

MIT Governance Implementation in Enterprise: A Review

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Abstract- IT governance enables enterprise to lay down effective strategies for future forecast as well as recurrent issues on IT. The sustenance of any operations and implementation of IT in enterprises and other organizations depend on some elements, which IT governance is one of those elements. IT governance guarantees the meeting of expectations for IT. On the other hand, IT governance reduces IT risks and uncertainty through engaging top management in enterprises and enterprises. It allows enterprises to align IT with the business objectives, to be aware of changes in the IT domain, to carefully manage risks and to identify various opportunities in order to take advantage. Therefore, this article discussed some important aspect of IT governance that include decision matrix, Key IT Decisions, IT governance Style, Benefits, Challenges and Reasons for IT governance.

Keyword- IT Governance, Decision matrix, Key IT Decisions, IT governance Style

I. INTRODUCTION

Information Technology (IT) is changing and driving the growth of the global economy. It enables enterprises to be more productive, thereby encouraging growth. Despite the huge benefits of IT, it is not enough to place IT onto the development agenda without also addressing other critical elements of the development equation [1]. Information Technology Governance (IT G) is among the critical elements for driving IT in Enterprises[2].

Enterprises achieve full value of IT investment when they align IT with business strategies, performance of IT are Monitored, IT-related risks are Managed and mitigated [3, 4, 5]. IT Governance in enterprises consider corporate failures, and scandals[3].

Many enterprises are not fully utilizing their resources as they lack adequate knowledge. This happen because most enterprises do not implement IT governance [5]. In addition, higher education are sacrificing money, competitive advantage and productivity by not implementing effective IT governance [6].

Although, research activities on IT governance have been studied since early 20s around the globe, in Nigeria, the area receive silence by scholars. In this era, there is a need for business professional and the Enterprises around the globe to focus on the topic of Information Technology governance (ITG). These lead in achieving good corporate governance, corporate management and compliance. The purpose for ITG implementation is to achieve better decision making

regarding strategic management of Information Technology (IT). As it is now, IT decision making is paramount in every organization, although, the decision from each organization differs significantly in determining accountability, formalization and communication of the decision-making processes. Notwithstanding, lack of formal ITG could lead to individual managers resolving issues in isolation, which may create conflict of interest. It is already investigated that when top management take time in designing, implementing, and communicating of IT governance, organizations receive value from Information and communication Technology (ICT) [7].

In a simple term, IT governance enables top managers to direct and regulate all activities of IT in an enterprise to achieve IT alignment with business strategy[8]. Enterprises should treat IT resources as a whole through integrating formalized IT governance into overall structure of their IT functions. This will allow them to set objectives, guidelines and standards toward achieving the value of IT investment. The fundamental element of IT governance consists IT governance, IT management and IT production [8]

At end, this article aimed to contribute to the IT policy formulation among enterprises Nigeria, to trigger research on IT governance and to prompt the top management in enterprises on need to implement IT Governance in their enterprises.

II. METHODOLOGY

The main focus of this research is to review the literature on IT governance implementation in Enterprises. The choice of the method is enable the researcher to review IT governance implementation. The review used Journal articles, books and web sites to discuss the subject matter.

Concept of IT Governance

In history, wider concept of governance was introduce with the aimed at financial reporting and auditing. The IT Governance Institute [9] in 2003 explains that global thinking on the issue of governance has led to its adoption in field of IT. The reasons for governance being one of the IT fields include sincerity, truthfulness, responsibility and accountability in developing standards for changing the enterprise performance. In addition, it strengthening the organization and controlling of an enterprises activities while maintaining enterprise spirit of IT functions and processes. IT governance recognizes responsibilities for executive board. IT governance plays important role within the field of IT. In the

early stage, IT help enterprise to perform business activities as an enabler (i.e. technology provider). For many years, IT stands as the backbone for enterprises, which now it has become inevitable to do without to it. IT is an important component for all types of enterprises [10]. IT function has changed from technology provider to Service Provider to Strategic Partner. The transformation from technology providers into strategic partners by IT function follow three stages. The first stage starts building from IT infrastructure management (ITIM) whereby IT organizations tend to make sure that management of the enterprise infrastructure is improved. Managing IT infrastructure effectively involves getting the best return from the computing assets. Similarly, organizations should take control over all of their IT infrastructure including the devices and the data they generated. The second stage is the IT service management (ITSM) in which the IT organizations try to identify the services needed by their customers. Similarly, the organizations focus on the best practice and delivery channels for those identified services to meet up with the requirements of performance, availability and security. Furthermore, the stage is concern with managing of service-level agreements of both internal and external in order to achieve quality and cost targets. Finally, IT Governance is concern about IT organizations growing to become IT business value management. It means that enabling new business opportunities through transformation of business partners. This stage, there are full integration of all the processes and functions of IT to the enterprise framework for better service quality and business agility [11].

