



Information Technology Governance and Cloud-Computed Enterprise Resource Planning System: Evidence from Jordanian Commercial Banks

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ABSTRACT

This study examined the effect of information technology governance (COBIT19) on cloud-based enterprise resource planning (ERP) systems in Jordanian commercial banks. An analytical-descriptive approach was employed, and the collected data were analysed using the Statistical Package for Social Sciences (SPSS). The study population comprised the main departments of 12 Jordanian commercial banks operating at the end of 2025, with employees from different administrative levels serving as the unit of analysis. The findings demonstrated a statistically significant effect of COBIT19 information technology governance on cloud-based ERP systems. This effect was evident across technological competence, cooperation with external experts, senior management support for employees, institutional culture, system characteristics, and digital administrative communication. Based on these findings, the study recommends that the management of Jordanian commercial banks adopt a clearly structured approach to implementing cloud-based ERP systems, supported by careful preparation and business plans covering every stage of implementation. It also recommends broader application of information technology governance principles, including COBIT19, as an overarching framework for strengthening information protection and integrity.

1. INTRODUCTION

In 2018, the Information Systems Audit and Control Association (ISACA) introduced COBIT 2019 as an updated version of the COBIT framework. The update was intended to respond to continuing technological change and to support more flexible governance strategies that are better aligned with modern information technology environments. As the most recent version of COBIT, the framework has implications for the modernisation of banking and other leading business organisations.

COBIT 19 is described as comprising 37 regulatory

objectives and five high-level dimensions, identified as planning, ownership, organisation, implementation, connectivity, follow-up, and evaluation. It also incorporates seven information standards: privacy, inclusiveness, efficiency and effectiveness, responsiveness, availability, and reliability. The framework considers information technology resources such as applications and software, human resources, facilities, technology, and databases (Area, 2021). Its broader purpose is to assist organisations and banks in achieving information technology governance and management objectives while creating value

through an appropriate balance among risk, resource utilisation, and realised benefits (Al-Sajini et al., 2023).

The COBIT 19 information technology governance framework is particularly relevant to organisations and advanced banking institutions that depend heavily on accounting, regulatory, and technology-enabled activities. Contemporary business development and value creation are no longer confined to traditional industries; they also involve service and software providers that support administrative functions. Enterprise resource planning systems were historically implemented through large, locally hosted computing environments that required substantial infrastructure and were therefore more accessible to large companies and banks. The development of cloud computing has changed this model. Providers of software and administrative applications increasingly deliver their services through cloud environments, allowing organisations and banks of different sizes and legal forms to access supplier-provided services without relying on the same level of internal infrastructure. Several issues define the research gap addressed by this study. First, limited empirical attention has been given to the Jordanian banking context, particularly to the way information technology governance and cloud-computed ERP systems are managed within commercial banks. Second, the challenges and advantages associated with integrating IT governance frameworks with cloud-computed ERP systems in this setting have not been sufficiently examined. Third, the direct effect of IT governance practices on the performance and efficiency of cloud ERP systems requires further measurement. Finally, the specific practices and governance arrangements most suitable for Jordanian commercial banks remain underexplored. Addressing these areas can contribute both empirical evidence and practical guidance for improving the governance and implementation of cloud-computed ERP systems. Accordingly, this study investigates the impact of information technology governance (COBIT19) on the cloud-computed enterprise resource planning system in Jordanian commercial banks.

1.1. Study Questions

The study problem was addressed through the following research questions:

- 1) To what extent are the management teams of Jordanian commercial banks interested in adopting COBIT19 information technology governance?
- 2) What level of interest do the management teams of Jordanian commercial banks demonstrate in using a cloud-based enterprise resource planning management system?
- 3) Does information technology governance (COBIT19) affect the cloud-computed enterprise resource planning system in Jordanian commercial banks through the dimensions of technological competence, cooperation with external experts, senior management support for employees, institutional culture, system characteristics, and digital administrative communication?

The third research question is further examined through the following sub-questions:

- A) Does information technology governance (COBIT19) affect technological competence in Jordanian commercial banks?
- B) Does information technology governance (COBIT19) affect cooperation with external experts in Jordanian commercial banks?
- C) Does information technology governance (COBIT19) affect senior management support for employees in Jordanian commercial banks?
- D) Does information technology governance (COBIT19) affect institutional culture in Jordanian commercial banks?
- E) Does information technology governance (COBIT19) affect system characteristics in Jordanian commercial banks?
- F) Does information technology governance (COBIT19) affect digital administrative communication in Jordanian commercial banks?

