

## The effect of reliable data transfer and efficient computer network features in Jordanian banks accounting information systems performance based on hardware and software, database and number of hosts

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### CHRONICLE

### ABSTRACT

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Reliable data transfer protocols are algorithmic techniques that guarantee the safe and secure transport of data through networks that could experience data loss or corruption. The performance of the systems and some accounting information systems (AIS) will be negatively impacted if the real-time data is not sent. The main factors that affect the performance of computer networks are the number of users, the hardware and software and the bandwidth. The computer network performance will play a role in the performance of the banks as it is an important component of the bank infrastructure. With the advancement of information technology, network technology, and computer technology, computers have been utilized to aid AIS operations, and AIS has become an unavoidable trend of development. Therefore, the purpose of this study was to investigate Data analysis in computer networks to improve AIS performance in Jordanian banks. A questionnaire was used to obtain the information. Jordanian banks account for the bulk of the participants in the survey. A total of 115 people took part in the study. According to the conclusions of this study, communication technology networks have a statistically significant impact on the growth of Jordanian banks' improved AIS performance.

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## 1. Introduction

The advancement of information technology and the telecommunications network has revolutionized and generated new obstacles. Today consider an internet connection and the pertinent services it offers to be necessary (Xuan et al., 2020). Most banks have been involved in worldwide operations and enterprises, and foreign business accounts for a significant portion of their income. This transformation would not have been possible without advances in information technology (computers and communications), which are the most important applications of the Internet and high-speed information systems, which have facilitated the performance of these organizations for their work, allowing continuous communication between their projects in different countries around the world (Jarrah & Almatarneh, 2021). A system is a system that stores, controls, coordinates, processes, and retrieves documents, whether they are electronic or paper-based (Ahmad et al., 2017). The Accounting Information System performance, which makes decisions based on current reality, future variables, the effects of the ability to make decisions on performance, and the capacity to continue operating in the financial market, determines the capacity of banks to continue operating in the market (Al-Kassar & Abed, 2014). As a result, understanding the AIS performance and its properties, as well as establishing the extent to which quality is available in the outputs, is crucial for making educated

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investment decisions and addressing problems. This might occur as a result of employing various software for decision-making reasons, utilizing the right timing, capacity to forecast, feedback, sincerity of expression, and impartiality. The AIS performance utilized in business for financial decision-making in banks must be of high quality; this data must be used appropriately in planning, controlling, and decision-making (Stanković et al., 2012). A system for supporting decisions in organizations where decision-making is crucial to success, survival, or failure (Hadidi et al., 2020). According to the qualitative qualities of AIS information, it is commonly recognized that the AIS performance generated by the AIS system is of high quality, allowing stakeholders to use the information for a variety of decision-making purposes. On the other hand, the economy faces several risks and difficulties that need accurate AIS data in order to make the best decisions and offer value to the bank (Alrabei et al., 2016).

## 2. Literature Review

Information technology, which is the multiple influential factors in the use of telecommunications networks, observed by hardware, software, and databases, has the greatest impact on the significance of AIS performance, and the banking sector has higher technological levels than banks. Data can be sent via public or private networks using the telecommunications infrastructure. By linking two or more devices and creating a common communication protocol, a network communication system is built. Furthermore, AIS and management decision-making is influenced by the AIS performance suitability for the bank's information communication and control needs. It is critical to examine the quality of the system and the quality of information utilized during the adoption process in order to properly adapt AIS performance (Wongsim & Gao, 2011). Accountants now have less time to compile and deliver financial data to management and stakeholders because of advances in information network communication technology and computer systems. Information technology has not only decreased the time it takes to supply financial data, but it has also increased the general efficiency and quality of the data, thanks to advancements in equipment and software (Amiri & Amiri, 2014). Information technology is now one of the most important ingredients for bank success, and it plays a significant role in all activities and areas both inside and outside the bank, providing critical data and information in a timely manner to aid in the process of providing information as needed. It has been demonstrated that information technology and investment concerns are one of the most essential ways for departments to build the business, solve problems, and make proper administrative choices in support of the bank's plan (Newman & Sabherwal, 1996). Information technology can be viewed as a means of advancing the economy, with an open economy and suitable markets becoming a requirement of development for the transition to a knowledge society. Reforming the teaching paradigm, particularly in the context of technology support, is an approach that addresses the challenges faced by beginning programmers in basic programming courses (Hooshyar et al., 2013). Responding to the evolution of information technology encourages innovation, creativity, and scientific research (Al-Sarairh, 2013). Information technology and strategy: Information technology may help a bank accomplish its strategic goals by giving them a competitive edge, allowing them to raise its market share and hence its revenues. This can help the bank accomplish its strategic profit-growth objectives (Teo et al., 2000).

