Effective IT Governance for Public Sector Based on Governance and Management Practices consideration

Abstract
IT Governance has become the integral part of the corporate governance and strategic view of IT for the growing of companies. Determine the right practices for each IT Governance perspectives are heavily dependent on understanding the concepts on which such business constellations are built. Companies are increasingly evaluating what is core to their business and weighing the benefits. Unfortunately, most approach tends not to understanding that IT Governance is about controlling the strategic impact of IT and its value delivery to the business. The main goal was to develop practices for governance and management layer. Based on this understanding of concepts of corporate governance, IT Governance and IT management, we identify ‘Governance practices’ and ‘Management practices’ across the category. This kind of study is intended to be of use to both academics and practitioners who wish to identify the different benefits of IT and its management, serving as a guide to drive IT strategies.

Keywords: Corporate Governance, IT governance, IT Management, ITG practices

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1-Introduction

IT investment can foster organizational growth either directly or indirectly through effective ITG, then it is expected that firms with effective IT governance would exhibit better market measures than other firms in their respective industries. IT investments allow firms to create new value propositions to better meet needs and develop new offerings for customers [4]. It enables firms to develop new marketing and sales channels to promote awareness of their product/service offerings to existing customers and to attract new customers; furthermore, the operational and customer-facing facets of IT capability are integrated and interdependent with built-in feedback mechanisms, allowing for continual process improvements and organizational learning. Then, [5] stated ITG further supports and facilitates the organizational growth.

Since the late 1990s the concept of IT Governance (ITG) has emerged, significant numbers of articles have focused on the choice of governance attribute and the issues surrounding IT governance had been widely discussed and debated as the distinct conceptualisation of steering the use of IT within a company [1]. Most authors share a common understanding that IT Governance is about controlling the strategic impact of IT and its value delivery to the business [2,3]. However, the majority of the evidence and issues found their way into the board room until after the passage of the SOX Act and the large scale investments in IT mandated corporate transparency, that the topic of IT governance reached the executive suites as a major corporate theme for discussion, debate, and implementation.

Moreover; the critical role of IT in enterprises has led important guide about the relevance of ITG to organizational performance. Thus; companies expect to have some impact on profits when they invest on IT, achieving both revenue growth and cost savings [4]. ITG objectives are focused on cost containment (including efficiency, standardization, and automation) and risk reduction (including compliance, security, and public scrutiny of IT failures). Moreover, some firms have learned how to make use of IT to boost profitability through the positive effects of customer loyalty, cross-selling, and reduced marketing and selling costs [6], which could be enhanced with an effective ITG [7]. In the second session, we tried to focus our work to understanding of this paper question ‘What the main practices for governance and management level influence the Effective IT Governance for public sector’. The last section reports and interprets the results of the extreme case analysis.
2-Background

The rapid change of IT innovation, complexity of IT and the extreme situation of competition environment put more risk on the ability of governance to meet strategic view. That would require good governance at all levels of government to overcome the decision constrain and led to deeper approach of IT governance. And therefore; ITG has been identified as an appropriate solution to deal with increasing IT changes and complexity.

2.1-Corporate Governance

Corporate governance has always been a controversial subject in various fields and consequently in the academic. Many researchers tried to define this concept from various perspectives, but unfortunately there is not a unique definition, yet. Different models of corporate governance have been developed along time. Furthermore, most of related research on corporate governance referring to the Anglo-Saxon model often appreciated as the best model of corporate governance. An effective corporate governance strategy allows an organisation to manage all aspects of its business in order to meet its objectives.

Majority of governance definition focus on two elements: decision- making and authority. [8] identify corporate governance (CG) from organizational perspective as concerned with how entities are structured and managed in such a way as to lead to effective performance in achieving desired outcomes and satisfaction of stakeholders. [9] indicates the purpose of governance is to set standards and procedures and ensure they are being followed as well metrics should collect to ensure the goals of the initiative are met. While; [10] illustrates various components of the process to which governance applies as shown in Table 1. However, [11] indicate that CG includes two important aspects – ‘directing or planning’ and ‘controlling or monitoring’ the organization. In other words, Governance closely link to controlling and regulating in order to create a sense of order, and compliance for standards and fair practices.
Table1: Governance Process measures, [10].

