The Impact of Computerized Accounting Information Systems Risks on the Quality of Accounting Information

Mohammed Al Haija¹

¹ Faculty of Business, Jerash University, Jerash, Jordan

Correspondence: Mohammed Al Haija, faculty of Business, Jerash University, Jordan. E-mail: m_alhaija@yahoo.com

Received: May 4, 2021 Accepted: June 6, 2021 Online Published: June 17, 2021
doi:10.5539/ijbm.v16n7p91 URL: https://doi.org/10.5539/ijbm.v16n7p91

Abstract

This study aimed to know the impact of computerized accounting information systems risks on the quality of accounting information and to achieve the study objectives, 60 questionnaires were distributed to workers at the administrative levels in Jordanian commercial banks. The number of rounded questionnaires valid for statistical analysis reached 40, i.e. 67% of the distributed questionnaires. The results of the study showed the following: Accounting information systems are exposed to several risks that threaten their security. The study revealed that most of the risks are the result of internal reasons and not external causes, and they arise due to unintended errors or negligence. The risks of computerized accounting information systems affect the quality of accounting information. Based on the results of the hypothesis test, the three null hypotheses were rejected for the study. In light of the results of the study, the researcher recommended a set of recommendations: Holding training courses to raise the practical and scientific qualification in accounting and technology that keeps pace with technological developments in general for employees assigned to operate accounting information systems. Determine the persons authorized to enter the accounting information system and set a password for them.

Keywords: computerized accounting information systems, the risks of computerized accounting information systems, quality of accounting information, planning, controlling

1. Introduction

1.1 Introduce the Problem

The contemporary world is witnessing the so-called informatics era where awareness of the importance of information as a strategic resource from the organization’s various resources increases. As a result, there is increasing interest in managing this resource, and in developing information systems that provide the information needed to make decisions.

The accounting information system inside the facility is one of the most reliable sources of information, which can be the decision maker that depends on the access information specific situation faced, however, accounting information systems are witnessing the development and expansion of the use and development of computer equipment, And the expansion of the application of quantitative methods and the availability of information on the Internet from various other fields of knowledge. The role of computerized accounting information systems was not limited to measuring financial events only. Rather, its role extended to include many events that capture the attention of the administration and wish to plan for the provisions of control over them.

These developments have led to the consolidation of the status of computerized accounting information systems as a main and integrated system governed by special rules related to linking accounting concepts with the administrative and economic dimensions surrounding the decision-making process by measuring, comparing and feedback. Also increase interest in the process of accounting selection of information using all available contemporary methods, In addition to the multiplicity and diversity of outputs (accounting reports) in terms of form and content. This ensures an adequate flow of information, which helps clarify the vision for the decision-maker.

This development may be accompanied by the emergence of many risks encountered in this information during its production stages. These risks affect its quality and thus influence the decisions made by users. Therefore, companies resort to making these systems safe through accurate control mechanisms and controls over data and
processing processes in order for reports to be submitted. They contain accounting information trusted by the users of this system.

1.2 Study Problem

The study problem is represented in the following main question:

Do risks facing accounting information systems affect the content and quality of accounting information?

The previous main question emanated the following sub-questions:

1- Computerized accounting information systems face several risks during all their stages.

2- The risks faced by computerized accounting information systems affect accounting information and its quality.

3- The measures taken to protect computerized accounting information systems have an impact on improving the quality of accounting information.

1.3 Importance of the Problem

The importance of the study stems from the following:

1- It examines the impact of computerized accounting information systems risks on the quality of accounting information in Jordanian commercial banks through the main role of computerized accounting information systems in achieving the strategic objectives of senior management by providing them with appropriate accounting information to perform their functions.

2- It deals with the Jordanian commercial banks, which are a major pillar of the Jordanian economy.

3- The importance of this study comes through the increasing interest in using information technology in Jordanian commercial banks.

1.4 Objectives of the Study

The study seeks to achieve the following objectives:

1- Knowing the nature of the risks that threaten computerized accounting information systems, the reasons for their occurrence in Jordanian commercial banks.

2- Explaining the impact of computerized accounting information systems' risks on improving the quality of accounting information in Jordanian commercial banks.

3- Demonstrate the effect of procedures for protecting computerized accounting information systems on improving the quality of accounting information in Jordanian commercial banks.