### 2.1 Network Communication Technology

The uses of information technology have resulted in the construction of new communication channels on the subsystems level in the economic unit via a communications network, resulting in an increase in the speed of information flow, processing, and exchange (Baltzan & Phillips, 2014). The AIS performance network communication technology affects financial decision-making in Jordanian banks, and its improper application may result in failure to achieve the desired goals, especially because applications require physical and human resources. According to Agung (2015), the accountant should keep up with technological advancements in the sphere of communication since this has an impact on yearly financial reports and financial choices.

### 2.2 Hardware and Software

To operate and process data at the needed speed and accuracy, as well as to connect stakeholders and offer required data and information for financial decision-making, hardware and software are required (Romney et al., 2012). That the hardware and software used in AIS performance should be updated on a regular basis since they have an impact on financial reporting and bank decision-making, the inefficiency of the AIS performance functioning is attributable to a lack of modern financial decision-making technology (Alnajjar, 2017).

### 2.3 Databases

The data sources databases should have a data retrieval capability, be large enough to hold the bank's data, be interconnected, have a data security system, and a data processing system, either online or offline, to make the decision-making process easier (Ahmed, 2006). As a result, databases with sets of logically interconnected files maintained in an ordered manner are required to allow users to access the programs that process data in the AIS performance for financial decision-making. According to Toth (2012), a database is a component of network communication technology. As a result, the database must be proportional to the amount of the bank's data.

## 2.4 Users of the System

Because of the absence of competence, the users of the system in the banks have difficulty getting the necessary information needed to make judgments (Stephen, 2015). Many studies in this field concentrate on AIS performance implementation issues, such as limited expertise among AIS performance users who make financial decisions (Adrian-Cosmin, 2015, Nzomo, 2013). According to Kpurugbara et al., 2016, and Qatanani & Hezabr, 2015), the absence of knowledge and experience among AIS performance users has an influence on the quality of annual financial reports and, as a result, the quality of financial decisions. According to Kasasbeh (2017), there is a shortage of financial and AIS skills and experience to ensure that AIS performance is secure, well-managed, and can successfully boost decision-making.

## 2.5 AIS Performance

An AIS performance is one that uses information technology to aid a person in carrying out their duties. As a result, most banks focus on developing AIS performance to aid decision-making, communication, and knowledge management. AIS performance is an important part of the organization's decision-making information system (Nzomo, 2013). The goal of AIS performance outputs is to display bank performance and financial and non-financial expenditures in accordance with a system that collects data, processes financial statements, and publishes AIS performance to interested parties based on its decisions in all commercial and non-commercial transactions (Heidhues & Patel, 2008). This indicates that the accurate availability of information improves the quality of the information's appropriateness and dependability, assisting in making the best judgments and avoiding randomness. That the efficiency of the AIS performance is linked to the quality of the reports produced, and that the standard of quality in reports is the accuracy of incoming data, the error in report preparation, and the lack of precision in the product of a link of the AIS performance of personnel engaged in the operation because the error in computerized operations or in AIS routing is the real reason for the lack of precision required (Ullah et al., 2014).

## 3. Hypothesis Development

According to Al-Sarireh (2013), information technology investment has no statistically significant impact on decision-making in Jordanian industrial enterprises. According to Agung, the communications technology network can influence financial decision-making, as well as the impact of network communication technology and database in AIS on financial decision-making (2015). Furthermore, the findings (Jarah & Iskandar, 2019ab; Budiarto et al., 2018; Obukhov et al., 2020) demonstrated a substantial link between the acceptability of employing AIS as a mediating tool and financial success. According to Al-Zaqeba et al., (2022) findings, the properties of Blockchain technology and management accounting have a favorable and considerable influence on supply chain efficiency. The rationalization of judgments is aided by improving the quality of information (as a result of the communications technology network's function) (Moqbel et al., 2015). The findings (Jarah & Iskandar, 2019) demonstrated a substantial link between AIS features and financial performance. A significant between internal audit and supply chain management was found in a study by (Jarah et al., 2022). According to the findings of Al Jarrah et al., (2022), project risk management arts moderate the influence of project initiation, planning, execution, monitoring and control, closing, and management processes on successful project implementation. The findings of the research by Jarah et al., (2022) revealed that internal audits had a role in reducing the impact of creative accounting on the dependability of financial statements in Jordanian Islamic banks. As a result, the following hypotheses were proposed:

