizations are not generating optimal value from their IT investments. The most important factor distinguishing top-performing from substandard-performing is the level of leadership by business and senior managers in a handful of key IT decision. Selection from leading management literature shares the same basic idea "to be successful, the business side of an organization has to be involved and committed to what IT does". To deliver the services needs, IT has to be managed by business as a business. This is the core of IT governance (Kordel, 2004). Moreover, IT governance may be the great wall separating enterprise success from failure (Ulsch and Bamberger, 2006).

The concept of IT governance has emerged as a response to the growing pressure on all organizations to ensure that they are achieving value for money from their investment in IT and information systems, which includes ensuring that investment is aligned with organizational strategic priorities. It is based on the premise that the way in which IT is used and managed within an organization really matters, and that an institutional approach to IT needs to become embedded into central strategic planning (Coen and Kelly, 2007).

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