

A Study of the Effect of Information Technology Governance on Quality of Information Technology Services: The Case of Jordan Customs Department

Ahmed A. Al-Qatamin*
Faculty of Business Studies, Arab Open University-Jordan

Mohammad H. Al-Omari
Jordan Customs Directorate

— *Review of* —
**Integrative
Business &
Economics**
— *Research* —

ABSTRACT

This research aimed at investigating the impact of information technology governance on the quality of services in the department of customs services in Jordan by deploying the Control Objectives for Information and Related Technologies framework (COBIT) which is used as a monitoring tool on information technology, and relating it to the extent of quality in IT services. A questionnaire was developed and used to collect data for this research and several hypotheses were formulated and tested using multiple regression analysis. Findings showed that the Acquisition and Implementation domain as well as Deliver and Support domain had significant impact on the quality of information technology services. On the other hand, findings indicated that there is no significant impact of Planning and Organizing domain and Monitor and Evaluation domain on quality of information technology services.

Keywords: Governance, IT, COBIT, Customes.

1.0 INTRODUCTION

Recently, the importance of information technology governance has dramatically increased for both profit and non-profit organizations in private and public sectors. Organizations need and depend on information technology to gain a competitive advantage through extensive usage of information and to enhance effectively the operations of control to increase customer satisfaction (Collin *et al* 2013, and Sam'un J. Wulan P. and Rivani, 2018)).

Corporate Governance in general refers to the mechanisms by which organizations are directed, controlled and made accountable (Clarke et al. 1998), Corporate governance is an important element in the efficiency of all companies and linked with their performance (Rafiq & Ilyas, 2012). It is concerned with the process and structures for controls, decision making, accountability and the behavior in the company the company (Gill, 2008). Corporate Governance describes the need of a specific company to have a clear direction and accountability in order to ensure achieving the objectives of organization.

Information technology Governance is recognized as a part of Corporate Governance which refers to the process that ensures the effectiveness of using information technology to enable organizations to achieve their objectives (ITGI, 2003). According to Symons (2005), information technology Governance, in brief, is the process of making decisions about information technology. This definition implies that each organization may process some aspects of information technology governance; good information technology

governance aligned with business strategy may deliver desired values with acceptable level of risk and take into account the organizational and cultural structures, maturity, and strategy. Therefore, information technology governance is considered nowadays as the core of most organizations abilities to execute their strategies.

On the other hand, information technology governance describes the distribution of information technology decision-making rights and responsibilities among different stakeholders in organization, and defines the mechanisms and procedures to make and monitor strategic information technology decisions (Paterson, 2004).

The effectiveness of information technology governance is determined based on the way by which information technology functions are organized and where information technology decision-making authority is located within the company (Haes & Grembergen, 2004). Information technology governance framework helps to implement information technology governance; this framework involves a structure which refers to the existence of responsible functions such as information technology executives, a variety of information technology communities, processes that refer to the monitoring and strategic decision making, and the relational mechanisms that include business-information technology participation, strategic discussion, shared learning and adequate communication (Paterson, 2003).

To evaluate the progress of information technology governance, there are many frameworks to use such as ITIL, ISO and COBIT framework which was developed in 1996 and used for such purposes (Symons, 2005). This researcher used COBIT framework as a tool of data collection to measure information technology governance progress at Jordan Customs. In the following parts of introduction, the researcher discussed the problem statement, the objectives, the significance, the scope, model and hypotheses, research limitations and variables and operational definitions.

1.1 RESEARCH PROBLEM

At present time, many public bodies in both undeveloped and developed countries are looking for new techniques to protect their assets and improve performance. Therefore, Jordan Customs department is one of these bodies that started early to adopt such ideas to improve their performance, but observed differences and gaps was actually found between what COBIT framework principles suggest and the current practices at Jordan Customs. Accordingly, researchers attempted to analyze and investigate these differences in order to find solutions and provide recommendations by answering the following question:

To what extent do information technology governance levels affect the delivered quality of Information Technology services?

1.2 RESEARCH OBJECTIVE

The researcher aimed to measure the level of information technology governance at Jordan Customs and to examine the effect of information technology governance level on Jordan Customs performance which shows the quality of delivered services in information technology department from the perspectives of employees. Thus, this research is considered to be an attempt to achieve the following objectives:

First, to measure the adopted level of information technology governance at Jordan Customs by deploying COBIT framework domains.