1.2. Objectives of the study

The study was designed to achieve the following objectives:

- 1) To evaluate the level of interest among executives of Jordanian commercial banks in implementing COBIT19 for information technology governance.
- 2) To determine the level of managerial interest in Jordanian commercial banks in implementing

the cloud-computed enterprise resource planning management system.

- 3) To assess the impact of information technology governance (COBIT19) on the cloud-computed enterprise resource planning system through technological competence, cooperation with external experts, senior management support for employees, institutional culture, system characteristics, and digital administrative communication in Jordanian commercial banks.

This objective is operationalised through the following sub-objectives:

- A) To assess the impact of information technology governance (COBIT19) on technological competence in Jordanian commercial banks.
- B) To assess the impact of information technology governance (COBIT19) on cooperation with external experts in Jordanian commercial banks.
- C) To assess the impact of information technology governance (COBIT19) on senior management support for employees in Jordanian commercial banks.
- D) To assess the impact of information technology governance (COBIT19) on institutional culture in Jordanian commercial banks.
- E) To assess the impact of information technology governance (COBIT19) on system characteristics in Jordanian commercial banks.
- F) To assess the impact of information technology governance (COBIT19) on digital administrative communication in Jordanian commercial banks.

1.3. Study hypotheses

The research questions were translated into the hypotheses presented in Figure 1, as follows:

H0: At the significance level of $\alpha \leq 0.05$, information technology governance (COBIT19) has no statistically significant impact on the cloud-computed ERP system in Jordanian commercial banks across technological competence, cooperation with external experts, senior management support for employees, institutional culture, system characteristics, and digital administrative

communication.

The following sub-hypotheses are derived from the main null hypothesis:

H01. At $\alpha \leq 0.05$, information technology governance (COBIT19) has no statistically significant impact on technological competence in Jordanian commercial banks.

H02. At $\alpha \leq 0.05$, information technology governance (COBIT19) has no statistically significant impact on cooperation with external experts in Jordanian commercial banks.

H03. At $\alpha \leq 0.05$, information technology governance (COBIT19) has no statistically significant impact on senior management support for employees in Jordanian commercial banks.

H04. At $\alpha \leq 0.05$, information technology governance (COBIT19) has no statistically significant impact on institutional culture in Jordanian commercial banks.

H05. At $\alpha \leq 0.05$, information technology governance (COBIT19) has no statistically significant impact on system characteristics in Jordanian commercial banks.

H06. At $\alpha \leq 0.05$, information technology governance (COBIT19) has no statistically significant impact on digital administrative communication in Jordanian commercial banks.

1.4. Research Model

The research model depicts the proposed relationship between information technology governance (COBIT19), as the independent variable, and the cloud-computed enterprise resource planning system, represented by its six dimensions, as the dependent variable in Jordanian commercial banks.