Based on the above, what distinguishes the current study from previous studies?

Many studies were conducted that investigated the issue of the impact of computerized accounting information systems risks on the quality of accounting information and its effect on various factors from several aspects. Through the researcher's knowledge of previous studies on the subject of the study, most of these studies have relied on questionnaire as a tool for data collection, and that there is agreement in their results that there is a positive effect on the effectiveness of accounting information systems, but at different levels, and that there are risks affecting the quality of accounting information. This study is similar to previous studies in terms of survey and dependence on the anus as it differs this study from previous studies where it was conducted in the Hashemite Kingdom of Jordan, which enjoys a good commercial activity and form banks where fundamental pillars pillar of the economy in addition to that showed a review of the literature study researcher. The absence of recent previous studies that directly dealt with the impact of computerized accounting information systems risks on the quality of accounting information in Jordanian commercial banks

1.5 Describe Relevant Scholarship

1-The nature of accounting information systems.

Accounting information systems are considered an essential part of the management information system, which includes all data and information that affect the activities of enterprises, including commercial banks. It is classified within the open systems that interact with the surrounding environment by affecting and being affected by it. Accounting information systems are concerned with providing economic information that can be expressed in financial terms. And this can help in solving many of the problems and financial decisions facing the administration and many other parties. So that it is able to face various reactions in light of the constant and continuous change of the contemporary business environment, where competition increases and increasing
technological and economic developments.

2- The concept of accounting information systems.

Accounting information systems: It is one of the components of an administrative organization that specializes in collecting, classifying, processing, analyzing and standardizing financial information appropriate for decision-making for the management of the establishment and for external parties, and it is considered one of the basic components of the management information system. The difference between them is limited to the fact that the first is concerned with accounting data and information, while the second is concerned with all data and information that affect the activity of the establishment (Hongjion XU 2003). The researcher believes that effective accounting information systems are those systems that are able to achieve the goals for which they are designed, which is to provide appropriate, reliable and timely accounting information for the beneficiaries.

3- Quality of accounting information systems.

The concept of the quality of accounting information is considered one of the contemporary concepts that are concerned with the various scientific and professional societies because of its importance when preparing financial statements and achieving the necessary disclosure requirements in those lists in a way that serves the users of accounting information, and perhaps this importance is what prompted the American Accounting Association (AAA) To the issuance of a study in 1966 in the name of a statement on the basic theory of accounting, as well as the Financial Accounting Standards Board (FASB) The one who applied the new utilitarian approach when developing the conceptual framework, focused clearly on the quality or utility of accounting information, and considered that the objectives of the financial statements are a starting point in the application of the new utilitarian approach, and after setting the goals, it was natural that the Financial Accounting Standards Board in the United States would accomplish American (FASB). The next plan is to determine the quality of the concepts of accounting information issued statement No. (10) 1980 (qualitative characteristics of accounting information) (Noor Azizi, 2008)

The quality of the accounting information means the extent of compliance with the rules and procedures that are applied regularly and sincerely in a way that reflects the reality of the institution’s accounts and the relative importance of the recorded events (Thanh Binh, Tran, Thanh, & Hong Nga, 2020)

4- Methods of general control for computerized accounting information systems.

The general control of computerized accounting information systems represents the standards and directives that fall under the scope of the data processing department's tasks. They are considered as methods of administrative control of jobs. Their vulnerabilities have major implications for data processing operations.

Also includes the regulatory oversight of the computer center. Which is of importance in supervising and distributing competencies to workers due to the inability to achieve internal control through the method of separation of jobs used in Bedouin data processing systems (Bansah, 2018)?

Therefore, general control methods represent administrative and regulatory control policies that are applied to the management of information system. It includes:

- Regulatory methods

Organizational control methods (Ilić & Andelić, 2017) include a set of organizational and administrative procedures that are essential in order to reach a sound internal control system. These procedures include all control methods related to administrative organizational procedures such as:

- The existence of an independent department for information systems in the organizational structure.
- Selection of employees and taking into account the scientific and practical qualification for them.
- Defining the competencies of the various departments and sections in a way that ensures non-conflict
- Distribute duties among employees, so that no one is unique to a process from beginning to end. So that the work of each employee is under the supervision of another employee.
- A clear allocation of responsibilities helps to identify the consequences of error and negligence.
- Conducting movement of employees from time to time. So as not to interfere with the smooth running of work.
- Separation of conflicting functions in managing information systems.
- The necessity for each employee to take his annual leave at once, to give the opportunity to whoever performs the work during his absence to discover any tampering with that work.
The organizational structure of the information systems department due to the multiplicity of roles and tasks that the information systems department performs related to the functions of the accounting system and ensuring the integrity of the accounting data.