Second, to investigate the impact of adopted information technology governance level on the quality of delivered services from information technology department at Jordan Customs.

1.3 RESEARCH SIGNIFICANCE

This research can be beneficial to Jordan Customs to explore the maturity level of information technology governance and to evaluate the previous successful experiences in building good information technology governance. However, the importance of this research can be summarized as illustrated in the following section.

The current research can be used by Jordan Customs to revise the current information technology performance and to represent a useful feedback on the progress of information technology governance level; the research provides a comprehensive assessment for information technology governance level from officer's perspectives that can be used by the head management for self-assessment purposes.

The research can show the levels of service quality from different perspectives which depend on information technology efforts that differ from the traditional and common thoughts and depends on variables such as empathy.

This research reveals the current level of information technology governance in Arab region especially in Jordan comparing with the international and western region which may help to make plans to improve the quality of these services in Jordan Customs.

COBIT, as a tool to collect data, represents a new method to control over information technology daily action performed by Jordan Customs officers.

2.0 THEORETICAL BACKGROUND

In their study conducted in Poston, USA, Weill and Ross (2004) discussed Information Technology governance and how top performers manage Information Technology decisions rights for superior results. More than 250 companies were investigated in order to find out the profitability of these companies and if they implemented Information Technology governance concept. The study also aimed at determining the impact of Information Technology governance on business activities and if Information Technology governance achieved any additional value for these companies to reach a higher level of profitability. The findings of the study revealed that applying Information Technology governance programs increased profit by (20%) comparing with companies that implemented strategies without applying Information Technology governance in the business activities.

On the other hand, Pultorak and Kerrigan (2005) discussed Information Technology usage and its benefits to help in facilitating management teams to work at full energy, and to achieve a kind of organizational integration. The study helped to be align with stakeholders, and also to reach a good financial performance. The article presented the efficiency and effectiveness of performance that was achieved by Information Technology. It referred to COBIT and ITIL frameworks as tools by which the implementation level of Information Technology governance within company were measured. The study found that the company's administrations need to implement a good Information Technology governance to ensure success achievement of integration process at three directions: work consistency with stakeholders, functional integration and financial performance.

By performing a study on six hospitals in order to explore the impact of investment characteristics, external environment, and internal context, Xue (2008) indicated that the governance of the pre-decision initiation, development stages and the allocation of final decision rights were only main elements of Information Technology governance.

In their study, Haes & Grembergen (2009) discussed the interpretations that were related to the important existing theories, practices and models in the Information Technology governance area, and showed the research questions derived from. The study aimed at exploring how companies were implementing Information Technology governance and analyzing the relationship between business activities and Information Technology Alignment. The major result was that business -Information Technology Alignment maturity was higher when companies were applying a variety of mature Information Technology governance practices.

Motloutsi, (2009) assessed the current status of Information Technology governance in the top Information Technology spending companies in South Africa. The findings revealed that only few companies have matured levels of Information Technology governance where the processes measured and managed.

Moreover, Simonsson et al, (2010) investigated the relationship between Information Technology governance maturity and Information Technology governance performance. The results that based on a 35-case study confirmed the hypotheses of a positive correlation between Information Technology governance maturity and Information Technology governance performance, and the result found all correlations in the of Planning and organizing were minimum or medium correlation with Information Technology governance performance, most of the processes were related to Acquisition and Implementation and had at least a medium positive correlation with Information Technology governance performance, most of the processes that were related to Deliver and Support had strong positive correlation with Information Technology governance performance, and all processes were related to Monitoring and evaluating classified as having statistically significant small or medium positive correlation with Information Technology governance performance.

Castillo and Stanojevic (2011) assessed a company at Stockholm that was responsible for general transportation system in Stockholm from Information Technology governance perspective, identifying the problem areas and suggesting measures for improvement. COBIT framework was used to assess the maturity level of Information Technology governance at this company. The results revealed that the maturity level of Information Technology governance at this company obtained a score of 2.68 out of 5.00 which means there was significant progress had been achieved. However the study found that the company was in need for more progressive improvement.

