IJEMD-CSAI, 1 (2) (2022), 56 – 66 https://doi.org/ 10.54938/ijemdcsai.2022.01.2.140

International Journal of Emerging Multidisciplinaries:
Computer Science & Artificial Intelligence

Research Paper
Journal Homepage: www.ojs.ijemd.com
ISSN (print): 2791- 0164 ISSN (online): 2957-5036

The Challenges of Compliance it Governance Frameworks in the UAE

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Abstract

IT Governance frameworks such as COBIT, ITIL, and ISO have become the most important guidelines for IT Governance (ITG). These frameworks are used by organizations as a tool to evaluate their own ITG systems and to help the IT managers to bridge any gaps between the technical issues, business risks, and control requirements. The main objective of the research is to study the various IT governance frameworks used by the organizations and the challenges they face in compliance with the IT Governance framework, and the steps taken to overcome these challenges in the UAE. This objective was achieved by using a quantitative approach through a questionnaire felt by a sample of IT executives or IT professionals working at different private and public organizations in the UAE. The results of the study discovered that most of the organizations use ITIL and ISO as their preferred choice of the ITG framework, and the major challenge faced by the organizations in compliance with the ITG frameworks is the lack of people's acceptance which overcomes by training people using tools and systems with the frameworks used in the organizations. This study provides useful information for future researchers to understand the challenges in implementing the ITG frameworks and how to overcome them in the context of the private and public sectors in the UAE.

Keywords: IT Governance Framework; Information Technology Infrastructure Library (ITIL); Control Objectives for Information Technologies (COBIT); International Organization for Standardization (ISO); UAE.

1. Introduction

Over the years, Information Technology (IT) has undergone several transitions from empowering organizations with a competitive advantage to providing transaction support. IT plays a very important role in the organizations and is critical in providing the agility it needs to respond to the changing needs of the market and its competitive forces. Considerable amounts of growth have been seen in the use of IT within or across the organizations, which has raised the demand for different governance structures and processes, thereby creating a need for a comprehensive framework that covers the overall aspects of the IT management across the organization to align the IT strategy with the business strategy, prevent errors in the software, implement internal controls and distribute the IT resources effectively.

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IT Governance refers to the management procedures and systems that guarantee that such an organization's information technology supports and advances its mission and goals. Organization management and IT governance are inextricably linked. Indeed, the IT Governance Institute asserts that information technology governance should be a component of business strategy. This means that IT Governance affects all organizational levels, from operations up to the highest managerial leadership. Additionally, this demonstrates that IT policy is distinguishable from IT administration. IT management is concerned with the proper and effective organizational provision of information technology equipment and services and the administration of existing IT functions. On the other hand, IT Governance is larger and focuses on executing and reforming IT to satisfy the ongoing and prospective business and the market needs (Haes, 2007).

IT Governance plays a vital role in the corporate governance of an organization. The application of IT Governance (ITG) was seen in the 90s, which was motivated by the private sector to achieve excellence, increase the profitability of IT investments, and provide new services.

The frameworks help the organizations to implement standards practices in implementing controls, processes, and procedures. One of the most comprehensive IT governance frameworks widely used by organizations is Control Objectives for Information and Related Technology (COBIT), followed by Information Technology Infrastructure Library (ITIL), International Organization for Standardization (ISO), and others.

2. Literature Review

Weill and Ross (2004) define IT governance as "specifying the decision rights and accountability framework to encourage desirable behavior in the use of IT." The authors De Haes and Van Grembergen (2017) state that IT governance is interrelated to corporate governance and that IT governance is an important part of corporate governance. Hence, for this very reason, issues and concepts that are discussed in corporate governance are directly linked with the IT governance.

According to Weill and Ross (2004), effective IT governance can be achieved by IT governance performance. The authors also further state that the single most important predictor value of an organization and the overall performance of an organization depend upon effective IT governance. Therefore, it is important for the organizations to measure the extent the IT governance employed within or across their organization is effective.

To achieve and implement an effective IT governance, organizations need to first identify and measure the current performance status and then compare it to the set objectives. These performance measures need to be applied across the entire process of IT governance rather than to only the processes that are related to IT (ITGI, 2003).