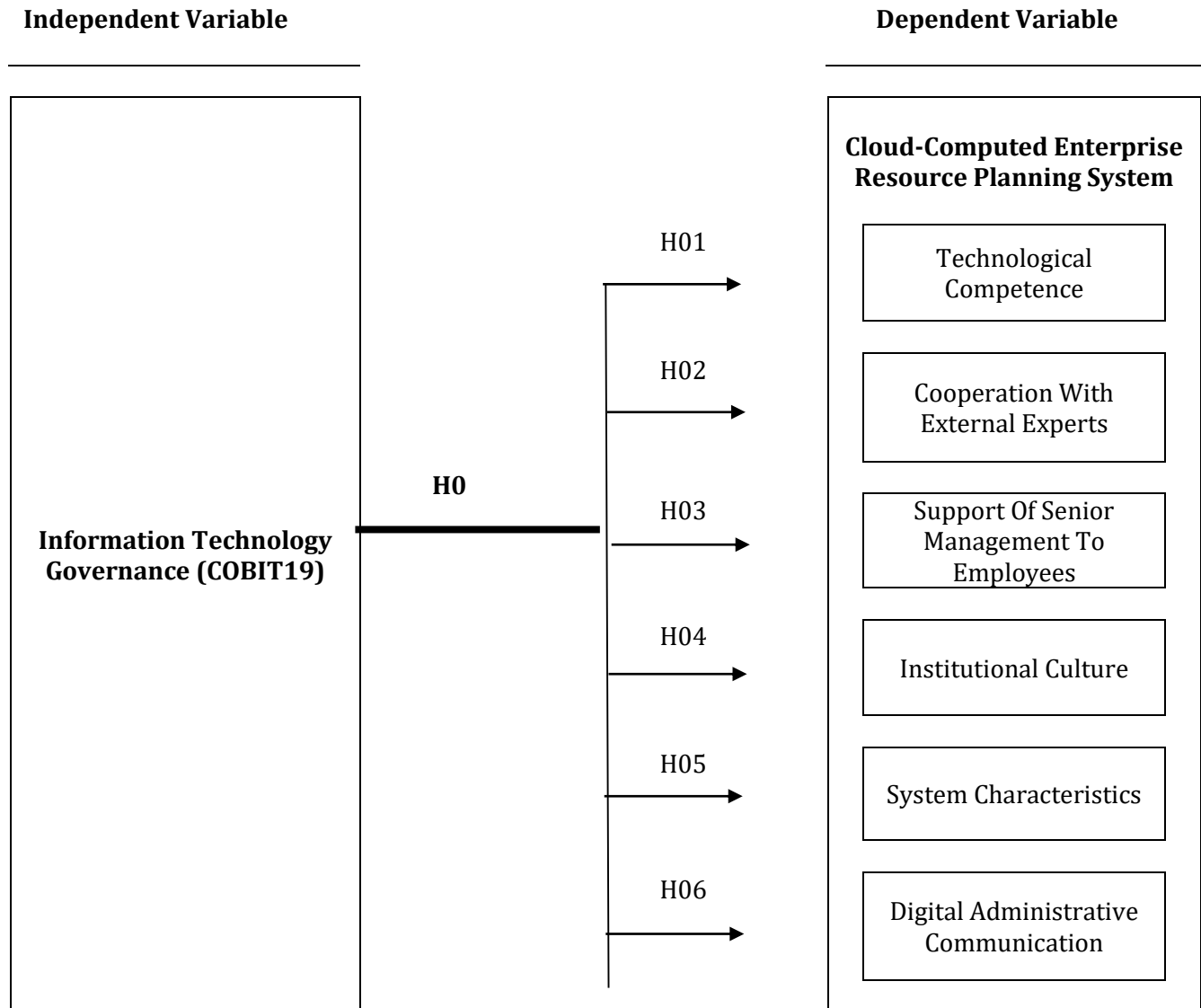


Figure 1: Research Model

2. METHODOLOGY

An analytical-descriptive approach was adopted to examine information technology governance (COBIT19) and its influence on the cloud-computed enterprise resource planning system in Jordanian commercial banks. Data were collected through a questionnaire and subsequently analysed to identify relationships among the study variables, respondents' perceptions of those variables, the associated processes, and their resulting effects.

2.1. The type and nature of the study

Because the primary data were obtained through a field survey, the research is classified as a field-based and illustrative study. It examines

relationships among the study variables and follows a deductive orientation by building on findings and concepts established in previous studies.

2.2. The strategy used in the study

A survey strategy was employed to examine the factors associated with the occurrence of the studied phenomena. This approach was used to understand their influence and outcomes while describing the current conditions relevant to the nature of the phenomenon.

2.3. The study population and sample

The study population comprised the main departments of 12 Jordanian commercial banks at the end of 2025. Given the defined size and

boundaries of this population, a comprehensive survey approach was adopted so that the study sample would cover the entire research population.

2.4. Unit of Analysis

The unit of analysis comprised employees working at three administrative levels within the main departments of Jordanian commercial banks. The higher level included general and executive managers; the intermediate level included managers and heads of units and departments in financial management and information technology; and the lower level included employees working in those departments. As the exact number of employees could not be obtained, 16 questionnaires were distributed in each bank to reach as many eligible respondents as possible. In total, 195 questionnaires were distributed and 179 were returned. Eleven returned questionnaires were unsuitable for analysis, leaving 168 valid questionnaires. This represents a recovery rate of 86.2% of all questionnaires distributed.

2.5. Methods of data collection

Data were obtained from two principal sources. The first consisted of secondary materials, including scholarly articles, peer-reviewed journals, research reports, publications, and earlier Arab and international studies addressing topics and dimensions related to the variables examined in this research. These sources were reviewed to develop a comprehensive understanding of the study topic and to remain informed about developments in the relevant field.