Ali & Green (2012) studied the effective information technology Information Technology governance mechanisms by implementing structural equation modeling analysis to study 110 responses from members of Information Systems and Audit Control Association (ISACA) in Australia. The researchers claimed that there were a significant positive correlation between the effective Information Technology governance and the involvement of senior management in Information Technology, the existence of culture of compliance in Information Technology and corporate communication systems.

Tabash (2013) investigated the impact of implementing Information Technology Governance practices on business value driven from Information Technology. The sample of 57- matched questionnaire which were gathered from North America and Middle East. The findings showed that the implementation of different sets of Information Technology governance practices within organizations could affect different levels of performance at the business unit

In similar concern, Nassour et al, (2014) assessed the level of Information Technology governance as a case study on Syrian commercial bank in Latakia city by deploying COBIT framework s: Plan and Organize, Acquire and Implement, Deliver and Support, and Monitor and Evaluate. The researcher used a survey which was distributed to (43) managerial employees working in Syrian commercial bank in Latakia city. The study found that the implementation principle of Information Technology governance at that bank differed from the practices and principles of COBIT framework which gave implications that the level of Information Technology governance was still weak in banking sector in Syria.

A study performed by Ping (2015) investigated the effect of Information Technology governance mechanisms on organizational performance and found that it was fully mediated by strategic alignment and showed the importance of taking into account the type of Information Technology decisions (Weill and Ross 2004) and Information Technology activities (Sambamurthy and Zmud, 1999) besides the organization strategic direction (Weill and Ross 2004).

3.0 METHODOLOGY

Some Previous studies (Nassour, 2014;Otibi, 2012) utilized the COBIT four main domains to measure the maturity level of information technology governance. The research presumed that there was an impact of COBIT domains on quality of information technology services. Based on previous studies and the research model, the following five hypotheses were formulated:

H01: There is no statistically significant impact of Planning and Organizing domain on quality of information technology services.

H02: There is no statistically significant impact of Acquisition and Implementation domain on quality of information technology services.

H03: There is no statistically significant impact of Deliver and Support domain on quality of services that delivered from information technology department.

H04: There is no statistically significant impact of Monitor and Evaluate domain on quality of services that delivered from information technology department.

Based on the above argument, the following represents the model:

$$Y = a + b1X1 + b2X2 + b1X3 + b1X4$$

Where,

Y: the dependent variable (quality of information technology services)

a: the intercept

b1: the slope or regression coefficient of X1 (Planning and Organizing)

b2: the slope or regression coefficient of X2 (Acquisition and Implementation)

b3: the slope or regression coefficient of X3 (Deliver and Support)

b4: the slope or regression coefficient of X4(Monitor and Evaluate)

3.1 RESEARCH VARIABLES

As shown in figure 1, the model of research presents the independent variables, dependent variables and demographic variables of the research.

3.1.1 INDEPENDENT VARIABLES

Control Objectives for Information and related Technologies (COBIT) framework was developed by the *Information Systems Audit and Control Association* (ISACA) in 1996. This framework is used to assess and evaluate the maturity level of information technology governance. It refers to 34-high level control objectives which grouped into four s (Symons, 2005).

COBIT framework s are identified as independent variables in the model of this research.

These s are follows:-

- 1- Planning and Organizing: according to Symons (2005), this covers strategy and tactics which focuses on the way by which information technology can contribute to the achievement of business objectives. The processes that are related to Planning and Organizing domain are shown on table 1 below.

Table (1): Planning and Organizing Related Processes

- Define the strategic IT plan.
- Manage the IT investment.
- Determine the technological direction.
-Define the information architecture
-Define Information technology processes, organization and relationships.
- Communicate the management aims and direction
-Manage the IT human resources.
-Manage quality.
-Asses and manage the IT risk.
-Manage projects.
Source (ITGI,2007a)

2- Acquisition and Implementation doman provides and develops for implementation to realize information technology strategy, and also paying attention to maintenance of the existing systems to ensure that the suggested solutions might meet the business

objectives (Simonsson et al, 2010). The processes that are related to Acquisition and Implementation domain are shown on table 2 below.

