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The impact of implementing information technology governance based on the COBIT-2019 framework on institutional performance

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Abstract: The objective of this study is to explore the impact of implementing Information Technology Governance (ITG) based on the ISACA [1] framework on institutional performance in Jordanian commercial banks. Specifically, the study examines the influence of the ISACA [1] framework: (Evaluate and Direct, acquiring, implementation, Service and Support) in institutional performance. IT governance (ITG) is a strategic and managerial process designed to ensure the effective and accountable use of information technology within an organization. The ISACA [1] framework is instrumental in improving the effectiveness of audit controls and processes, thereby enhancing the governance of IT operations. This research adopts a quantitative approach, utilizing a questionnaire to gather data from 160 participants, including audit managers, heads of audit departments, audit committee chairs, and auditors working in Jordanian commercial banks. Of the 160 questionnaires distributed, 152 were returned, 5 were excluded, and 148 valid responses were analysed. The results of the study indicate that all independent variables, including the ISACA [1] framework, have a positive and significant impact on institutional performance. One of the key findings of the research is that the "Monitor and Evaluate" dimension of IT governance has a particularly strong influence on institutional performance. This can be attributed to the essential role that IT delivery, along with the implementation of IT applications and services, plays in the functioning of organizational systems.

Keywords: *COBIT-2019 Framework, Information Technology Governance, Institutional Performance.*

1. Introduction

With the increased development in business sector, there has been more changes towards business environment that is highly dependent on new techniques, such as social media sites, cloud computing, and data-analysis techniques. Indeed, these techniques contribute to achieving more success in business; however, they pose concerns and challenges related to management and governance of information technology. Accordingly, there has been a need to come up with innovative solutions to deal with risk scenarios related to information technology which, in turn, contributes to developing a framework that aims to improve work governance of COBIT and information technology in institutions. This framework helps companies coordinate and direct their technological activities in accordance with the targeted objectives to achieve success.

COBIT framework is a framework established by the organization of information technology audit and control in order to manage information technology in institutions, where the existence of an effective governance of information technology is considered as a basic element for the success of business [2]. Also, COBIT is a globally-recognized information technology framework, and a reference model to assure safety and optimal usage of information technology. This framework is used to improve work performance by making a balance which aims to add value to information technology and reduce the risks related to it. COBIT includes asset of practices and processes that determine inputs and outputs relating to each single process, in addition to the main activities, the objectives of each process,

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performance scales and ability-maturity models. Indeed, this helps institutions assure that the used information technology corresponds with work objectives, where resources are used effectively and risks are monitored accurately [3].

ISACA [1] provides the possibility of gradual development of information technology frameworks. Accordingly, the increasingly changing conditions in the elements of digital administration and information technology, necessitated institutions' readiness to retest the best practices, programs, technology and the selected initiatives regularly in order to satisfy and surpass the customers' standards and needs [4].

ISACA [1] surpasses users and customers' immediate needs, and assures more congruence between information technology and major work strategies. Achieving this context alongside with the daily complexities of process management requires the existence of a higher-rank, comprehensive and well-determined perspective. COBIT provides the various possible requirements to assure the availability of all information technology professionals, as well as teams, departments and stakeholders in the same context. This study aims to identify the impact of applying information technology governance based on COBIT framework on the institutional performance in the Jordanian commercial banks.

2. The Study Problem

The Jordanian commercial banks are faced by more challenges due to the rapid technological changes, where it has become necessary to cope with those changes by adopting information technology governance framework. By doing so, we can assure improving the efficiency of institutional performance and enhancing the competitive advantage. ISACA [1] is viewed as a pioneer framework that contributes to achieving effective governance of information technology and guiding its resources in line with a bank's strategic objectives.

Even though applying ISACA [1] provides several advantages to commercial banks, such as improving coordination between information technology and work objectives, as well as reducing the risks related to using technology, there are several challenges that could face banks in applying this framework. Those challenges include resisting change by employees, the difficulty of integrating the new practices within the current organizational structures, the lack of sufficient training, and the primary costs relating to applying this framework.

The study problem lies in assessing the impact of information technology governance based on ISACA [1] framework on institutional performance in the Jordanian commercial banks.