The second source was primary data collected through the study's principal instrument, a

questionnaire developed specifically to address the research objectives. Its content reflected the elements presented in the theoretical framework and was aligned with the research questions and hypotheses. The questionnaire contained items representing the study variables and their dimensions and was organised into two parts, as outlined below:

Part I: Information technology governance under COBIT19.

Part II: The cloud-computed enterprise resource planning system, covering technological competence, cooperation with external experts, senior management support for employees, institutional culture, system characteristics, and digital administrative communication.

2.6. The statistical methods used

The Statistical Package for Social Sciences (SPSS) was used to analyse the data and address the study objectives and hypotheses.

First, descriptive statistical measures were applied to characterise the study variables and dimensions.

These measures included:

- Mean: used to determine the average response to each questionnaire item.
- Standard deviation: used to indicate the extent to which respondents' answers varied around their mean.
- Second, relative importance was calculated using the specified formula and the response categories of the five-point Likert scale. On this basis, item means were grouped into three levels of relative importance: low, intermediate, and high.

$$\text{Relative importance} = \frac{\text{The upper limit of the alternative} - \text{The lower limit of the alternative}}{\text{Level \#}} = \frac{1 - 5}{3} = 1.33$$

The levels of relative importance were interpreted as follows:

- Low: a mean ranging from 1.00 to less than 2.33.
- Intermediate: a mean ranging from 2.33 to less than 3.66.
- High: a mean ranging from 3.66 to 5.00.
- Third, Cronbach's alpha internal consistency

coefficient was calculated to evaluate the stability and reliability of the study instrument.

- Fourth, simple linear regression analysis was used to test the study hypotheses by estimating the effect of the independent variable, COBIT, on the dependent variable, the cloud-computed enterprise resource planning system.

2.7. Testing the stability of the study instrument

The reliability of the instrument used to measure the study variables was assessed using Cronbach's

alpha coefficient. Sekaran and Bougie (2016, p. 311) indicate that a Cronbach's alpha value above 0.60 is statistically acceptable, while values closer to 100% reflect higher instrument stability. Accordingly, internal consistency coefficients were calculated for the study variables, their dimensions, and the instrument as a whole to evaluate consistency across respondents' answers. The resulting values are reported below:

Table 1: The values of the internal consistency coefficient for the items of the study instrument

Number	Variable	Number of Paragraphs	Cronbach Alpha
1	Information Technology Governance COBIT19	8	0.836
2	Technological Competence	7	0.909
3	Cooperation With External Experts	7	0.812
4	Support of Senior Management To Employees	6	0.896
5	Institutional Culture	7	0.832
6	System Characteristics	8	0.910
7	Digital Administrative Communication	7	0.898
8	Cloud-Computed ERP System	42	0.971
Study Instrument		50	0.974

Table 1 shows that Cronbach's alpha coefficients for the study dimensions ranged from 0.812 to 0.971. The coefficient for the full research instrument was 0.974, and all reported values exceeded 0.60. These results indicate satisfactory internal consistency among the questionnaire items and support the reliability of the instrument

for subsequent statistical analysis.

3. THEORETICAL FRAMEWORK

3.1. Importance of the COBIT 19 Framework

The COBIT 19 framework is intended to help banks create value from information technology by using it effectively and innovatively and by maximising the benefits derived from technology-supported investments. In this way, the framework can support the achievement of strategic banking objectives and the maintenance of high-quality information for managerial decision-making. Its application can also help align technology use with customer needs, improve bank performance, and strengthen the audit function in relation to information technology and its outputs (COBIT 2019, 2018, 13).

The framework can also reinforce an organisation's internal control system by providing internationally recognised principles and analytical practices. Such practices may strengthen confidence in the information supplied to internal and external stakeholders, thereby supporting business expansion and improved profitability.

3.2. COBIT 19 Framework Principles

The COBIT 19 framework is founded on a set of core principles, the most important of which are identified by Lanter (2018) as follows:

- 1) Meeting stakeholder needs.
- 2) Establishing a governance system that encompasses companies and banks.
- 3) Applying a unified and integrated framework.
- 4) Enabling a total approach.
- 5) Maintaining a clear separation between governance and management.