Table (2): Acquisition and Implementation Related Processes

-Identify the automated solutions.
-Acquire and maintain the application software.
-Acquire and maintain the technology infrastructure.
-Enable operation and use.
-Procure Information technology resources.
-Manage changes.
-Install and accredit solutions and changes.
Source (ITGI,2007a)

3- Deliver and Support is related to services that are delivered from information technology to customers including performance, security and training (Symons, 2005). The processes that are related to Deliver and Support domain are shown on table 3 below:

Table (3): Deliver and support related processes

- Define and manage service levels.
-Manage third party services.
-Manage performance and capacity.
-Ensure continuous service.
-Ensure systems security.
-Identify and allocate costs.
-Educate and train users.
-Manage service desk and incidents.
-Manage the configuration.
-Manage problems.
-Manage data.
-
-Manage physical environment.
-
-Manage operations.
Source (ITGI,2007a)

4- Monitoring and Evaluating is related to performance management and internal control monitoring and regulatory compliance because all information technology processes need to be assessed through time passing to ensure their quality and compliance with control requirements (Simonsson et al, 2010). The processes that are related to Monitoring and Evaluating domain are shown on table 4 below.

Table (4): Monitoring and evaluating related processes

-Manage and evaluate Information technology performance.
-Manage and evaluate internal control.
-Ensure regulatory compliance.
-Provide Information technology governance.
Source (ITGI,2007a)

3.1.2 The dependent variable

According to Parasuraman (1985), Service Quality defined as the conflict between customer perceptions of service offered by firm and his/her expectations about firms offering such service. SERVQUAL model is a model used to test and assess the service quality. This model was developed by Parasuraman *et al* ,(1991) who embedded five domains to measure service quality according to the following points:

- 1- Tangibles: This domain refers to physical facilities and equipment.
- 2- Reliability: This domain is utilized by the researcher as a part of dependent variable which refers to the ability to perform accurately promised services.
- 3- Responsiveness: The researcher utilizes this domain as part of dependent variable which refers to the readiness to help customer and provide the services quickly.
- 4- Assurance: This domain refers to the ability to inspire trust and confidence.
- 5- Empathy: This domain refers to caring and the individualized attention that the company provides to its customers.

On the other hand, the quality of service in Jordan Customs is related to the process of providing information technology services which correspond to the Jordan Customs objectives and meet customers' expectations. According to Jordan Customs strategic plan in 2015, the objectives of customs as related to information technology are shortening clearance time of goods which is identified in this research as an element of dependent variable (JC, 2015).

However, the procedures of simplification which aim to decrease the time of services delivery are identified as an element of dependent variable.

The contribution of the current research is to combine traditional concept with measurement of service quality on one hand, and show how customs and customs officers assess the quality level of information technology services, on the other.

Finally, the selection of the elements of the dependent variable is based on the assumption that the information technology services delivered by customs officers differ from the concept of external customers. Thus, based on Jordan Customs strategic plan 2015, The elements of dependent variables are presented below:-

- 1- Reliability

- 2- Responsiveness
- 3- Minimizing of clearance time
- 4- Procedure simplification

3.2 SAMPLING PROCEDURES AND SAMPLE DESCRIPTION

The population of the current research was (351) officials who work at Jordan Customs at three managerial Levels: division chiefs, assistant managers and directors. The sample of this research was (209) officials who responded to the survey that was distributed online by the website of Jordan Customs.

The questionnaire was electronically delivered by the website of Jordan Customs to all officials who work in the three managerial Level : division chiefs, assistant managers, and directors. Only (209) of the participants responded to the questionnaire. Consequently, the researcher got an acceptable sample size of (209) managerial employees from headquarter, internal customs centers and boarders customs centers.

The descriptive properties of the sample are shown below on table 5.

Table (5) Descriptive statistics of Data

	Gender	Age	Education Level	Managerial Level	Experience Level
Valid Data	209	209	209	209	209
Missing Data	0	0	0	0	0

3.3 RESEARCH APPROACH

The approach of this research was mainly a deductive approach which starts by developing hypotheses and followed by development of a rational strategy to test and verify their validity. The model of the research was applied to test the impact of COBIT in the four s of the quality of services.

3.4 DATA INSTRUMENT AND DATA COLLECTION

To achieve the objectives of this research and answer its questions, a questionnaire was developed by the researcher to act as a primary quantitative data source.