The problem is represented by questions concerning the extent to which this framework can improve operational efficiency, reduce technical risks, and increase the competitive power of banks, in addition to the challenges that may face those banks while applying this framework. Will COBIT contribute to improving general performance in banks by enhancing the process of decision making, and achieving balance between information technology and business strategies? Will the Jordanian commercial banks be able to adapt with this framework in the light of the financial and organizational challenges they may face?

The study aims to answer these questions by analyzing the impact of applying information technology governance based on ISACA [1] framework in institutional performance in the Jordanian commercial banks.

3. The Study Importance

The importance of this study lies in highlighting the effect of applying information technology governance based on ISACA [1] framework on the institutional performance in the Jordanian commercial banks. In the light of the rapid changes in technology and its increased usage in the various work sectors, information technology governance has become a vital issue to ensure that the technological systems are operated effectively in line with the institution's objectives. Based on this study, banks and financial institutions may be able to realize the way through which they can improve the performance and promote their response to the requirements of markets and competition by

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adopting an effective framework, such as COBIT. This study also contributes to understanding the way of achieving balance between information technology and business requirements which, in turn, enhances the effectiveness of using resources, reducing risks, and increasing the value of information technology in modern business environments.

4. The Study Objectives

The main objective of this study is to identify the impact of applying information technology governance based on ISACA [1] framework (evaluation and direction, acquisition and implementation, service and support) in institutional performance in the Jordanian commercial banks. The following sub-objectives are derived from this main objective:

1- Identifying the impact of applying information technology governance based on ISACA [1] framework according to the dimension of evaluation and direction in institutional performance in the Jordanian commercial banks.
2- Identifying the impact of applying information technology governance based on ISACA [1] framework according to the dimension of building, acquisition and implementation on institutional performance in the Jordanian commercial banks.
3- Identifying the impact of applying information technology governance based on ISACA [1]framework according to the dimension of service and support in institutional performance in the Jordanian commercial banks.

5. Literature Review

5.1. Theoretical Framework

Information technology governance has become amongst the basic pillars for the success and continuity of the public sector, where the effective implementation of information technology governance is considered as a prominent factor for dealing with the challenges that face using information technology in the public sector.

5.2. The Concept of Information Technology Governance Based on ISACA [1] *Framework*

Information technology governance can be defined as one of the responsibilities of the board of directors and the executive management, where it is viewed as an integral part to corporate

governance. It consists of the organizational processes and structures which imply that information technology contributes to achieving the institution's objectives and strategies [5]. Information technology governance was also defined as an integral part of corporate governance that is performed by the board of directors, where it includes defining and implementing the processes, structures and mechanisms that enable stakeholders in the domain of business and information technology to do their responsibilities relating to supporting work, adjusting information technology as well as establishing and protecting the value of information technology business [6].

The international organizations and commissions concerned with information technology governance issued the international standards and applications that are viewed as practices for implementing the control over the resources of information technology and managing digital transformation. These standards and applications included the framework of control objectives for information and related technology (COBIT) [7-10]. Indeed, this framework received a global approval by the information system audit and control association (ISACA) as a credible source of information technology governance and control. The first issuance of this framework was in 1996, followed by the second issuance in 1998, then the third issuance in 2000, the fourth issuance in 2004 which was amended in 2007, followed by the fifth issuance in 2012, and finally the issuance of November, 2018. (ISACA) issued an updated version of (COBIT), referred to as [1, 6, 11].

Generally, COBIT framework was defined as "a framework for information technology governance and management, where it targets the economic unit as a whole, and includes all the technology and

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information available in the economic unit, as this unit uses this framework to achieve the targeted objectives regardless the site of this technology and information within the economic unit" [10]. Indeed, ISACA [1] is viewed as one of the modern versions issued by (ISACA), where this framework was issued given the increased advancement and changes in information technology- it distinguishes between technology and information as compared to information technology. In this vein, it is considered as an optimal framework that allows for adding a new content to deal with new issues flexibly [12].