Functions of the COBIT 2019 Framework

According to ISACA (2019), the COBIT 19 framework supports the following:

- 1) IT alignment.
- 2) Optimisation.
- 3) Trust.
- 4) Future-proofing.

3.3. Stages of Applying The COBIT 19 Framework

Applying COBIT 19 is intended to establish information technology governance that is aligned with the strategic priorities of banks and companies while also supporting the effective management of information technology

operations.

The implementation of the COBIT 19 framework is described as a seven-stage process (Hardy, 2016, 31-17; COBIT, 2018):

- 1) Identify the motives and incentives for adopting and transitioning to the COBIT 19 framework.
- 2) Assess the organisation's current position and the future state it seeks to achieve.
- 3) Define the desired vision.
- 4) Develop the implementation plan.
- 5) Implement the framework.
- 6) Evaluate the implementation.
- 7) Ensure sustainability.

3.4. *The Concept of a Cloud-Computed ERP System*

A cloud-computed ERP system is an integrated information system that brings together an organisation's resources, operational processes, and information across functional areas such as manufacturing, marketing, sales, inventory management, accounting, maintenance, customer relationship management, human resource management, and electronic commerce. These functions are connected through a unified system and comprehensive database, enabling organisations and banks to coordinate resources and operations more efficiently and improve overall performance (Beheshti et al; 2014). Kroenke (2015) describes an ERP system as "a set of applications, a database, and a set of processes necessary to enhance and coordinate business processes in a single automated platform."

3.5. *Cloud ERP Software Implementation Success Factors*

Successful cloud ERP implementation requires the organisation to establish conditions that support effective system use. In particular, key users need sufficient competence and skills to assess system performance, identify operational problems or gaps, and contribute to resolving them. These capabilities support successful implementation and help the organisation or bank achieve the intended objectives of the system.

Almahamid and Awsi (2015) identify senior management support, organisational culture, and assistance from system service providers as important factors contributing to successful cloud ERP implementation.

3.6. *Areas of The Cloud ERP System: It Includes All of the Following*

Technological Competence

Technological competence refers to the user's ability to employ technology to obtain accurate and valuable data and information with minimal time and effort. Within ERP implementation, this competence supports efficient resource planning, organisational goal achievement, and informed decision-making.

Cooperation with External Experts

ERP vendors currently provide a range of system solutions, although their core functions commonly address finance, accounting, sales, marketing, human resources, operations, and logistics. Vendors differentiate their products by incorporating additional capabilities, including Customer Relationship Management (CRM) and Supply Chain Management (SCM), particularly because users may find that a selected ERP system does not fully meet their expectations (Gollner, 2017).

Senior Management Support

Support from senior management can strengthen employees' organisational loyalty and, in turn, contribute to organisational and banking value through improvements in productivity and customer service efficiency.

Digital Administrative Communication

Digital administrative communication provides a mechanism through which organisations pursue internal objectives, build employee interest and motivation, support processes of persuasion, and facilitate interaction. Through these exchanges, administrative and cultural meanings are transmitted among the relevant parties within the organisation.

System Characteristics

When ERP software is delivered as a cloud service, it is hosted on remote servers rather than on infrastructure located in the organisation's own server room. Under this model, the cloud provider is responsible for software management, patching, and periodic updates, reducing reliance on major upgrades that may otherwise be required every 5 to 10 years for locally hosted systems. Cloud deployment may therefore reduce both capital and operating expenditures by limiting the need for organisations and banks to purchase additional hardware and software or employ supplementary

IT personnel.

Institutional Culture

Institutional culture represents the shared knowledge through which organisational members interpret and explain phenomena occurring inside and outside the organisation. It is reflected in management practices and in the methods used to pursue organisational objectives, and it may be classified as creative, family, market, or hierarchical culture (Kwamboka, 2015).

The researchers therefore view COBIT 19 information technology governance and cloud ERP as closely integrated. This integration is particularly evident in administrative communication among bank employees, including the internal exchange of information and the receipt of information from external sources through technological channels. Such channels may include smart networks linked to satellites as well as commonly used technologies such as computers, e-mail, mobile phones, and social media tools. For these mechanisms to function effectively, banks require a clear internal communication strategy that guides information exchange among employees and directorates, facilitates work processes, captures employee suggestions, and builds the support needed to implement the organisation's strategic vision and mission.