The total number of the questionnaire items was 56 which were used to collect the required data from Jordan Customs officers about dependent and independent variables. The questionnaire is divided into three parts as follows:

Part one consisted of 5 questions about the personal information that reflect the demographic variables.

Part two consisted of 41 items about COBIT s that reflect the independent variables and are borrowed from (Nassour *at el*,2014) who used COBIT framework to measure the adopted level of Information Technology governance in banking sector in Syria.

Part three consisted of 10 items about the quality of Information Technology services (Reliability, Responsiveness, Decreasing clearance time, Procedure simplification) that reflect the dependent variable. The researchers distributed the questionnaire through website of Jordan Customs to all participants in the headquarter and the other different

customs centers. A full support was given to all participants in case they need any explanation or clarification during responding to the questionnaire.

Finally the results was electronically collected and retrieved from Jordan Customs databases, then it was analyzed utilized SPSS statistical package for data analysis.

3.5 RELIABILITY AND VALIDITY OF THE INSTRUMENT

To establish the validity of the data collection instrument, The researcher consulted jury of professors in the faculty of business. Accordingly, the researchers changed, modified and deleted any irrelevant items and made any required amendments. However, Cronbach alpha was statistically used to measure the internal consistency of reliability. Reliability should be (0.60) or higher to indicate adequate convergence or internal consistency, (Sekaran, 2016).

The highest level of Cronbach alpha (0.941) was related to (Acquisition and Implementation) and the lowest level of Cronbach alpha (0.901) was related to (Deliver and Support) after refinement. Accordingly, These results are at acceptable levels suggested by Sekaran (2010). The results are shown on table (6) below.

Table (6) Reliability Coefficients

<u>Variable</u>	<u>Value</u>
Planning And Organizing	0.905
Acquisition And Implementation	0.941
Deliver And Support	0.901
Monitoring And Evaluating	0.911
Overall	0.920

3.6 STATISTICAL METHOD

The researchers used multiple regression analysis to test the hypotheses of the study. This analysis was used to investigate the impact of the independent variables on the dependent variable. Thus, Multiple regression analysis was used to investigate the impact of COBIT framework s on quality of Information Technology services. This type of analysis is the most widely used model in business research. To start the the multiple regression analysis, the researcher should build hypotheses that are derived from the study model (Sekaran & Bougie,2016).

4.0 FINDINGS

Based on the purpose of the research and the research framework that was presented in the previous sections, this section presents the results of the analysis and the interpretation of them. In this section, the study hypotheses are tested and results are presented, the model goodness of fit is tested and evaluated and the adopted level of Information Technology Governance at Jordan Customs is thoroughly discussed.

4.1 TESTING THE MODEL GOODNESS OF FIT

Table (7) Model Summary

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	29.607	4	7.402	58.855	.000
Residual	25.655	204	.126		
Total	55.262	208			

As shown on tables (7) and (8), the model goodness of fit is supported by the value of R Squared (.536) and F- value of (58.855) at (0.000) significance. Therefore, the model is fit for testing the research hypotheses.

4.2 The Results of Testing the Research Hypotheses

The results of testing the research hypotheses shown in table (9) provide an indication about the significant impact of the independent variables on the dependent variable.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square	F	df1	df2	Sig.
1	.732 ^a	.536	.527	.35463	.536	58.855	4	204	.000

Table (8) ANOVA Analysis

Table (9) Model Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	1.177	.186		6.328	.000		
Planning and organizing	.003	.082	.003	.031	.975	.295	3.389
Acquisition and implementation	.165	.080	.174	2.080	.039	.324	3.088

Deliver and support	.546	.106	.556	5.139	.000	.195	5.137
Mentoring and evaluating	.029	.074	.035	.392	.696	.289	3.465

4.2.1 The First Hypothesis (H01)

H01: Stated that there is no statistically significant impact of Planning and Organizing on the quality of Information Technology services. The results shown on table (9) indicated that Planning and Organizing has no significant impact on the quality of Information Technology services since ($t = .031$) and Sig. value is more than (0.05) significance level where (Sig = .975).