- Not to give powers to the employees of the Information Systems Department to change programs and files.

Control methods to access:
They are control measures over physical and logical access aimed at protecting assets, files, information and equipment inside the facility (Lim, Jae-Hee, 2010) Among these methods and procedures are:

- Not to enter the computer department during non-official working hours
- Not to allow entry to the computer department except for persons authorized by an official permit.
- Use passwords to ensure that the people concerned are allowed access to the system.
- Protection from computer viruses.
- Putting computers in safe and appropriate places.
- The use of experienced g of warning and alarm to advertise unauthorized for the Department of Computer.
- Use firewall technology to prevent unauthorized access to system components.
- Use security cameras to control access to the computer section.
- Use the visitor log to control access to the computer section.
- Use employee identification cards to control access to the computer department.

Methods of control over the security and protection of files.
It includes all necessary measures to achieve security and protection for the physical and logical components of the system (Deborah and H. Joseph Wen 2007) and to confront internal or external risks that threaten the security of files and the system, including:

- Use anti-virus software.
- Keep backup copies of programs and files in separate and safe places.
- Make backup copies of programs and files at the end of each working day.
- Provide backup copies of system programs and files.
- A directory for programs and system files.
- The presence of a specialized emergency team to restore the operation of the system in the event of a disaster.
- A plan to confront the risks of computer hackers.
- Having a plan to deal with natural disasters such as fires and floods

It includes all the necessary control methods and procedures for documenting information systems, describing them with their physical and logical components, documenting end-user procedures, in addition to documenting all cases of continuous development and updating of the system (Lewis and Hendrawan, 2020). The control procedures are divided into documenting and developing the system into:

- Successive monitoring procedures documenting the system:-
  - Documentation of systems software and operating software
  - System function description
  - Establishing a time plan to implement the system's functions
  - Numbers of data flow charts
  - Describe the participatory relationships between the classes of the system using entity diagrams
  - The documentation of the components of congenital system using pictorial symbols
  - Setting general instructions for the end user of the system related to how to deal with and operate the system
  - Documenting training programs, training resources, and control procedures for the various uses of the system.
The procedures related to the development control system and maintain:
The International Quality Organization presented a set of standards and guidelines that must be followed when
developing and maintaining information systems (Ferguson and Seow, 2010) within two main axes:
The necessity of developing a clear plan for developing and maintaining systems and software that includes
defining objectives and procedures.
- The necessity of developing a clear plan for monitoring the development and maintenance of systems and
software, and defining control strategies.
Among the most important control methods for documenting and developing accounting information systems are
the following:
• Procedures for creating and developing systems based on information from the Systems Department
regarding the existence of a need to develop a specific system or development upon the request of one of the
system’s employees.
• Documenting the physical components of the system: The systems management works on documenting the
development processes that took place on it all.
- The reliability of accounting information:
The accounting information must be characterized by several qualitative characteristics in order to be useful to
the decision maker. It is this information such as:
The volume and quality of the available previous information, the ability to analyze the information, also the
level of understanding and perception of the decision-makers
- Reliability means: that the information is basically correct and the decision-maker can rely on it in forecasting
(Oh & Ko, 2018) and (Noor Azizi 2008) believes that reliability is that the information is free of errors and
reflects the economic conditions honestly, safely and in a verifiable way.
- The property of reliability of three elements:
  • Verifiable
  • Fair execution
  • Neutrality
He believes (Al-Dalahma 2017), in order for the accounting information to be characterized by reliability, a firm
accounting basis must be established with regard to the accounting principles and assumptions that govern the
accounting work, in addition to developing standardized, acceptable and practical measurement bases.
- The effectiveness of accounting information systems
Effectiveness of accounting information systems means: the degree to which the organization achieves the goals
for which these systems were set (Al-Hassania, 2016). Among the indicators measuring the effectiveness of
accounting information systems is quantitative, such as:
• Contribution of the system to achieving profits and increasing market share
• Some of them are qualitative, such as: the end user's satisfaction with the system and the volume of use.
Based on this, the researcher believes that effective accounting information systems are those that provide
correct and up-to-date information related to an administrative decision in question. In order to provide effective
accounting information systems, system designers are supposed to work with managers and other accounting
information system users to accurately determine their information needs (Oh & Ko, 2018). The researcher
believes that accounting information systems must have a set of basic characteristics in order to achieve the
expected goals of them:
• Appropriateness: that is, the relevance of financial information to the needs of decision-makers,
decision-makers through its impact on users’ decisions, by assisting them in evaluating past, current and future
events.
• Accuracy and reliability: that is, the information is accurate and free from errors and bias, and the
information may be appropriate but not reliable, and this is due to the degree of accuracy of that information and
the timing of its release, and in order to be reliable, it must have a set of characteristics, namely: (Oh & Ko, 2018)
representation Sincere, essence above form, neutrality, prudence and caution, relative importance.
• Appropriate timing: The accounting information must be available at the appropriate time necessary for a
certain decision to be made by the decision maker in order not to lose its value or its ability to influence the decision-making process.