**H<sub>1</sub>:** *There is a positive and significant role in the hardware and software in improving the AIS performance in Jordanian banks.*

**H<sub>2</sub>:** *There is a positive and significant role in the databases in improving the AIS performance in Jordanian banks.*

**H<sub>3</sub>:** *There is a positive and significant role in the users of the system in improving the AIS performance in Jordanian banks.*

## 4. Methodology

The goal of this study is to see how the data analysis in communication networks improves AIS performance in Jordanian banks. The goal of this study was to look at the situation in Jordan in terms of employing a communication technology network to improve AIS performance for Jordanian banks, and the information was gathered using a questionnaire. Jordanian banks account for the bulk of the participants in the survey. A total of 115 people took part in the study.

## 5. Results

The mean and standard deviation were determined when the mean averages varied from (3.92-3.71). In addition, this study looked at the average variance extracted (AVE) and discovered that all AVE values were larger than the suggested value of 0.50 (Hair et al., 2017), suggesting that convergent validity was met. Cronbach alpha lived used to evaluate the study's validity and reliability. Cronbach alpha is a measure of internal consistency that determines how closely a set of items are connected. Cronbach alpha may also be calculated using the number of test items and the middle inter-correlation. The Cronbach alpha

value of 0.86 was the highest among System users. As indicated in the table below, the greatest dependability rating was 0.84 for AIS performance, with alpha values of 0.79 for databases and 0.80 for hardware and software, suggesting reliability acceptability.

**Table 1**  
Means, S.D and Cronbach's Alpha and AVE

	Variables	Mean	S.D	Alpha	AVE (> 0.5)
1.	Hardware and Software	3.78	0.83	0.8	0.502
2.	Databases	3.92	0.79	0.82	0.617
3.	Users of the System	3.81	0.73	0.86	0.409
4.	AIS Performance	3.71	0.66	0.84	0.701

### 5.1 Multicollinearity

The multicollinearity test was also used, with the lowest tolerance value of 0.442 and the highest VIF of 1.501. Multicollinearity occurs when the Variation Inflation Factor (VIF) value is less than 10.0 and the Tolerance value is greater than 0.05. SPSS was used to perform a multicollinearity analysis, with the lowest tolerance value of 0.442 and the highest VIF of 1.501. All tolerance values are larger than 0.05, whereas VIF values are less than 10.0. As a consequence, there are no difficulties with multicollinearity in this study's variables. Table 2 shows the following:

**Table 2**  
Multicollinearity Analysis

Variable	Tolerance	VIF
Hardware and Software	.465	1.501
Databases	.512	1.501
Users of the System	.442	1.501

### 5.2 Multiple Regression

The significance of the communication technology network in improving AIS performance in Jordanian banks was investigated using multiple regression analysis. Multiple regressions may also be used to determine how well a model fits the data and how much each predictor contributes to the overall variance explained. As a result, the results of the multiple regression analyses are shown in Table 3:

**Table 3**  
Result of Multiple Regressions test

Variable	"t" value	"t" sig	( $\beta$ )	R	R <sup>2</sup>	"F" value	"F" sig	Result
Hardware and Software	7.109	0.001	0.154	0.846	0.717	201.103	0.01	Supported
Databases	5.991	0.003	0.143					Supported
Users of the System	6.417	0.001	0.115					Supported

DV: AIS Performance

Table 3 illustrates that the communication technology network, which includes (hardware and software, databases, and system users), play a statistically important role in the improving AIS performance in Jordanian banks. In this situation, the "F" value was 201.103, and it was statistically significant at 0.01. The R<sup>2</sup> was 0.717, and the R-value was 0.846. Furthermore, communication technology networks appear to be playing a growing role in the improving AIS performance in Jordanian banks. Hardware and software have a t value of 7.109, databases have a t value of 5.991, and system users have a t value of 6.417. As a result, all of the hypotheses were supported.

## 6. Conclusions

The computer of data communication refers to the protocol used in the transfer of digital data between two or more online processing sites in the context of bank online access. It is an important feature of today's information and retrieval systems. Unlike their forerunners, which functioned in an offline mode, today's AIS performance in banks operates in an online interactive mode, allowing a user to interact with a host from a remote terminal through a communication link to the growing AIS performance in banks. Furthermore, the goal of this research was to look at the significance of the communication technology network in the development of Jordanian banks' AIS performance. Communication technology networks, according to the findings of this study, have a statistically important influence on the improved AIS performance in Jordanian banks.

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