5.3. The Dimensions of Information Technology Governance Based on [1]

ISACA [1] is based on five dimensions, where the first dimension is derived from governance, and the other four dimensions are derived from the domain of management. The five dimensions of ISACA [1] can be outlined as follows [13]:

- The First Dimension: Evaluation, Direction and Monitor (EDM):
  This dimension represents a comprehensive framework that helps institutions achieve their objectives in the domain of information technology governance, update the general framework of information technology governance, maximize the added value by employing the processes of facilities and information technology resources based on an acceptable cost, and assure the effective management of information technology risks.
- The Second Dimension: (Alignment, Planning, and Organization) (APO):
  This dimension addresses the issues relating to activating information technology framework, aligning with the strategic objectives to satisfy and achieve the organization's objectives, determining the different requirements that are necessary to establish information technology management, doing more efforts to adopt new technological innovations and develop the efficiency of organization's processes, exploiting the different resources optimally, managing the financial affairs of information technology resources, managing human resources, as well as managing the relationships between information technology departments and the different managerial levels.
- The Third Dimension: Building, Acquiring, Implementation (BAI)
  This dimension addresses developing and changing the current systems with modern ones. It also includes an integration between systems and work procedures, management of change to implement systems at the level of business management and technology-based processes, in addition to the determination of the suitable requirements for using information technology in improving control processes.
- The Fourth Dimension: (Delivering, Service, and Support) (DSS):
  This dimension is more concerned with coordinating and implementing the internal activities and processes related to information technology, responding to customers' needs and all information technology issues in the suitable time, dealing with information technology failures, establishing and developing a plan to manage the continuity of organization's processes and information technology, protecting the organization's processes against possible risks, and maintaining the safety of information.
- The Fifth Dimension: (Monitoring, Evaluation, and Assessment) (MEA):
  This dimension aims to confirm the level of congruence between the current information technology systems and the designed plans in order to achieve the targeted objectives, access an autonomous evaluation concerning the effectiveness of information technology systems and their ability to achieve the control processes in the different units based on internal and external auditing in order to assess the level of compliance with systems and regulations.

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5.4. Previous Studies

Al Far [14] This study aimed to identify the impact of information technology governance based on the dimensions of ISACA [1] on the quality of information disclosure relating to the reports of governmental financial management information system (GFMIS). A field study was conducted, where (195) questionnaires were distributed to representatives of the ministry of finance in the governmental units, auditors in central auditing departments, and faculty members. The study used the analytical descriptive approach, where a questionnaire was developed and distributed to the sample individuals. The collected data were analyzed by using (SPSS- 27). The results showed that several challenges faced implementing (GFMIS). The results also revealed that information technology governance based on (COBIT) contributed to improving the quality of information disclosure relating to the reports of governmental financial management information system (GFMIS).

Mangoki, et al. [15] explore the application of the ISACA [1] framework in managing Information Technology Governance at Manado Post. The project aims to enhance the management of operations and data within Manado Post by using information systems and IT tools. The study, based on a literature review of ISACA [1] design factors, identifies key objectives from the ISACA [1] toolkit, focusing on EDM03 and APO03. Although Manado Post has achieved a level 2 capability for EDM03, some activities remain unrealized. For APO03, the company has yet to reach level 2, indicating a need for improvement in goal identification, stakeholder engagement, and aligning architectural goals with strategic initiatives. The study recommends conducting a thorough analysis of the unrealized sub-objectives, benchmarking against similar organizations, and developing clear follow-up plans to enhance Manado Post's practices in risk management and enterprise architecture.

Mangoki, et al. [15] This research focuses on designing IT governance at XY University using the COBIT 2019 framework. A qualitative approach is used, incorporating techniques such as interviews, observations, expert judgment, and relevant literature studies on IT governance concepts and the COBIT framework's application across various fields. The study proposes an IT governance design deemed suitable for XY University, based on the ISACA [1] framework. The findings, derived from four processes, show scores ranging from 50 to 100 with capability levels 3 and 4 in APO04 (Managed Innovation), APO03 (Managed Enterprise Architecture), APO07 (Managed Human Resources), and BAI07 (Managed IT Change Acceptance and Transitioning). These results are translated into actionable recommendations for implementing IT governance at the university.

Tangka and Lompoliu [16] This research investigates the adoption of ISACA [1] at PT. Pelindo TPK Bitung, a logistics and storage company, aimed at strengthening its IT governance. Faced with challenges in IT management, the company implemented [1] to improve operational efficiency, mitigate security risks, and ensure regulatory compliance. The study followed a structured approach, incorporating a literature review, interviews, and comprehensive evaluations. Key findings from the first interview highlight the company's emphasis on growth, innovation, and strategic IT roles, while also revealing difficulties in aligning IT with operations. The governance objective DSS05 - Managed Security Services reached a capability level 3, reflecting significant success, though security gaps remain that require policy improvements. The research concludes that while ISACA [1] has been effectively implemented at PT. Pelindo TPK Bitung, further efforts are needed to address security gaps and sustain improvements in security management. This study offers valuable insights into ISACA [1] implementation, with a particular focus on the need for continuous security enhancements.