- **Understandability**: The information contained in the financial statements should be clear and easy to understand directly by users, with the assumption that they have a reasonable level of knowledge in management and accounting.
- **Verifiable**: It means the ability to reach the same results by more than one person if the same methods and methods that were used in measuring accounting information are used. Often the term accompanying verification is used, which is objectivity.

The researcher believes that the main role of accounting information systems is in the process of controlling the quality of information that it provides to higher management to justify the economics of the degree of quality that commercial banks wish to achieve by studying the cost and benefit of each specific quality level and for each group of banking services that it provides to customers, and thus the benefit must be increased. Expected from banking services provided to customers and of a certain quality of costs, taking into account the need to achieve sufficient profit to cover the fixed costs of banking services provided to customers, especially that commercial banks are for profit.

**Previous studies:**

Al-Dahan and Mukhabarah (1990) indicated that the use of electronic computers contributes to improving the level of efficiency and effectiveness of the administrative performance of Jordanian banks as a result of improving the level of efficiency and effectiveness of the accounting system, although the use of electronic computers has led to the emergence of many problems such as: the suitability of these computers to the size and nature of work and availability. The systems and protection needed for the use of computers. In Singapore, Gel (2010) indicated the need to expand the application of the system of decentralization in the administration, as it includes specifying responsibilities, delegating powers, and activating the responsibility accountability system.

The study (el helow 2000) showed that commercial banks in Jordan will not be able to continue operating or compete if they do not use computer and communication technology effectively in performing their various businesses, as he indicated in his study. Investing in information and communication technology leads to lower costs. And in Australia (Hongjian, 2003), he revealed in his study that the most crucial factors to ensure the quality of accounting information are: the creativity of management, education and training, the naturalness of accounting information systems. The study (Al-Qatanani, 2005) showed the incompatibility of the supervisory system for computerized accounting information systems in banks. The study found that Jordanian commercial organizations with executive control controls have weak application of controls over the security and protection of files within the supervisory system for accounting information systems in commercial banks in Jordan.

**1.6 Hypotheses and Their Correspondence to Research Design**

In the light of previous studies, reviewed and based on the objectives of the study, the hypotheses of the study can be formulated in a non-specific manner as follows:

H01: The risks facing accounting information systems do not affect the content and quality of accounting information in Jordanian commercial banks

HO2: Face accounting computerized information systems for several risks during all stages in the banks of Jordan mercantilism

**2. Method**

**2.1 Community and Sample of the Study**

In his study, the researcher used the descriptive and analytical approach with its quantitative and qualitative corner to consider it the most appropriate methodology to achieve the objectives of the study and its consistency with the nature of this study.

Study tool (questionnaire): The researcher used the questionnaire to obtain the primary data for the study, and when designing the questionnaire, the researcher took into account the clarity and ease of the questionnaire paragraphs with indicating the degree of importance according to five levels according to the five-level Curt scale (No. 5 indicates strongly agree, No. 4 agrees, No. 3 is neutral, and No. 2 disagrees. And number 1 strongly disagree)

A questionnaire consisted of two parts:

First Section: General Information.
The second section: It contains the paragraphs related to the impact of computerized accounting information systems risks on the quality of accounting information in Jordanian commercial banks.