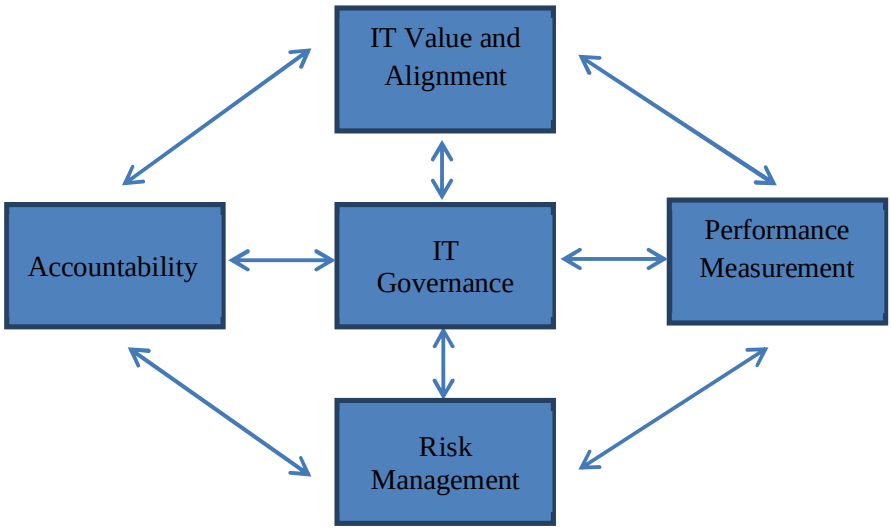

Figure 1: *IT Governance Components (Source: Symons, 2003)*

ISACA founded the IT Governance Institute (ITGI) in 1998 to "promote global ideas and principles for leading and regulating a company's Information Technology (IT). The ITGI conducts research, publishes articles, and provides guidance on the topics of IT Governance to enable top management to establish that their IT vision is to allow the goals of their organization. COBIT and ITIL frameworks were developed by ITGI.

2.1 Comparative Analysis of IT Governance Frameworks

Organizations face many challenges in putting in place a well-coordinated and integrated ITG framework, and for this, it used its best practice IT governance frameworks. These ITG frameworks set definitions and principles for all types and sizes of organizations to better align the IT with the organizational goals. Some of the most popular ITG frameworks are COBIT, ITIL, ISO 27001, and Calder-Moir IT governance Framework (IT Governance Ltd, 2013). A tabular comparison of the ITG Frameworks has been illustrated in Table 1.

Table 1: Comparative Analysis of IT Governance Frameworks

AREA	COBIT	ITIL	ISO27001
Function	Mapping of IT Process	Mapping IT Service Level Management	Information Security Framework
Area	4 Process and 34 Domain	Nine processes	10 Domain
Issuer	ISACA	OGC	ISO Board
Implementation	Information System Audit	Manage Service Level	Compliance with Security Standard
Consultant	Accounting Firm, IT Consulting Firm	IT Consulting Firm	IT Consulting firm, Security firm, Network Consultant

2.2 Challenges faced by Organizations in the implementation of the ITG Frameworks

Lapão (2011), in his study, describes the challenges and barriers to introducing IT governance in a hospital. The author used both ITIL and COBIT as the best practice in the Hospital Management Systems. ITIL and COBIT were combined to assess the audit and identify the weaknesses in IT Governance. Some of the challenges seen were a lack of organizational and technical to address the information system (IS) management, lack of skilled personnel, inadequate project management practices, lack of data protection, lack of IT leadership and strategy, and unbalanced IT budget allocation.

In their research, the authors Nicho and Muamaar (2020) presented that unclear and ambiguous definitions of the roles and responsibilities can also be presented as a challenge to the implementation of the IT governance framework. Authors Alreemy et al. (2016), in their study, have stated that another challenge in the implementation of an effective ITG is the inadequate involvement of the stakeholders. Successful implementation of ITG is a collaborative effort between the staff and the management within the organization, which is also the first principle of COBIT, i.e., to meet the needs of the stakeholder, and the

first and second principle of ISO 38500 wherein without the involvement of the stakeholders the responsibility or strategy cannot take place.

The authors Gunawardena and Ramesh (2014) have explored the federal arena and the challenges faced by the federal agencies in implementing IT Governance. The authors highlight those federal managers have to undergo scrutiny over their performance and investments. CIOs and the IT governance boards lack effective communication, data reliability, lack of clarity, and an overemphasis on the bureaucratic red tape are some of the reasons for the failure.

2.3 Organizations with the successful implementation of ITG frameworks

Many organizations have poor or weak IT governance systems. Most of them, due to budget constraints, introduce the IT governance in phases to address the specific problems in their organizations, and this leads to being a cause for ineffective IT governance. For the best and optimized results, organizations should design their IT governance in such a way that it focuses on the overall objectives and performance goals of the organization.

This process should start from the top management, wherein they should actively participate through support and resource allocation. The design process should also be reviewed constantly.