El Sejiny, et al. [13]. The study aimed to identify the concept of the ISACA [1] framework, its developmental stages, investigate its role in the implementation of information technology governance in the various institutions by providing objective ways to align business strategies with the objectives of information technology, and identify its role in managing the risks of information technology processes in the Iraqi banks. A total of (170) questionnaires were distributed to accountants and auditors in the internal-audit departments, risk-management and information-security departments, and some administrators and managers in six Iraqi banks, whereas only (123) questionnaires were returned. After analyzing the responses of the sample individuals, the results revealed that there is a statistically

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significant impact at (0.05) for the processes of ISACA [1] framework in improving the risk management of information technology processes in the Iraqi banks.

Sipayung and Yunis [17]. The study evaluates information technology governance at Mikroskil University using the ISACA [1] framework, specifically focusing on the BAI11 domain. The primary goal of the research is to assess the university's IT governance capabilities and maturity levels. The results show that Mikroskil University is operating at capability level 1 (Performed) and maturity level 2 (Managed). Based on these findings, a gap analysis is conducted to identify areas for improvement and to provide recommendations for enhancing IT governance practices. The focus of the study is to bridge these gaps and propose strategies for advancing the university's IT governance framework.

Lestari, et al. [18]. This study employs a mixed-method approach, combining questionnaires, interviews, expert judgment, and relevant literature reviews related to the e-Marketplace system and IT governance concepts using the ISACA [1] framework. The framework includes 11 design factors and 40 IT processes, which were used to determine the most suitable governance model for e-Marketplace companies. The findings highlight six key methods in the IT governance model using the DevOps approach: APO03 – Managed Enterprise Architecture, APO04 – Managed Innovation, BAI04 – Managed Availability and Capacity, BAI06 – Managed IT Changes, BAI11 – Managed Projects, and DSS03 – Managed Problems. All of these methods achieved scores greater than or equal to 75, with the target capability level reaching level 4.

Thabit [12]. This research aims to clarify the concept of the ISACA [1] framework, highlighting its key advantages and assessing public awareness regarding its implementation benefits in the IT environment. Additionally, it addresses the main risks associated with e-audit and explores the potential impact of ISACA [1] implementation on reducing these risks. The findings reveal that respondents in Erbil exhibit a moderate level of interest in adopting ISACA [1] as an effective system for mitigating e-audit risks. Furthermore, the efficient application of ISACA [1] in e-auditing can strengthen the audit profession as a crucial control mechanism. Key recommendations from the research include urging the government to reduce e-audit risks by mandating the implementation of the COBIT2019 framework across all organizations. Additionally, the government should encourage the use of e-audit in organizations, as it could serve as a strong incentive for improving the country's IT infrastructure.

In his study, Thabit [12]. aimed to identify the concept of ISACA [1] framework, in addition to its advantages and the awareness level of those advantages in information technology environment, and demonstrate the most prominent risks facing electronic auditing. The results revealed that the effective application of ISACA [1] framework contributes to increasing customers' satisfaction with internal and external auditing systems, reduces the risks of information technology, and controls performance in organizations.

6. Research Methodology

The study adopted a descriptive-analytical approach by describing the study variables, which are represented by the impact of implementing IT governance based on the ISACA [1] framework, according to the following dimensions: evaluation and direction, acquisition, ownership and implementation, service and support. This was examined in relation to institutional performance in Jordanian commercial banks. The study is considered a quantitative descriptive study as it investigates the impact of applying IT governance based on the ISACA [1] framework on institutional performance in Jordanian commercial banks.

7. Study Population and Sample

The study population is defined as all the elements of the phenomenon being studied by the researcher, or all the individuals, persons, or things that constitute the subject of the research problem. The study population consists of all individuals working in the internal audit department of Jordanian commercial banks, including the following roles: audit managers, heads of audit departments, audit committee chairs, and auditors. The total number of individuals is 490, based on the statistics provided

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by the human resources departments in the sampled banks. The researcher used a simple random sample of 160 employees. A total of 160 questionnaires were distributed, 152 were returned, 5 were excluded, and 148 valid questionnaires were analyzed. Therefore, the response rate was approximately 97%, which is considered representative of the study population.