Also the second Section: It has been divided into three areas:

The first field: It includes 6 paragraphs to measure the risks faced by computerized accounting information systems in Jordanian commercial banks.

The second field: the impact of computerized accounting information systems risks on the quality of accounting information in Jordanian commercial banks. It has 7 paragraphs.

The third field: measures to protect the computerized accounting information system and their impact on the quality of accounting information in Jordanian commercial banks. It has 5 paragraphs.

2.2 Measures and Covariates

The Social Science Statistics Package (SPSS) was used to analyze the collected study data and test hypotheses. The study uses the descriptive analytical methodology, and the sources used in data collection are as follows:

A) Secondary data sources: Including books, studies, Arab and foreign sources related, in paper and electronic.

B) Primary data sources: They are collected through a questionnaire consisting of two groups: the first relates to personal data of respondents, whether they are legal accountants or branch and department managers; the second includes items related to the questions and objectives of the study.

3. Results

3.1 Introductions

In order to present and interpret the results and based on the opinion of the arbitrators, the arithmetic averages and percentages explain the impact of computerized accounting information systems risks on the quality of accounting information in Jordanian commercial banks.

| MEAN | percentage  | Effectiveness level |
|------|-------------|---------------------|
| 4-5  | 80% or more | very high           |
| 3.5-3.99 | 70% -79.9% | high                |
| 3-3.49 | 60% -69.9% | Average             |
| 2.5-2.99 | 50% -59.9% | Little              |
| Less than 2.5 | Less than 50% | A little bit |

The optional arithmetic mean 3, which is the arithmetic mean of the study tool, was determined to reject or accept the null hypothesis.

If the calculated mean is less than (3), the null hypothesis is accepted and the alternative hypothesis is rejected. If the calculated mean is greater than (3), the null hypothesis is rejected and the alternative hypothesis is rejected.

3.2 Believe Tool Study of the Persistence

To check the veracity of the study tool, the researcher introduced a questionnaire on five arbitrators from faculty members in the accounting departments working in Jordanian universities, and based on the opinions of the arbitrators, the researcher in the modified questionnaire and became in its final form component of its - 18 paragraph. According to d for different consistency of the questionnaire Bmajaltha total score using Cronbach ‘s alpha results came with d for consistency 84.6%. This indicates that the measuring instrument enjoys a high degree of stability.

| number | The field                                                                 | Vertebrae | Cronbach Alpha |
|--------|---------------------------------------------------------------------------|-----------|---------------|
| 1      | Measuring the risks faced by computerized accounting information systems in Jordanian commercial banks | 6         | 0.86          |
| 2      | The impact of computerized accounting information systems risks on the quality of accounting information in Jordanian commercial banks | 7         | 0.88          |
| 3      | Measures to protect the computerized accounting information system and their impact on the quality of accounting information in Jordanian commercial banks | 5         | 0.84          |
|        | Total marks                                                              | 18        | 0.86          |
3.3 Statistical Treatment

The data was processed using the statistical bag program for social studies, and the researcher used the following statistical treatments:

1- Arithmetic means, standard deviations, and level.
2- The Krone Bach Alpha equation.
3- T-test for independent samples to test hypotheses at a significance level 0.05.
4- Study population:

Study population of Jordanian commercial banks and the number of (13) banks by commercial banks guide Jordan 2020.

5- The study sample

(60) Questionnaires were distributed to a random sample of workers in the fields of accounting, financial affairs and information technology in Jordanian commercial banks. The number of questionnaires recovered and valid for statistical analysis reached 40 questionnaires, or 67% of the distributed questionnaires.

3.4 Characteristics of the Study Sample

Table 3 shows the demographic characteristics of the study sample that most of those who filled out the questionnaire are over 30 years old, with a combined percentage of 75%, while those under 30 years old have a rate of 25%. The researcher believes that this age group has computer skills and they have the ability to keep pace with the changes. Developments in information technology. Therefore, Jordanian commercial banks are working to attract them to benefit from their skills, and this shows the commercial banks’ reliance on the youth component at higher administrative levels.