One such example is of Tennessee Valley Authority (TVA), which the organization established its IT governance Model. JP Morgan, UNICEF, and Carlson remodeled the IT governance systems to meet the desirable changes in behaviors of the human resource and aimed to achieve balance in their business by creating autonomy or independence of the units and commonality (Kress, 2010). UNICEF employed ITG by changing its operations management to enhance global communication, management, information sharing, and transparency. The State Street Corporation employed ITG to change its budgeting by implementing an enterprise-wide IT budgeting. With this change, the company was able to change the perspective of the entire organization rather than a unit. Organizations with the active involvement of their top executives experienced effective IT governance. Participation of the Chief Information Officers (CIO) is critical to the success of ITG. According to Kress (2010), organizations such as MPS – Scotland Yard and Accenture depend upon their management committees to enhance their IT governance to achieve and improve synergy within and across their organizations.

Successful and effective IT governance also leads to education and transparent processes as stakeholders gain confidence in such transparent corporate governance processes. Organizations such as Google, IBM, and Street Corporation are successful because they communicate IT governance to all their employees and departments through intranet platforms.

While ITIL framework focuses only on the IT service management and not as a whole or organization, and it is confined within the IT domain. It provides best practices and planning to further improve the IT services to meet the needs of the organization by taking a bottom-up approach, COBIT has a broader scope and covers the entire organization and aligns the company goals with the IT goals by taking a top-down approach.

Although ITIL has advantages, it also has challenges in comparison to other ITG frameworks such as COBIT, and one of the major limitations it has is that it handles only a small area of IT.

3. Aim, Objective, and Research Questions

This research intends to investigate the various IT governance frameworks used by the organizations and the challenges they face in compliance with the IT Governance framework. In this work, the researchers aim to investigate the challenges faced by the organizations while implementing compliance with IT governance frameworks such as COBIT/ITIL. Implementing such frameworks is seen as radical or

incremental changes to an organization concerning an existing IT Governance framework. The research will look to respond to the following two research questions:

1) What are the challenges faced by the organizations in implementing the IT governance frameworks?
2) How do we overcome the challenges of compliance with IT governance frameworks?

4. Methods

The main purpose of this research was to investigate the challenges faced by the organizations in the private and government sectors while implementing IT governance frameworks and how to overcome these challenges with compliance with the IT governance frameworks.

4.1 Population and sample

The population of interest in this research was mainly IT governance Specialists and Professionals in the UAE. This population was included the IT Specialists, CIOs, IT Managers, and IT governance Specialists working for both private and government sectors in the UAE. A sample of size 50 was targeted using Stratified Random Sampling wherein the researchers focused on the specific strata from the available population data equally distributed between private and public sectors.

4.2 Data Collection

The researchers designed a research survey to collect the data for this study. There was a total of 17 questions aimed at eliciting relevant information on IT governance and its compliance with frameworks. Questions were formulated around the IT governance compliance issues and challenges. The data collection instrument has structured questions using a 5-point Likert scale; the answers ranged from “Strongly Disagree” (1) to “Strongly Agree” (5). One additional scale point in the Likert scale (coded as 6) is created for the participants who believe that they don’t know the answer to the stated question.

The instrument also had a few unstructured questions which were open so that the researchers could understand the attitudes and opinions on the topic and get answers to the research question.

The survey was distributed electronically to the study's targeted sample, 36 of them filled the questionnaire completely with a response rate of 72%.

4.3 Methods of Data Analysis

The study's main quantitative data were coded and analyzed using SPSS software. The results were described using percentages and shown using graphical representations, which were conducted using the survey results. Quantitative data gathered from IT experts, and subjects were constructed in accordance with the research questions.

5. Results and findings

5.1 Demographic Characteristics of The Respondents

A survey was performed with 36 entities using structured questions and both open-ended and closed-ended questions. Those types of questions open an eye to how the IT governance framework is implemented and the challenges that organizations face; implementing those frameworks is often considered a significant or consistent modification to an organization's operational IT governance structure. Stakeholders inside businesses may believe that the new policies and primarily acts by IT governance frameworks such as COBIT/ITIL will impact their current system.

It's evident from the survey, as shown in Table 2, that the respondents are almost equally shared between the government and private sector by 52.8% and 47.2%, respectively, which means that results covered

within the study are equally maintained in all sectors with the almost same consideration. On the other hand, the data collected within the survey comes from the experienced employee inside organizations on average of more than 13 years of experience, and they have a minimum of four years and a maximum of 31 years of experience. Based on the results, the titles that responded to the survey are on different levels from General Manager positions, CIO, CTO, COO, directors, analysts, directors, specialists, engineers, and experts. Based on the previous findings, the study results can help capture the feedback of different varieties, which allows us to map the results over the other part of the organizations which not included in the study.