8. Data Collection Sources

The necessary data to achieve the objectives of this study was obtained through two main sources:
First: Secondary Sources

The researcher collected data related to the current study by referring to secondary data sources, which include Arabic and foreign references such as books, theses, journals, previous studies, scientific research, and articles that addressed the topic. Additionally, the internet, publications, and documents related to the subject were also consulted.
Second: Primary Sources

The researcher relied on a questionnaire as the primary tool for data collection from the study sample to address the analytical aspects of the study topic.

9. Validity of the Study Tool

The questionnaire was presented to judges to ensure its validity and suitability for the research objectives. This was done by presenting the study tool to a group of experienced experts and specialists in the topic under investigation, who were asked to provide their opinions regarding the validity and appropriateness of each item in the questionnaire and its suitability for measuring what it was intended to measure. Necessary revisions were made based on their feedback.

10. Reliability of the Study Tool

The availability of accurate and reliable measures is crucial in field research that relies on questionnaires as the primary data collection tool. Unreliable measures do not provide an accurate representation of the situation being studied. Reliability pertains to the degree of confidence in the data obtained through the application of the study tool on the research sample. In other words, the results obtained through data analysis should not be influenced by factors due to random errors. In brief, reliability can be described as ensuring the same results are obtained when the tool is applied to the same group of individuals again. The Statistical Package for the Social Sciences (SPSS) software offers several methods to calculate the reliability of the study tool. To ensure the reliability of the study tool, the Cronbach's Alpha formula was used to test the internal consistency of the study tool and its variables. Hair, et al. [19] stated that a value between 0.6 and 0.7 is the minimum threshold for accepting reliability. Garson [20] suggested that a value of 0.7 is the minimum acceptable threshold, while a value of 0.8 or above indicates strong reliability. The Cronbach's Alpha value for all items in the scale was 0.902. For individual variables, the highest Cronbach's Alpha value was for evaluation and direction variable, which was 0.882, while the lowest value was for service and support variable, which was 0.755. This means that the reliability coefficients for all the variables and sections of the study tool are acceptable for the purposes of this study.

11. Description of the Study Variables

11.1. Descriptive Statistics for Questionnaire Responses

The level of availability of indicators measuring the impact of implementing IT governance based on the COBIT 2019 framework on institutional performance was determined based on the average response values of the study sample to the questionnaire questions related to the study variables. the results indicates that the responses of the sample members to the groups of statements related to the dimensions of the ISACA [1] framework showed an overall average of (3.90) with a standard deviation

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of (0.83), which indicates a consensus among the sample members in this regard. The "Evaluate and Direct" variable ranked first with an average of (3.89), followed by the "Build, Own, and Execute" variable with an average of (3.87). The "Service and Support" variable ranked third with an average of (3.86). Overall, these results suggest that the implementation of IT governance based on the ISACA [1] framework has an impact on the institutional performance of Jordanian commercial banks.

Table 1.
Descriptive Statistics for Survey Responses related to IT governance based on the ISACA [1].

IT governance based on the ISACA [1]	**Standard Deviation**	**arithmetic mean**	**Degree of availability**
Evaluate and Direct	3.89	.391	High
acquiring, implementation	3.87	3.90	High
Service and Support	0.86	3.89	High
institutional performance	.084	3.88	High

12. Testing the Study Hypotheses

12.1. Main Hypothesis Test Results

H01 - There is no statistically significant effect, at a significance level of ($0.05 \geq \alpha$), of implementing Information Technology Governance based on the ISACA [1] framework (Evaluate and Direct, Acquiring, Implementation, Service and Support) on institutional performance in Jordanian commercial banks.

This hypothesis was tested using the standardized multiple linear regression analysis, and the results are presented in Table 2.

Table 2.
Results of testing the impact of implementing Information Technology Governance based on the ISACA [1] framework in institutional performance.

Dependent variable	**Independent variable**	**Standard deviation coefficients**		**Standard coefficients**	**T. Value**	**T. Sig.**
		B coefficients	**Standard error**	**β coefficient**		
Institutional performance	(Constant)	0.760	0.329		2.315	0.026
	Evaluate and Direct	0.344	0.165	0.364	2.109	0.041
	acquiring, implementation	0.315	0.139	0.398	2.301	0.027
	Service and Support	0.239	0.116	0.250	2.029	0.546
R		R^2		F Value		F. Sig
0.879		0.768		39.525		0.000

Table 2 presents the results of the statistical test for the hypothesis model, which examines the impact of various dimensions of the independent variable namely, Evaluation and Direction, Acquisition, Implementation, and Service and Support on the dependent variable, institutional performance.