<table>
<thead>
<tr>
<th>Component</th>
<th>Governance applies through</th>
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| Roles       | • Defined responsibilities  
• Accountability                                      |
| Forums      | • Purpose or each forum or communication tool  
• Authority to make decisions  
Participants who should contribute                  |
| Methodologies | • Compliance with standard processes  
• Use of standard documentation                        |
| Standards   | • Reference documents for the consistent use of IT.                                       |
| Tools       | • Tools to support projects  
• Tools to support operational areas                    |
| Compliance  | • Collection and analysis of metrics  
• Audits of projects                                      |

Conspicuously; CG is the set of processes, customs, policies, laws, management practices and institutions affecting the way an entity is controlled and managed. It incorporates all the relationships among the many stakeholders involved and aims to organise them to meet the goals of the organisation in the most effective and efficient manner possible.

2.2 -Review of IT governance (ITG)

The pervasive and dependency on IT has been created a specific focus on IT governance which been by the need for the transparency of enterprise risks and the protection of shareholder value [12].

The most frequent used definitions of IT governance belong to renowned researchers such as Weill & Peters [4] and van Grembergen [13] but also from ITGI [4] and many. [5], introduced a widely used definition of IT governance as ‘specifying the decision rights and accountability framework to encourage the desirable behaviour in the use of IT’. Similarly, IT Governance is the process by which firms align IT actions with their performance goals and assign accountability for those actions and their outcomes. [5] declared that IT governance is dealing with the “distribution of IT decision-making rights and accountability framework for encouraging desirable behaviours’
in the use of IT". They focused on the implementation of structures and processes in an IT system. While; [14] defined IT governance as “the system by which an organizations IT portfolio is directed and controlled”. [14] determines that "IT governance describes the distribution of IT decision-making rights and responsibilities among different stakeholders in the enterprise, and defines the procedures and mechanisms for making and monitoring strategic IT decisions". [15] stated that “IT governance refers to the locus of enterprise decision-making authority for core IT activities”. They describes IT governance as a measure of organizational authority for IT activities. And, [13] stated that “IT governance is the organizational capacity exercised by the board, executive management, and IT management to control the formulation of and implementation of IT strategy and in this way ensure the fusion of business and IT”. And, [16] defined IT governance as “the responsibility of executives and the board of directors, and consists of the leadership, organizational structures and processes that ensure that the enterprise’s IT sustains and extends the organization’s strategic and objectives”. However; [17] defined ITG as ‘an organizational body or group focused on aligning the strategy of an IT department with the overall organizational goals and strategies’. In addition to decision-making, the researcher stressed the need of the governance body implementing mechanisms to measure performance of the IT department (such as whether an IT investment is worth the return, whether performance is being properly measured by the IT management, and whether the IT department functioning well overall. [18] also state that it is desirable that behaviour is aligned with general targets, strategy, values and norms of an enterprise, which is in line with the general goal of Business-IT Alignment. And therefore; IT governance people implements mechanisms to measure the performance of the IT department.

These various definitions of ITG emphasize on the responsibility of the executive level decision makers within the organization implementing IT governance. Many of these definitions focus on the primacy of alignment between the business, operational portion of the organization and its IT portfolios while other seen IT governance as a framework for decision making which moves the entire organization toward making perfect decisions affecting strategic use of IT, both currently and in the future [5].

A good way to further elaborate these definitions is to start by explaining what IT governance is not [4][5][13].

- IT governance is not management - Governance determines who has the authority to make changes while management carries out the changes.
IT governance is not limited in scope, time or objective - Governance is an ongoing activity that addresses business processes end to end and coordinates these processes across organizational boundaries.

IT governance is not limited to senior management – IT governance should be designed carefully to provide a clear and transparent IT decision making process.