In terms of the framework used within the organizations inside the UAE under our study, we found that the Information Technology Infrastructure Library (ITIL) and International Organization for Standardization (ISO); are both primarily used in 75% of the organizations and in 36% of the organization use Control Objectives for Information and Related Technology (COBIT), and some others frameworks which cover 8% of the organizations, by collecting the details for the government and the private sectors, we found that there is no difference in using those frameworks as per the following sequence; ITIL and ISO on the same level, COBIT, then others, which means from framework perspective both private and government sector are the same.

Table 1: Demographic Characteristics of the Sample

Criterion	Category	Number	Percent
Nationality	Asian	7	20.5
	United Arab Emirates	25	73.3
	Arab	1	2.9
	Others	2	3.2
Type of Organizations	Private	17	47.2
	Public	19	52.8
Respondent's Department	IT	24	67
	Healthcare	2	6
	Innovation	2	6
	TAMM	1	3
	Others	7	19
Respondent's Designation	IT Director	6	17
	HOD	3	8
	IT Specialist	5	14
	Programmer	4	11
	Manager Governance	4	11
	CTO/CIO	3	8
	Consultant	3	8
	Others	5	14
Work Experience	less than 5	1	3
	5 - 10 years	10	28
	10 - 15 years	15	42
	15 - 20 years	7	19
	20 - 25 years	1	3
	25 - 30 years	1	3
	30 + years	1	3

5.2 IT Governance framework implementation

5.2.1 IT Governance employed by the organizations

The data in Table 3 below indicates that about 38% of the respondent's organizations employ ISO, followed by ITIL with 37%. 18% of the organizations employ COBIT as IT Governance; about 3% did not have any IT Governance in place in their organizations.

Table 3: Types of IT Governance employed by the organizations

Type of IT Governance	Frequency	Percentage
Control Objectives for Information and Related Technology (COBIT)	13	18%
Information Technology Infrastructure Library (ITIL)	27	37%
International Organization for Standardization (ISO)	27	38%
No framework used	2	3%
Other (please specify)	3	4%

The data in Table 3 above indicates that about 38% of the respondent's organizations employ ISO, followed by ITIL with 37%. 18% of the organizations employ COBIT as IT Governance; about 3% did not have any IT Governance in place in their organizations.

5.2.1 Challenges faced in implementing the ITG frameworks

The respondents were asked about the challenges faced while implementing the IT governance framework and compliance; as it was an open-ended question, it has been tabulated as shown in Table 4.

Table 4: Challenges faced while implementing IT Governance frameworks and compliance

Challenges	Frequency	Percentage
Human Resources and Talent	10	28
Compliance	6	17
Security	2	6
Awareness and Lack of Coordination	2	6
Privacy and Breach	2	6
Acceptance of Change	2	6
No Idea/NIL	3	8
Organization Structure	2	6
Management buy in	2	6
Acceptance of Policies	6	17
Others	1	3

According to the 28% of the respondents, human resources and talent is a huge challenge while implementing IT governance frameworks, and 17% responded that another challenge is compliance which is followed by acceptance of the framework and policies so that the ITG framework is aligned with the organization's policies and environment as this will help to implement and maintain the standards.

5.2.3 Motivational factors for organizations to use ITG frameworks

The respondents were asked about the motivational factors for the implementation of the ITG framework in their organizations. Table 5 summarizes the responses of the respondents.

Table 5: Motivational factors for organizations to use ITG frameworks

Motivational Factors	Frequency	Percentage
Best Practices	6	17
Compliance	3	8
Better Quality	9	25
Improve Framework	4	11
Efficiency	4	11
Process Improvement	4	11
others	5	14
not answered	1	3

The data in Table10 indicates some of the motivational factors that make the organizations use ITG frameworks; about 25% of the respondents stated that organizations' go for ITG frameworks for a better workflow and better quality of services. 17% of the respondents stated that another motivational factor is to implement best practices. 11% of the respondents stated that organizations also adopt ITG frameworks as it helps them to improve the framework, improves the process, and increases efficiency.

6. Discussion

This part discusses the results of the survey that was shared and its impact on the study in terms of the challenges of compliance with information technology governance frameworks inside the organizations. To gather the data and make a solid understanding of the IT governance inside UAE organizations.