From the table, it is evident that the correlation coefficient (R = 0.879) indicates a strong relationship between the implementation of Information Technology Governance based on the ISACA [1] framework and institutional performance in Jordanian commercial banks.

Additionally, the statistical analysis shows a significant effect of implementing Information Technology Governance on institutional performance, as evidenced by the (F. Sig) value of (0.00), which is less than the 0.05 threshold. Furthermore, the calculated F-value of (39.525) exceeds the tabulated value of (2.38), confirming the significance of the model at the given degree of freedom. The coefficient

of determination (R^2 = 0.768) suggests that the implementation of Information Technology Governance, across all its dimensions, explains 77% of the variance in institutional performance.

Based on the above results, we reject the null hypothesis (H0) and accept the alternative hypothesis (Ha), which asserts that there is a statistically significant effect, at the significance level of ($0.05 \geq \alpha$), of implementing Information Technology Governance based on the COBIT-2019 framework (including Evaluation and Direction, Acquisition, Implementation, and Service and Support) on institutional performance in Jordanian commercial banks.

12.2. Results of Testing the First Sub-Hypothesis

H01.1-There is no statistically significant effect at a significant level ($0.05 \geq \alpha$) of Evaluate and Direct as one of the Information Technology Governance based on the ISACA [1] framework on institutional performance in Jordanian commercial banks.

This hypothesis was tested using a simple regression analysis, and the results are presented Table (3) displays the results of the statistical test for the hypothesis model, which includes one independent variable, Evaluate and Direct, and one dependent variable, institutional performance. The correlation coefficient (R = 0.830) indicates a strong relationship between the Evaluate and Direct dimension and institutional performance.

Table 3.
Results of testing the impact of Evaluate and Direct on institutional performance

Dependent variable	Independent variable	Standard deviation coefficients		Standard coefficients	T. Value	T. Sig.
		B coefficients	Standard Error	β coefficient		
Institutional performance	(Constant)	0.775	0.315		2.472	0.016
	Evaluate and Direct	0.789	0.072	0.831	10.785	0.000
R		R^2		F Value		F. Sig
0.831		0.696		116.341		0.00

It is observed that there is a statistically significant effect of the Evaluate and Direct dimension on the dependent variable, institutional performance, as indicated by the (T. Sig) value of (0.00), which is less than (0.05). Additionally, the calculated (T) value of (10.785) exceeds the tabulated value of (2.38), confirming the significance of the model at the given degree of freedom. The coefficient of determination (R^2 = 0.696) suggests that the processes of collecting, storing, and analyzing data explain 70% of the variance in institutional performance in Jordanian commercial banks.

Based on the above, we cannot accept the null hypothesis (H0), and we accept the alternative hypothesis (Ha) which says: There is a statistically significant effect at a significant level ($0.05 \geq \alpha$) of Evaluate and Direct as one of the Information Technology Governance based on the ISACA [1]framework on institutional performance in Jordanian commercial banks.

H01.2 -There is no statistically significant effect at a significant level ($0.05 \geq \alpha$) of acquiring, implementation as one of the Information Technology Governance based on the ISACA [1] framework on institutional performance in Jordanian commercial banks.

This hypothesis was tested using a simple regression analysis, and the results are presented Table 4 displays the results of the statistical test for the hypothesis model, which includes one independent variable, acquiring, implementation, and one dependent variable, institutional performance. The correlation coefficient (R = 0.830) indicates a strong relationship between the acquiring, implementation and institutional performance.

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Table 4.
Results of testing the impact of acquiring, implementation on institutional performance.

Dependent variable	Independent variable	Standard deviation coefficients		Standard coefficients	T. Value	T. Sig.
		B coefficients	Standard Error	β coefficient		
Institutional performance	(Constant)	1.366	0.245		2.311	0.000
	acquiring, implementation	0.673	0.058	0.846	11.384	0.000
R		R^2		F Value		F. Sig
0.841		0.717		129.654		0.00

It is observed that there is a statistically significant effect of the acquiring, implementation dimension on the dependent variable, institutional performance, as indicated by the (T. Sig) value of (0.00), which is less than (0.05). Additionally, the calculated (T) value of (11.385) exceeds the tabulated value of (2.38), confirming the significance of the model at the given degree of freedom. The coefficient of determination ($R^2 = 0.717$) suggests that the processes of acquiring, implementation explain 71% of the variance in institutional performance in Jordanian commercial banks.