4.2.2 The Second Hypothesis (H02)

H02: Stated that there is no statistically significant impact of Acquisition and Implementation on the quality of Information Technology services. The results shown on table (9) indicated that Acquisition and Implementation has significant impact on quality of Information Technology services since ($t = 2.080$) and Sig value (Sig = .039).

4.2.3 The Third Hypothesis (H03)

H03: Stated that there is no statistically significant impact of Deliver and Support on the quality of Information Technology services. The results shown on table (9) indicated that Deliver and Support has significant impact on quality of Information Technology services since ($t = 5.139$) and Sig (Sig = .000)

4.2.4 The Fourth Hypothesis (H04)

H04: Stated that there is no statistically significant impact of Monitoring and Evaluating on the quality of Information Technology services. The results shown on table (9) indicated that Monitoring and Evaluating has no significant impact on quality of Information Technology services since ($t = .392$) and Sig value is (Sig = .696).

Finally, and according to the results mentioned above, Acquisition and Implementation and Deliver and Support s have a significant impact on the quality of IT services. On the other hand, both Planning and Organizing and Monitoring and Evaluating s revealed no significant impact on the quality of Information Technology services.

5.0 CONCLUSIONS AND DISCUSSIONS

The adopted level of Information Technology governance at Jordan Customs is about average which differs from the practices according to the framework of COBIT domains and this gave indication that the level of Information Technology governance was still low in Jordan Customs.

These results agree with (Nassour *et al*, 2014) who found that the adopted level of Information Technology governance at commercial bank of syria – Latakia branch- is at

average level and differed from the defined practices according to the framework of COBIT domains that gave indications that the level of Information Technology governance was still weak in banking sector in Syria.

These results also agreed with the findings of Veronica (2009) who indicated that the adopted levels of Information Technology governance maturities in some companies, especially the governmental organizations, were still low.

Moreover, the results go in line with what Castillo (2011) findings that the maturity level of Information Technology governance at Stockholms Lokaltrafik (SL) which is a government organization and responsible for general transportation system in the city of Stockholm, obtained a score 2.68 out of 5.00 and the company still had great potential for improvement.

Additionally, the study reveals that there is no significant effect of the Planning and organizing on the quality of Information Technology services. These results unexpectedly contradict with what (Simonsson et al, 2010) claimed that all correlations in the of Planning and organizing were minimum or medium correlation with Information Technology governance performance. This disagreement between these results and the results found by (Simonsson et al, 2010) may have been caused by the fact that operating cultures may be different that underline the two studied.

Another point to discuss here is that the researchers can conclude that there is a significant impact of the Acquisition and Implementation on the quality of Information Technology services. This result is similar to what (Simonsson et al, 2010) found in their research which indicated that most of the processes were related to Acquisition and Implementation and had at least a medium positive correlation with Information Technology governance performance.

On other hand, researchers found that there is a significant impact of Deliver and Support on the quality of Information Technology services. These results agree with the results of (Simonsson et al, 2010) which indicated that most of the processes that were related to Deliver and Support had strong positive correlation with Information Technology governance performance.

Another conclusion is that, there is no significant effect of the Monitoring and evaluating on the quality of Information Technology services. These results unexpectedly did not agree what (Simonsson et al, 2010) who claimed that all processes which were related to Monitoring and evaluating were classified as having statistically small or medium significant positive correlation with Information Technology governance performance. This disagreement between these results and what (Simonsson et al, 2010) found may be due to the fact that there are differences in the reality and varied practices of his samples and Jordan Customs, in addition to the different working environments and codes between the two samples.

Finally, the study reached the following conclusions:

1- The adopted level of Information Technology governance at Jordan Customs is at about average level which differs from practice according to the framework of COBIT in the four main s, it was concluded that the Information Technology governance principles were applied as per COBIT scale. However this application is still under further development.

2- Acquisition and Implementation and Deliver and Support have a significant impact on quality of Information Technology services. However, both Planning and organizing and

Monitoring and evaluating showed no significant impact on quality of Information Technology services.