6.1 Challenges are being faced in implementing the IT governance framework(s) and compliance

After analyzing the data, the researchers found that 75% of organizations think the implementation of the IT governance frameworks; is effective but with challenges which means the implementation of the IT governance frameworks is not easy as we think. It includes many scenarios that can increase the challenges based on the implementations. We found there are many challenges to implementing the IT governance inside organizations, and we kept this question open to allow the organization to add their uncovered challenges. We grouped all of them, in Table 6, and the results found impressed as lack of resources and talent comes at the top of all challenges by 33%, like the sense of teamwork and enterprise, missing skills, lack of training, and shortage of specialized resources, including unclear responsibility with who owns Enterprise Architecture.

Table 6: challenges are being faced in implementing the IT governance framework(s) and compliance

Which challenges are being faced in implementing the IT governance framework(s) and compliance?	Count	Percentage
Lack of Resources and talent	12	33%
Lack compliance	9	25%
Culture challenge	7	19%
N/A	3	8%
Repeatable Updates	2	6%
Budget challenge	1	3%

Lack of compliance or noncompliance is the state of failing to comply with IT governance rules or policy; in this research, it comes second by 25%, which includes many reasons; many organizations feel that the IT governance initiatives, when deployed within the IT department, lead to the lack of coordination between the management side of the business and the IT-driven elements. Some organizations believe that contracts, legislation, policies, and industry standards may elicit such responses from them.
And the third one about the cultural challenge of 19%, which include how employees accept the new policies and frameworks inside their work environment and how they follow the standards; from the study, we also found budget is considered the lowest challenge at 3% only, which means it's not a considerable challenge to resolve.

6.2 Level describe IT governance in place

From the Table 7, we also found that most of the respondents have formalized IT governance at their organization, while 14% are running informal responsive and casual compliance policies, which means most of the organizations are working under formal procedures and policies while implementing the IT governance:

Table7: level describe IT governance in place

level describe IT governance in place	Count	Percentage
Although we have a formalized IT governance plan in place, it has not yet been implemented.	3	8%
At our organization, information technology governance is informal, responsive, and casual.	5	14%
We do not have any protocols or guidelines in place for information technology governance.	1	3%
We have formalized IT governance at our organization.	26	72%

Lapão (2011), in his study, describes the challenges and barriers to introducing IT governance the organizations. The author used both ITIL and COBIT as the best practice healthcare sector Management Systems. ITIL and COBIT were combined to assess the audit and identify the weaknesses in IT Governance. Some of the challenges seen were a lack of organizational and technical to address the information system (IS) management, lack of skilled personnel, inadequate project management practices, lack of data protection, lack of IT leadership and strategy, and unbalanced IT budget allocation.
In their research, the authors Nicho and Muamaar (2020) presented that unclear and ambiguous definitions of the roles and responsibilities can also be presented as a challenge to the implementation of the IT

governance framework. Authors Alreemy et al. (2016), in their study, have stated that another challenge in the implementation of an effective ITG is the inadequate involvement of the stakeholders. Successful implementation of ITG is a collaborative effort between the staff and the management within the organization, which is also the first principle of COBIT, i.e., to meet the needs of the stakeholder, and the first and second principle of ISO 38500 wherein without the involvement of the stakeholders the responsibility or strategy cannot take place.

7. Conclusion

As the study clearly find that most organization face many challenges, even those that have a successful implementation of IT governance, from the study 86% of respondents face challenges, and we found that even if the organizations see that IT governance is effective for them still, they mention that they face challenges by 78% overall organizations. From the study, we found that there is no big difference between private and government sectors in all parts of the survey, as they face the same challenges, same frameworks, and share the same implementation results, which argue that their governments have more effective IT governance than private.

On the other hand, the challenges move far from budget and money perspectives and focus on resources and skills as mentioned before by 33%, lack of compliance by 25%, and cultural issues by 19%, which means the main reasons for challenges come from people and management rather than money and technology.

The organization under this study share their concerns about how we can overcome the challenges of compliance with the IT governance framework within the organizations, and its shows that 42% of respondents see that if the organization creates new policies and make clear regulations, in addition, to confirm that the processes needed are being followed directly. Others include defining roles and responsibilities and defining and reporting on the critical success factors that are associated with the organization's key performance indicators (KPIs).

On the second level, we found that 33% see that the training of people inside the organization will overcome the challenges that could appear for the IT governance implementations, by training people, using systems and tools that support and are aligned with the framework used in the organization, not to use multiple standards as it might conflict, and also compliance officers should not only focus on documentation but focus on ensuring people are well aware and practicing the standards. For example, they should not only depend on Audits to assess compliance performance but rather do rehearsals and scenarios to detect misuse of processes or procedures.

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