Based on the above, we cannot accept the null hypothesis (H0), and we accept the alternative hypothesis (Ha) which says: There is a statistically significant effect at a significant level ($0.05 \geq \alpha$) of acquiring, implementation as one of the Information Technology Governance based on the ISACA [1] framework on institutional performance in Jordanian commercial banks.

H01.3 -There is no statistically significant effect at a significant level ($0.05 \geq \alpha$) of Service and Support as one of the Information Technology Governance based on the ISACA [1] framework on institutional performance in Jordanian commercial banks.

This hypothesis was tested using a simple regression analysis, and the results are presented Table (5) displays the results of the statistical test for the hypothesis model, which includes one independent variable, Service and Support, and one dependent variable, institutional performance. The correlation coefficient (R = 0.830) indicates a strong relationship between the Service and Support and institutional performance.

Table 5.
Results of testing the impact of Service and Support In institutional performance.

Dependent variable	Independent variable	Standard deviation coefficients		Standard coefficients	T. Value	T. Sig.
		B coefficients	Standard error	β coefficient		
Institutional performance	(Constant)	1.017	0.395		2.563	0.013
	Service and Support	0.744	0.092	0.742	7.894	0.000
R		R^2		F Value		F. Sig
0.748		0.551		62.370		0.000

It is observed that there is a statistically significant effect of the Service and Support dimension on the dependent variable, institutional performance, as indicated by the (T. Sig) value of (0.00), which is less than (0.05). Additionally, the calculated (T) value of (11.385) exceeds the tabulated value of (2.38), confirming the significance of the model at the given degree of freedom. The coefficient of determination ($R^2 = 0.551$) suggests that the processes of Service and Support explain 52% of the variance in institutional performance in Jordanian commercial banks.

Based on the above, we cannot accept the null hypothesis (H0), and we accept the alternative hypothesis (Ha) which says: There is a statistically significant effect at a significant level ($0.05 \geq \alpha$) of Service and Support as one of the Information Technology Governance based on the COBIT-2019 framework on institutional performance in Jordanian commercial banks.

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13. Conclusion

The study results indicate that the implementation of Information Technology Governance based on the COBIT-2019 framework has a positive and significant impact on institutional performance in Jordanian commercial banks. The hypothesis was tested using multiple linear regression analysis, and the results showed a strong relationship between IT governance implementation and institutional performance, with a correlation coefficient of 0.879. The study also showed that the F-significance value was 0.00, reflecting strong statistical significance for the model. Additionally, the calculated F-value of 39.525 exceeded the tabulated value of 2.38. Therefore, 77% of the variance in institutional performance can be explained by the implementation of IT governance across all its dimensions. The results of this study confirm the importance of applying the COBIT-2019 framework as an effective tool for improving IT governance within organizations, particularly in Jordanian commercial banks. The various dimensions of the framework, such as evaluation and direction, acquisition, implementation, and service and support, contribute to enhancing institutional performance, which highlights the need to integrate these practices into IT strategies within banking institutions.

14. Recommendations

1. Commercial banks in Jordan should fully integrate the ISACA [1] framework into their strategic planning processes. By doing so, they can align IT governance practices with overall business objectives, ensuring that technology investments directly contribute to achieving institutional goals.
2. maximize the benefits of the ISACA [1] framework, it is essential for banks to invest in regular training and development programs for their employees. This will ensure that staff members are well-equipped with the necessary skills and knowledge to effectively implement and manage IT governance processes, leading to improved performance.
3. Banks should establish a system for continuous monitoring and evaluation of their IT governance practices. Regular assessments will help identify areas for improvement and ensure that the implementation of ISACA [1] remains aligned with evolving business needs and technological advancements.
4. Effective IT governance requires the collaboration of various departments within the organization. Banks should foster better communication and collaboration between IT, risk management, and business units to ensure the successful implementation of ISACA [1]. This will help in making informed decisions and enhancing the overall institutional performance.

Transparency:

The author confirms that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.

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