Good IT governance framework, however, is a subset of good corporate governance and its core will cause the organization to use specific structures and mechanisms to align its enterprise IT strategy with its business performance goals [5]. Good IT governance is about how effectively IT used to grow and develop the business to assure that the investments in IT generate business value, and to mitigate the risks that are associated with IT. This meant, the steering committees of decision making have to ensuring that organization uses IT resources effectively and efficiently by implementing an organisational structure with well-defined roles for the responsibility of information, business processes, applications and infrastructure. So, [20] indicates the board of directors committees have to play an active role to ensure that IT goals and objectives are aligned with the business’ goals and objectives. [5] develop a framework which focuses on decision-making structures, alignment processes and communication approaches and provides a matrix of governance arrangements (business monarchy, IT monarchy, feudal, duopoly and anarchy) for ITG specific decisions. Thus; IT governance should be viewed as how IT creates value that fits into the overall Corporate Governance Strategy of the organisation, and never be seen as a discipline on its own. In taking this approach, all stakeholders would be required to participate in the decision making process. This creates a shared acceptance of responsibility for critical systems and ensures that IT related decisions are made and driven by the business and not vice versa.

As seen from the definitions above they vary in some aspects but they mainly focus on the same issues and organizational aspects, which are aligning business with IT and the board’s responsibilities. IT Governance focuses specifically on information technology systems, their performance and risk management. The primary goals for IT governance are:

- Assure the investments in IT generate business value,
- Mitigate the risks that are associated with IT.

Five main focus areas for IT governance, all driven by stakeholder value were defined by ISACA in the “Implementing and Continually Improving IT Governance” guideline, two of them are
outcomes: value delivery and risk management. Three of them are drivers: strategic alignment, resource management (which overlays them all) and performance measurement [20].

- IT Strategic Alignment - Investment vs. strategic objectives vs. business value
- Value delivery - Concentrating on optimizing expenses and proving the value of IT
- Risk management - Addressing the safeguarding of IT assets, disaster recovery and continuity of operations
- Resource management - Use and allocation of IT resources
- Performance measurement - Tracking project delivery and monitoring IT services

Thereby, we forage our definition to IT governance as following “IT Governance is an oversight system of decision-making and accountability over three level of organization; strategic level, management level and operation level, as well as overseeing of delivery and operations that ensure to lead an effective performance in achieving desired outcomes and satisfaction of stakeholders”.

2.3 -ITG vs. IT Management approach

Since the appearance of IT governance, difference between IT governance and IT management has had a tendency of being confused and need a clear definition. There is a sensitive difference between IT management and IT governance. IT management is focus on the management of present IT operations and internal effective supply of IT services and products. IT governance has much broader range and a wider time aspect, and concentrates on performing and transforming IT to meet present and future demands of the business objectives (internal focus) and the business’ customers (external focus) [13]. IT governance also involves all organizational issues regarding IT like definition of policies, IT decision-making rights and responsibilities, investment and projects approval, maintenance and monitoring of all existent IT, IT delivery value evaluation, and so on. This can be seen in Fig. 2

Fig. 2 – IT Governance and IT Management
IT governance and IT management may be two separate definitions but there exist a coupling between them that is necessary in a successful enterprise. This coupling is illustrated in Fig. 3.

**Fig. 3 - Coupling between ITG and IT Management**

![Coupling between ITG and IT Management](image)

### 2.4 IT Governance mechanisms

Several researchers have been depicted that at least 20 percent higher returns on assets result in those organizations adopting proper IT governance mechanisms than those with weaker governance. [5], [21] and [22] stated that effective IT governance structure and process lead to high IT performance. Typical IT governance framework is used to describe the structures, processes and mechanisms related to IT key decisions in an enterprise [12, 5, 13] as shown in Fig.2. According to [13], IT governance can be deployed using a mix of structures, processes, and relational mechanisms that work together as a whole in order to assist the proper deployment of ITG using [23, 24, 15, 5, 25, 26, 13, 14, 27]. However; [26] has identified 33 practices for IT governance and classified them in three categories of structure, processes and relational mechanism.

**Fig. 4 Main elements of an ITG framework, [5,13].**

![Main elements of an ITG framework](image)
Examples of ITG dimensions: structures, processes, and relational mechanisms include:

- **Structures.** CIO on Board, executive management committees, IT strategy committee, IT leadership committees, and IT steering committee(s).
- **Processes.** Strategic information systems planning, balanced (IT) scorecards, information economics, service level agreements, control objectives for information and related technologies and the ITIL, IT portfolio and demand management.
- **Relational mechanisms.** Active participation and collaboration between principal stakeholders, partnership rewards and incentives, business/IT co-location, cross-functional business/IT training and rotation.