IT Governance defined

There are many definitions of IT governance as a result of its multifaceted nature that include decision making, top management responsibility and accountability, and implementation Strategy. IT governance is defined as the combine effort of executive management (i.e. CEOs and CIOs) and IT management put in place to harness IT strategy with the objectives of the organization in creating business value. In addition, there are four more definitions of IT governance that are used in this article:

“IT governance is the alignment of leadership, organizational structures, and processes to actualize and sustain the organizational objectives through the use of IT”[12].

“IT governance is 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”[13].

“IT governance (ITG) is defined as the processes that ensure the effective and efficient use of IT in enabling an organization to achieve its goals”[14].

“IT governance is 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 that ensure that the organization’s IT sustains and extends the organization’s strategies and objectives”[15].

Although the IT governance’s definitions differ in several aspects, they tend to have similar focus, making a right decision and placing a framework for accountability in providing path for using IT in an organization. IT governance focuses on change behaviors that ensure good process in an organization is maintained. Good process involves firmness, consistencies and accountabilities in decision making in using IT. This allow the enterprise to determine the right and wrong in the IT functions. Proper implementation of IT Governance enables quick respond in term of identifying the problem and way to solve them (it) on time. It has been already said that governance in general is not only making right decision but also taking correct process for decision-making [16].

However, the difference between IT governance and IT management is made clear in a study [13]. IT management is a process of organizing, controlling, and maintaining IT products and services for effective operations meanwhile IT governance focuses on the widening transformation and performance of IT in meeting the business demands of an organization and its customers in the short-term (present) and long-term (future) [13].

The IT Governance Institute [15] defines IT governance as a fundamental aspect of enterprise. IT governance should be treated as any governance subjects that is to say the board and executives are responsible for it stewardship in an organization. The fundamental aspect of enterprise governance encompasses top management, processes and structures within the enterprise to sustain IT infrastructures within the enterprise for strategies achievement of enterprise’s objectives [15].

III. REASONS FOR IT GOVERNANCE

The advancement in IT has driven the economy of today’s world. Nowadays, large portions of products and services of enterprises have transitioned from the tangible assets (e.g. inventory, facilities, etc.) to the intangible assets (e.g. data, knowledge, information, expertise, reputation, patents, etc.). Almost of the mentioned assets are surrounded by the use of IT. The IT governance is essential component for achieving goals of enterprise [15]. Part of the reasons for IT governance is that opportunities and reality regularly are not the same because the executives presume management to deliver the following [15]:

1. Provide solution to IT functions and process with required quality within the limited resources(i.e. budget) and on time.
2. Integrate all IT processes to achieve business value of IT Investments
3. Control and manage all IT functions for high productivity and efficiency
4. Handling of all risks of IT functions and processes

However, absent or ineffective IT governance is the major problem that organization usually experiences in reality in many boards had with IT [15]. These problems are not restricted to the following:

- a. Enterprises lose businesses, bad reputations emerge or weakening the competitive advantages
- b. Enterprises miss projects deadlines, high costs operations and/or low quality than anticipated

- c. Enterprises experience poor quality of IT deliverables due to negative impact on efficiency and core processes.
- d. Enterprises face with problems of ineffective plan for IT resource, which deliver benefits to the enterprise.

Benefit of the IT Governance

IT governance has a tremendous benefits to organizations in 21st century. When carefully reviewed a literature on IT governance, one will come across four main points, which are repeatedly mentioned (i.e. avoiding potential business threats, Strategic alignment of IT with business objectives, guarding the IT investment and attractive business opportunities). In this article, four research publications were reviewed on the benefit of IT governance [17] [18] [19] [20]. The table 1 shows the benefit based on authorship

Table 1: Benefit of IT Governance

SN	Author(s)	Benefit of IT Governance
1.	The National Computing Centre, 2005	<ol style="list-style-type: none"> i. Enhance Performance ii. Better Return on investment and added value for stakeholder iii. gives business opportunities and easy partnerships facilitation iv. Permits compliance to external regulation v. Enhanced clearness and accountability
2.	IT Governance Institute, 2004	<ol style="list-style-type: none"> i. Alignment of business opportunities with IT functions ii. Provide concrete protection of shareholder iii. Guides and protects all investment of IT infrastructure iv. Tolerates all form difficulties in current operations and arranges for the future v. Handles with risks IT
3.	P. D. Weill and J. W. Ross, 2004	<ol style="list-style-type: none"> i. Provide strategic IT spending priorities ii. Get about 20% or higher return on Investment iii. Implementation business opportunities provided by advanced technologies iv. Assigns IT decision making to experience staff saddle with preparing business goals v. Learn the value of IT vi. Create team that handle IT decision making process vii. Make decision making process straight and obvious
4.	P. Haghjoo 2012	<ol style="list-style-type: none"> i. Plan a good alignment between IT investment and the objectives of enterprise ii. Protecting the investment of IT iii. Utilize the business opportunities of IT iv. Mitigating threats to business