Effective information exchange between management and employees is therefore an essential component of a bank's organisational strategy. When developing communication policies, management should encourage administrative communication because it constitutes one of the functional areas associated with cloud-based enterprise resource planning. Integrating human, financial, technological, and operational resources can improve the reliability of information transfer and strengthen employees' technical knowledge. In turn, these conditions can facilitate the implementation of cloud ERP and reduce operational obstacles to effective system use.

4. DATA ANALYSIS

4.1. The Response Description of the Sample
Respondents' answers to the questionnaire items and study variables were summarised using means, standard deviations, ranks, and relative importance. The results are presented below:

Table 2: Means, standard deviations, ranks and

relative importance for describing the dimensions and variables of the study

Variable	Mean	Standard Deviation	Rank	Relative Importance
Technological Competence	3.969	0.735	3	High
Cooperation With External Experts	4.491	0.471	1	High
Support Of Senior Management To Employees	3.930	0.700	4	High
Institutional Culture	4.130	0.658	2	High
System Characteristics	3.867	0.747	5	High
Digital Administrative Communication	3.663	0.809	6	High
Cloud-Computed ERP System	4.077	0.589	---	High
It Governance (Cobit19)	4.317	0.537	---	High

As shown in Table 2, respondents assigned high relative importance to the cloud-computed enterprise resource planning system, which recorded a mean of 4.077 and a standard deviation of 0.589. Each of its dimensions was also rated as highly important. Cooperation with external experts ranked first, with a mean of 4.491 and a standard deviation of 0.471, whereas digital administrative communication ranked last, with a mean of 3.663 and a standard deviation of 0.809. The table further shows that information technology governance under COBIT19 received high relative importance, with a mean of 4.317 and a standard deviation of 0.537.

4.2. Testing the Study Hypotheses

The main null hypothesis states that, at $\alpha \leq 0.05$, information technology governance (COBIT19) has no statistically significant impact on the cloud-computed ERP system in Jordanian commercial

banks across technological competence, cooperation with external experts, senior management support for employees, institutional culture, system characteristics, and digital administrative communication.

This main hypothesis is accompanied by six sub-hypotheses, each examining the effect of COBIT19

Table 3: Results of simple linear regression analysis to show the impact of information technology governance on the cloud-computed enterprise resource planning system in terms of its combined and individual dimensions

Dependent Variable	Independent Variable	R	R ²	R ² Adj.	The Standard Error Of The Model	F Value	Sig F*	B	T Value	Sig T*
Technological Competence	Information Technology Governance COBIT19	0.688	0.473	0.470	0.588	149.086	0.000	0.916	12.210	0.000
Cooperation With External Experts		0.601	0.361	0.357	0.481	93.701	0.000	0.594	9.680	0.000
Support Of Senior Management To Employees		0.670	0.449	0.446	0.557	135.186	0.000	0.826	11.627	0.000
Institutional Culture		0.537	0.288	0.284	0.664	67.139	0.000	0.694	8.194	0.000
System Characteristics		0.646	0.418	0.414	0.605	119.151	0.000	0.843	10.916	0.000
Digital Administrative Communication		0.558	0.311	0.307	0.734	74.931	0.000	0.811	8.656	0.000
Cloud-Computed Erp System		0.682	0.465	0.761	0.469	144.091	0.000	0.718	12.004	0.000

* The effect is statistically significant at significance level of ($\alpha \leq 0.05$).

Table 3 reports the simple linear regression results for the effect of information technology governance (COBIT19) on the cloud-computed enterprise resource planning system and each of its dimensions. The results indicate statistically significant effects for the overall system and all sub-dimensions because the reported Sig F and Sig T values were below 0.05.

The correlation coefficients (R) were positive and greater than 50%, indicating strong positive relationships between COBIT19 information technology governance and the cloud-computed ERP system as well as its individual dimensions. The coefficients of determination show that changes attributed to COBIT19 governance were

information technology governance on one dimension of the cloud-computed enterprise resource planning system.

Simple linear regression analysis was applied to test the main hypothesis and its six sub-hypotheses. The results are reported below:

47.3% for technological competence, 36.1% for cooperation with external experts, 44.9% for senior management support for employees, 28.8% for institutional culture, 41.8% for system characteristics, 31.1% for digital administrative communication, and 46.5% for the overall cloud-computed enterprise resource planning system.