### 3-IT Governance categories per practices

The field of ‘CG and IT’ is a multi-faceted subject that includes several fields of study. Basically, the IT governance is made of two issues: IT delivers value to the business and IT risks are mitigated to an acceptable level, which can be translated into strategic alignment of IT with the business and establishment of accountability within the enterprise. Both need to be supported by adequate resources and tools for performance measurement so as to monitor progress towards the desired goals.

Rather than conceiving of IT governance as a roadmap leading to a final destination, it might be better understood as a compass, which continues to guide an entity toward more coordinated strategies for IT investments. The need to redesign IT governance is not a sign of failure. In fact, having the flexibility to assess and reinvent that framework in response to rapid changes. Organisations adhere to governance principles if this is required by legislation, such as Basel II and SOX. Where compliance is not enforced, organisations do not necessarily adhere to corporate governance principles. Conceptualizing IT governance is not easy. Definitions, whether academic or practical, commonly refer to IT governance as a set of decision-making structures, roles, responsibilities, and practices geared toward achieving desired objectives [5].

### 4-IT Governance related Perspective Practices

An understanding of the ITG concept is essential for organisations to gain a better perspective on the governance activity and provides focus for management attention. The review of existing literature to identify and determine best practices in order to construct the factors within each category. In order to identify practices those had been studied by previous researchers or were identified in professional publications or pioneer organizations; an understanding of the IT
governance concept is essential to achieve higher efficiency and effectiveness within IT functions. However, organizations that document and demonstrate good corporate and IT governance practices send a strong message to all of their stakeholders, customers, employees, and regulatory agencies [28]. Organizations that do not have a good governance strategy are more vulnerable to risk and elimination during turbulent times [29].

Table 2 Effective Corporate/IT governance Practices.

<table>
<thead>
<tr>
<th>Index</th>
<th>Practices</th>
</tr>
</thead>
<tbody>
<tr>
<td>CITG1</td>
<td>✓ Develop IT direction to increase the value of IT.</td>
</tr>
<tr>
<td>CITG2</td>
<td>✓ Align IT strategy, polices and procedure to corporate strategy and business strategy.</td>
</tr>
<tr>
<td>CITG3</td>
<td>✓ Setting an understandable IT control decision making framework for assigning accountability and right.</td>
</tr>
<tr>
<td>CITG4</td>
<td>✓ Undertaking IT as significant point of development and ensure to the perception of IT is strategic core of performance.</td>
</tr>
<tr>
<td>CITG5</td>
<td>✓ Encourage and manage IT / Business communication, collaboration and partnership.</td>
</tr>
<tr>
<td>CITG6</td>
<td>✓ Engage key stakeholder involvement into IT planning and driving strategy.</td>
</tr>
<tr>
<td>CITG7</td>
<td>✓ Manage stakeholder requirements and expectation with business strategy to transform IT initiative.</td>
</tr>
<tr>
<td>CITG8</td>
<td>✓ Manage and mitigate risks related IT by develop risk guidance, key risk practices measurement and tool such as KRI's.</td>
</tr>
<tr>
<td>CITG9</td>
<td>✓ Associate measurement &amp; compliance mechanisms to monitor improvement of IT value.</td>
</tr>
<tr>
<td>CITG10</td>
<td>✓ Provide business strategic guidance of IT service to ensure IT creating competitive advantage such as enhancing services or developing new business application in future.</td>
</tr>
<tr>
<td>CITG11</td>
<td>✓ Assist in implementation of the organization's annual business plan, budget and ensure cost containment such as consider suitable allocation of IT budget control.</td>
</tr>
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</table>
Also, the practices for management perspective as shown below (Table3).

Table 3 Effective IT management Practices.