As for the academic qualification, it appears from Table 3 that men are charged with 90% of holders of bachelor’s and master’s degrees, while for PhD holders it is 10%. These categories have a high level of education that qualifies them to work in Jordanian commercial banks.

Table 3 data show that 87.5% are specialists in the field of computers, accounting and information systems, while the percentage of other business faculty specializations is 12.5%. The researcher believes that these majors qualify their owners and enable them to carry out their duties and tasks, and they are also able to understand the paragraphs of identification, which enhances confidence in information collected through the questionnaire.

Table 3 shows that the percentage of 80% exceeds 5 years of experience in senior management positions and those with less than 5 years of experience have a percentage of 20%.

| Variable          | Variable level   | the number | percentage | Combined rate |
|-------------------|------------------|------------|------------|---------------|
| Age               | 40 years or more | 18         | 45%        | 45%           |
|                   | 30-40 years      | 12         | 30%        | 75%           |
|                   | Less than 30 years-old | 10   | 25%        | 100%          |
|                   | Total            | 40         | 100%       |               |
| Qualification     | Bachelor         | 25         | 62.5%      | 62.5%         |
|                   | M.A.             | 11         | 27.5%      | 90%           |
|                   | PhD              | 4          | 10%        | 100%          |
|                   | Total            | 40         | 100%       |               |
| Specialization    | Computer         | 12         | 30%        | 67.5%         |
|                   | Accounting       | 15         | 37.5%      | 87.5%         |
|                   | Information systems | 8     | 20%        |               |
|                   | Other business disciplines | 5   | 12.5%      | 100%          |
|                   | Total            | 40         | 100%       |               |
| Years of Experience | 10 years or more | 15         | 37.5%      | 37.5%         |
|                   | 6-10 years       | 17         | 42%        | 80%           |
|                   | 5 years or less  | 8          | 20%        | 100%          |
|                   | Total            | 40         | 100%       |               |
3.5 Presentation of Data, Analysis of Results, and Hypothesis Testing

The data of table 5 shows the risks faced by the computerized accounting information system in Jordanian commercial banks that the unintentional introduction of incorrect data by employees came in first place with an arithmetic average of 4.90 with a standard deviation of 0.37 and a percentage of 98%, which confirms that the accounting information system he is exposed to this type of risk which may be due to the forgetfulness in which the employee falls. It considered that unintended entry did not occur during the first stage of the financial accounting system. With regard to the exposure of the accounting information system to viruses and piracy, the results of this study show that this kind of risk can occur, as the arithmetic average of this paragraph reached 4.88, which is a very high percentage, but it is possible to happen sometimes. The study also showed that the accounting information system exposure to natural disasters such as fires, floods and power outages obtained a mean of 4.80. The researcher believes that fires, floods and power outages are environmental hazards and vary from one region to another and if that happens it may be a power outage and often This type of risk is rare. Regarding the exposure of the accounting information system to the crimes of theft and forgery, it hardly ever happens, as the arithmetic mean is 4.60, and this average is less than the arithmetic mean of all paragraphs. The table also shows the loss of some data (inputs) and information (outputs).

The results of the study indicate that some data and information may be lost by deleting or concealing them inadvertently or intentionally, as the arithmetic mean reached 4.55, and this result is less than the total arithmetic mean of the study. With regard to the paragraph that the accounting information system malfunctions occurred during the processing, I got an arithmetic average of 4.40, and this result suggests the occurrence of such disruptions. In general, as a result of an analysis of this axis, the overall arithmetic mean reached 4.68, and it belongs to the second category of the Curtis scale, expressing that the general trend of the answers was strong. In addition, the value of its low standard deviation, which amounted to 0.66 somewhat, expresses the homogeneity of the answers of the study sample and its lack of dispersion. The researcher believes that computerized accounting information systems, despite the technological development and the trend towards electronic data processing, may be exposed to several risks that affect the results.

To make sure of this, the researcher tested (Test) for the first hypothesis (the risks facing accounting information systems do not affect the content and quality of accounting information. It is a branch of the main hypothesis. The decision rule was to reject the null hypothesis and accept the alternative hypothesis if the calculated value of T was greater than the tabular at the significance level 0.05, which corresponds to a confidence level of 95%, and it is evident from Table 4. That the value of T is 7.712, which is greater than the tabular T value of 1.645 Which means rejecting the null hypothesis and accepting the alternative hypothesis, which states that the risks facing accounting information systems affect the content and quality of accounting information.