On the basis of these results, the main null hypothesis and its sub-hypotheses were rejected, and the alternative hypothesis was accepted as follows:

At $\alpha \leq 0.05$, information technology governance (COBIT19) has a statistically significant impact on the cloud-computed ERP system in Jordanian commercial banks through technological competence, cooperation with external experts, senior management support for employees,

institutional culture, system characteristics, and digital administrative communication.

5. DISCUSSION

The findings show that respondents in Jordanian commercial banks assigned high relative importance to COBIT19 information technology governance. This result is broadly consistent with Haay and Sitokdana (2022), who found that information technology governance in the Department of Communications and Information in Papua Province was functioning well, although further development was still required.

The analysis also showed that the cloud-based enterprise resource planning system was perceived as highly important in Jordanian commercial banks. This finding is consistent with Assaf and Al-Ghaish (2021), who reported that enterprise resource planning systems can support and strengthen sustainable competitive advantage within the supply chains of Egyptian industrial business facilities. Testing of the main hypothesis and its sub-hypotheses further established a statistically significant effect of COBIT19 information technology governance on the cloud-based ERP system and on technological efficiency, cooperation with external experts, senior management support for employees, institutional culture, system characteristics, and digital administrative communication. This result is consistent with Adrian and Wang (2022), who indicated that banking-sector productivity can be improved by creating a technical working environment that connects information technology with company activities and services. It also corresponds with Al-Taie and Al-Najjar (2021), who emphasised the importance of increasing the Internal Audit Department's understanding of information technology because internal audit performs a key role relied upon by users. Mansour (2021) identified relationships between cybersecurity requirements and dimensions, including processes and procedures, cyber risks, confidentiality and privacy protection, logical security, and strategy, and modern internal-control frameworks such as COBIT and the value of the economic unit. Similarly, Abu Afifa (2021) found that governance and management of information and related technology under the COBIT framework affect the fundamental characteristics of accounting information, particularly suitability

and reliability, in Jordanian commercial banks.

In light of continuing developments in cyberattacks targeting accounting systems, the researchers recommend further research on cybersecurity-based approaches for preventing and responding to such threats.

6. CONCLUSION

The study examined the impact of information technology governance (COBIT19) on the cloud-computed enterprise resource planning system in Jordanian commercial banks through six dimensions: technological competence, cooperation with external experts, senior management support for employees, institutional culture, system characteristics, and digital administrative communication. Analysis of the research instrument showed that COBIT19 information technology governance had high relative importance. This finding suggests that the management of Jordanian commercial banks recognises the role of IT governance in addressing customer needs within the bank's overall strategic framework and in directing technology-related activities towards stakeholder interests. It also reflects managerial attention to improving and developing the technologies used by banks so that they can respond to changing environmental requirements, strengthen control over information technology and its outputs, and improve organisational performance. The analysis likewise showed high relative importance for the cloud-computed enterprise resource planning system. This indicates that bank management recognises the role of cloud ERP in managing activities and operations, connecting departments and organisational units, and using a shared database to facilitate functions and increase flexibility in the provision of data and information.

Testing the main hypothesis and its sub-hypotheses confirmed a statistically significant impact of information technology governance (COBIT19) on the cloud-computed enterprise resource planning system and on technological competence, cooperation with external experts, senior management support for employees, institutional culture, system characteristics, and digital administrative communication. This result highlights the role of IT governance in improving the efficiency and effectiveness of cloud ERP. COBIT19 can support alignment between the

bank's overall strategy and its information technology strategy, while also strengthening information security, privacy, and protection. It can further assist banks in managing risks associated with cloud ERP implementation, including failure to satisfy user requirements, insufficient integration, incompatibility with the technical infrastructure, problems with supplier support, and the cost and complexity of system installation. Effective application can therefore contribute to the achievement of banking objectives by providing integrated information that supports decision-making and the formulation of policies and strategies.

Based on these findings, the researchers recommend that Jordanian commercial banks adopt a clearly defined methodology for implementing cloud-computed ERP systems. This approach should include thorough preparation and business plans covering every stage of implementation. Management should also increase its commitment to cloud-based ERP because of the benefits the system can provide for bank performance and should ensure the availability of the material, human, and organisational resources required to support both cloud ERP implementation and COBIT19 information technology governance. In addition, banks should apply a broader range of information technology governance concepts within COBIT19 as an overarching framework for information protection and security. Finally, the COBIT19 governance system used by Jordanian commercial banks should be reviewed and updated periodically to remain responsive to changes in the operating environment.

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