<table>
<thead>
<tr>
<th>Index</th>
<th>Practices</th>
</tr>
</thead>
<tbody>
<tr>
<td>ITMP1</td>
<td>✓ Control the IT management and administration involvement to support decision toward IT initiative.</td>
</tr>
<tr>
<td>ITMP2</td>
<td>✓ Consolidate, control and reporting IT budget related efficiencies and productivity.</td>
</tr>
<tr>
<td>ITMP3</td>
<td>✓ Manage partnership among senior manager, IT project management and IT department.</td>
</tr>
<tr>
<td>ITMP4</td>
<td>✓ Perform the policies, guidelines and procedures for use IT across the organization.</td>
</tr>
<tr>
<td>ITMP5</td>
<td>✓ Planning and consolidate IT standardization across the organization.</td>
</tr>
<tr>
<td>ITMP6</td>
<td>✓ Ensure middle management understood overall architecture of the company to determine clear decision-making principle like IT application, project portfolio, data management, infrastructure, etc.</td>
</tr>
<tr>
<td>ITMP7</td>
<td>✓ Define reliable IT capability required across the organization to meet demand and future need.</td>
</tr>
<tr>
<td>ITMP8</td>
<td>✓ Proceed an effective resources management to develop IT related capability to remain competitive.</td>
</tr>
<tr>
<td>ITMP9</td>
<td>✓ Perform training to build knowledge and understanding of how IT resources can effectively enhance IT value.</td>
</tr>
<tr>
<td>ITMP10</td>
<td>✓ Establish methodology for prioritizing strategic importance of IT projects and manage implementation.</td>
</tr>
<tr>
<td>ITMP11</td>
<td>✓ Manage delivery success and expectation of quality IT solutions on time within budget.</td>
</tr>
<tr>
<td>ITMP12</td>
<td>✓ Review the risk effect, uncertainty on IT projects and ensure compliance with legal &amp; regulatory efficiency.</td>
</tr>
<tr>
<td>ITMP13</td>
<td>✓ Ensure reducing energy consumption and sustainable operation of the IT.</td>
</tr>
<tr>
<td>ITMP14</td>
<td>✓ Manage IT change (cost of change, speed of change), etc.</td>
</tr>
<tr>
<td>ITMP15</td>
<td>✓ Ensure IT workforce employees are satisfaction.</td>
</tr>
</tbody>
</table>
Most of the organizations’ leadership team has been presented in three major layers: operational level, management level and strategic level. Enterprise IT governance is presented in each of these layers, which indicates that both IT and business parties have to be involved in the IT governance processes and their roles and responsibilities should be defined within the framework. IT governance implementation requires defining structure (roles and responsibilities), processes and relational mechanisms at each of the operational, management and strategic levels within an enterprise [30].

5-Methodology

This paper describes the case of an IT governance implementation in a Public Sector service. The role of the researchers was purely the role of observers who were interested in investigating how the IT governance practices were applied by practitioners (Table 2 & 3) and how the experience and knowledge of practitioners could help to improve their proposed IT governance framework. In this case research, data was gathered by conducting several face-to-face in-depth interviews with IT and business representatives: the CIO, project managers of the IT governance project, a member of the Board of Directors who is also member of the Executive Committee, the director of ‘organization’.

6-Assessing Practices at Case ‘X

This section reports and interprets the results of the extreme case analysis. In this organisation ‘X’, interviews took place to assess the effective IT governance setting practices used (APPENDIX A), on a scale from 1 to 3 (1- Low, 2-Medium, 3-High). During each face to face interviews, it was ensured that at least five senior representative from the business and five senior representative from IT was present who had a view on how IT governance was addressed in their environment to get a full view of the ITG practices as shown in Fig (5 and 6).
This could explain that ‘C/ITG’ bit higher in performance than practices of ‘ITMP’ of IT governance (Fig7).
7-CADCLUSION

An effective implementation of ITG is important elements for the development of future plan of successful IT. This research explored ITG perspectives within the context of enterprise governance of IT assessment practices’. The literature above showed all necessary ingredients of ITG. Our study is limited to theory gap. More research is needed to assess the robustness and applicability of ITG in large governmental organizations in different regions and countries. Further future works includes implication of these practices with different case study to overcome the limitations of presented study and get deeper understanding how ITG is applied by organization. It would also be interesting to undertake additional research in order to develop further understanding about how objectives, goals, power, legitimacy transmit over these practices.

Reference


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