REFERENCES

- [1] Ali, S, & Green, P 2012, '*Effective information technology (IT) governance mechanisms: An IT outsourcing perspective*', Information Systems Frontiers, 14, 2, pp. 179-193, Computers & Applied Sciences Complete, EBSCOhost, viewed 5 August 2016.
- [2] Al- Otaibi, M. (2014), '*Evaluation the Level of Information Technology Governance at Al- Taif University*'. Deanship of Scientific Research\ Jordan University, Managerial Science, Vol 41, No.1, PP. 92-109.
- [3] Clarke R, Conyon M, Peck S (1998), '*corporate governance and directors Remuneration: view from the top*', *business strategy review*, vol (9), issue (4), pp 21-30, (1998).
- [4] Castillo. Felipe & Stanojevic.Petar,(2011).'*An Assessment of the IT governance Maturity at SL*', Unpublished thesis. Department of Industrial information and control systems, Royal institute of Technology. Stockholm, Sweden.
- [5] De Haes, S, & Van Grembergen, W 2009, '*An Exploratory Study into IT Governance Implementations and its Impact on Business/IT Alignment*', Information Systems Management, 26, 2, pp. 123-137, Computers & Applied Sciences Complete, EBSCOhost, viewed 2 August 2016.
- [6] De Haes, S, & Van Grembergen, (2005), '*Measuring and improving IT governance through the balanced scorecard*', Information Systems Control Journal, volume (2), (2005).
- [7] Gill A, (2008), '*corporate governance as social responsibility: A research agenda*', Berkeley Journal of International Law, Vol 26, issue 2.
- [8] Haes S, Grembergen W, (2004), '*IT governance and its mechanism*', information systems control journal, volume (1), (2004).
- [9] Ilyas M, Rafiq M, (2012), '*impact of corporate Governance on perceived organizational success (empirical study on consumer banks in Lahore. Pakistan)*', international journal for business and social science, Vol 3, No 13, 2012.
- [10] IT Governance institute (ITGI), (2003), '*Board Briefing on IT Governance*' 2ndEd. Rolling Meadows, IL: IT governance institute.
- [11] IT Governance institute (ITGI), (2007a), '*control objectives for information and related Technology*, 4.1stEd. Rolling Meadows, IL: IT governance institute.
- [12] Nassour R, Ali H, Zayoud L, (2014), '*determining the (IT) Governance applicable commercial bank of Syria on Lattakia according to a framework(COBIT)*', Tishreen university journal for research and scientific studies, Vol 36, No 2.
- [13] Parasuramen, A. Berry,L, & Zeithaml,V, (1991), '*Refinement and Reassessment of the SERVQUAL scale*, journal Retailing,67,4, p.420 Business source complete , EBSCOhost viewed 16 June 2016.
- [14] Parasuramen, A. Zeithaml, V.A. and Berry, L.L, (1985), '*A conceptual model of service quality and its implications for future research*', journal of marketing, vol 24, pp 41-50.
- [15] Paterson, R (2004), '*crafting information technology governance*', information systems management, 2004, pp 7-22.
- [16] Ping-Ju Wu, S, Straub, D, & Liang, T 2015, '*how information technology governance mechanisms and strategic alignment influence organizational*

- performance: insights from a matched survey of business and it managers'*, MIS Quarterly, 39, 2, pp. 497-518.
- [17] Pultorak D, Kerrigan J, (2005), "*conformance, performance and rapport: A framework for corporate and (IT) governance*", NACD.
- [18] Sekaran, U.& Bougie, R.(2016). '*Research Methods for Business*'. West Sussex:Jone Wiley & Sons Ltd.
- [19] Simonsson M, Johnson P,& Ekstedt M, (2010) , *the effect of (IT) governance maturity on (IT) Governance performance*, information systems management,27,1, pp 10-24.
- [20] Symons, C, (2005), '*IT governance framework: structure, processes and communication*'.USA: Forrester research, Inc.
- [21] Tabash. Afaf,(2013).'*IT governance impact on Business performance*'. Unpublished thesis. Business Administration, Concordia University. Montreal, Canada.
- [22] Weill P, Ross J,(2004), *IT governance; how top performers manage IT decision Rights for superior results*, Harvard business school press, Boston, (2004).
- [23] Sam'un J. Wulan P. and Rivani. (2018) "Adoption of Information and Communication Technology on Enhancing Business Performance: Study on Creative Industry SMEs in Bandung City, Indonesia, (2019)", Review of Integrative Business and Economics Research, Vol. 8, Supplementary Issue 3.