Challenge of IT Governance

In spite of positive evidences about influence of IT Governance in making enterprises to succeed on IT Investment, however, there are also evidences of IT

continuously being badly managed and governed [21]. In an article authored by Anthony David Giordano [22], clarifies the major objections that prevent organizations from implementing IT governance. The author explains the

achievement or failure in IT governance implementation remains commonly on the steps enterprise are taking in addressing most of the well-known challenges. The author listed the following as major challenges in implementation of IT Governance:

- 1 **Right-sizing an IT governance process:** the organization should ensure that the proposed solutions fits the problem to avoid incurring tremendous costs.
- 2 **The impact of existing industry standards:** the organization should make sure that standards are used and obeyed in its endeavors.
- 3 **Information management maturity:** the organization should be ready to implement IT governance. Information management maturity is a requirement for successful IT governance implementation.
- 4 **The "Big Data" conundrum:** this is to determine what to manage and how to do it. The main task of IT governance implementation is to accurately and logically review all the types of Big Data with a mind in developing a strategy for each type
- 5 **IT governance: Project or process? The organization should define and identify how to implement IT governance.** IT governance implementations may fail due incorrect expectations between sponsors and those attempting to implement information governance.

IT governance Style

This is the way (approach) organization and Enterprises govern IT to achieve their goal. Weill 2004 [23], studies 250 enterprises in 23 countries, which indicate that there some broad patterns or confirmation of IT governance. The study found that few enterprises use the feudal approaches and anarchy to govern their IT processes and function. Regarding IT governance styles, most of the enterprises place their policy making right and structures on IT functions. Therefore, there are six governance styles called archetype comprise of different combinations of IT executives and business at various levels in an organization.

- 1 **Business Monarchy:** This is where decision-making is made by a team of top management. The team consists of executive business committee and IT executives [24]
- 2 **Federal style:** this is where decision rights are shared between the top management and some business team within the enterprise [24]. The federal model is an organized decision-making approach that takes cognizance of a department (i.e. center) and business units.
- 3 **IT monarchy:** this is where the top management make decision on IT activities usually by the Office of the Chief Information Officer [24].
- 4 **Feudal style:** this is where the decision-making on IT are carried out by the leaders of Business unit or

representative from the units. The style is applicable to independent business units' enterprise [24].

- 5 **Duopoly:** The IT duopoly comprises of two parties arrangement between business group and IT executives where decisions represent agreement [24].
- 6 **Anarchy:** This is where decision rights are being carried out by individual. Users or small group in units take decision to satisfy immediate need [24].

The Key IT Decisions for IT Governance

This section discusses the IT governance archetype based on Weill and Ross (2005) where they place five decisions of IT called Governance Arrangement Matrix [25]. The five decisions comprise IT principles, IT infrastructure strategies, IT architecture, business application needs and IT investment and prioritization [25, 24, 23]. Enterprises use both decision and response rights in place of each of the five decisions to which organization's approach by archetype is categorized [23]. Generally, input rights come from several individuals. On the other hand, the decision rights come from diverse groups' decision. Federal model are mostly used for input rights on business-oriented IT decisions of the enterprises. The input right come from three decision rights, which are IT principles, IT investments and business application needs. The input and feedback on these IT decisions are delivered by budget teams and process teams [23]. Usually, Duopoly model is used for input rights in technical IT decisions, which comprise IT architecture and infrastructure strategies [23].

Designing of IT governance on decision matrix

IT governance specifies the individual responsible for the decision rights, and what he/she should be accountable in making the decision. In view of these, it is not advisable to make decision in an isolation. It is recommended that proper information is assured through clearly defined solution to problems IT Governance implementation [26]. Available literature has shown that comparing the five decision alongside the approaches of the archetype to become a matrix gives an instrument for identifying, examining and collaborating IT decisions [7]. The table 2 shows the matrix of IT governance arrangements [26]. Looking at the matrix, there are six archetypes that enterprises need to choose one for their implementation for effective IT governance achievement. After selecting the appropriate IT governance style (i.e. archetype), enterprises should place it against the five decisions to be able to show evident in business-performance metrics.

Table 2: IT Governance Matrix

IT Governance Arrangements										
Archetype	Decisions									
	IT Principles		IT Architecture		IT Infrastructure Strategies		Business Application Needs		IT Investment	
	Input	Decision	Input	Decision	Input	Decision	Input	Decision	Input	Decision
Business Monarchy										
IT Monarchy										
Feudal										
Federal										
Duopoly										
Anarchy										

Source: adopted from [26]

IV. CONCLUSION

The article discussed the IT governance implementation in enterprises, which it was found making a right decision and placing a framework for accountability in providing path for using IT is paramount to all enterprises. Enterprises may have poor reputations, lose businesses, weak competitive advantages, miss projects deadlines, high costs of operations and/or low quality and experience poor quality of IT deliverables due to failure to implement IT governance.

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