Table 4. The test for the first hypothesis

| The premise | The computed T value | Tabular T value | Indication level | Permissible error |
|-------------|----------------------|----------------|-----------------|------------------|
| First       | 7.712                | 1.645          | 0.000           | 0.05             |

The researcher used the test T-Test to check out the second hypothesis (H or 2) not exposure accounting computerized information systems for several risks during all stages in the banks of Jordan mercantilism. We note from matching computer results from Table 6, which shows the results of the second hypothesis test from the study hypotheses, that the calculated value of (T) is equal to 2.81, which is greater than the tabular value of T 1.645, and since the decision rule is to reject the null hypothesis and accept the alternative hypothesis if it is The computed T is the largest of the table numbers and based on the decision rule rejects the null hypothesis (HO2) and accepts the alternative hypothesis (HA). Computerized accounting information systems are exposed to several risks during all their stages in Jordanian commercial banks.
Table 5. Responses of study sample individuals on: The impact of the risks faced by the computerized accounting information system in Jordanian commercial banks

| Number | Paragraphs                                                                 | Standard Deviation | Mean   | Percentage | Level  |
|--------|---------------------------------------------------------------------------|--------------------|--------|------------|--------|
| 1      | Unintentional introduction of improper data by personnel                  | 0.37               | 4.90   | 98%        | Very High |
| 2      | Exposure of the accounting information system to viruses and piracy       | 0.42               | 4.88   | 97.6%      | Very High |
| 3      | Exposure of the accounting information system to natural disasters such as fires, floods and power outages | 0.52               | 4.80   | 96%        | Very High |
| 4      | Exposure of the accounting information system to crimes of theft and forgery | 0.58               | 4.60   | 92%        | Very High |
| 5      | Loss of some data (inputs) and information (output)                       | 0.81               | 4.55   | 91%        | Very High |
| 6      | Breakdowns of the accounting information system during processing         | 0.62               | 4.40   | 88%        | Very High |
|        | The arithmetic mean of all paragraphs                                     | 0.66               | 4.68   | 93.7%      | Very High |

Table 6. The test for the second hypothesis

| Premise          | The computed T value | Tabular T value | Indication level | Permissible error |
|------------------|----------------------|----------------|------------------|-------------------|
| The second       | 2.81                 | 1.645          | 0.38             | 0.05              |

Table 7. Responses of study sample individuals on: The impact of computerized accounting information systems risks on the quality of accounting information in Jordanian commercial banks

| Number | Paragraphs                                                                 | Mean   | Standard Deviation | Percentage | Level  |
|--------|---------------------------------------------------------------------------|--------|--------------------|------------|--------|
| 1      | Unintentionally entering wrong data leads to wrong accounting information | 4.72   | 0.71               | 94.4%      | Very High |
| 2      | Errors in analyzing, saving and retrieving data and information lead to a defect in the information | 4.62   | 0.77               | 92.4%      | Very High |
| 3      | Piracy and entry of viruses into the information system reduces the quality of accounting information | 4.53   | 0.80               | 90.6%      | Very High |
| 4      | Sudden and frequent power failure, losing quality and objective accounting information | 4.51   | 0.76               | 90.2%      | Very High |
|        | The staff responsible for implementing the system lacks the scientific and practical qualifications necessary to implement the system, and has an impact on the quality of information | 4.48   | 0.78               | 89.6%      | Very High |
| 5      | Failure to determine the responsibility of those authorized to access information systems increases privacy risks | 4.47   | 0.92               | 89.4%      | Very High |
| 6      | Increased dependence on information technology increases the likelihood of errors | 4.40   | 0.88               | 88%        | Very High |
|        | The arithmetic mean of all paragraphs                                     | 4.53   | 0.83               | 90.66%     | Very High |
Table 8. Responses of study sample individuals on: The measures to protect the computerized accounting information system and their impact on the quality of accounting information in Jordanian commercial banks

| Paragraph                                                                 | MEAN | Standard Deviation | Percentage | Level |
|---------------------------------------------------------------------------|------|--------------------|------------|-------|
| Providing protection measures for system inputs and outputs to ensure integrity and integrity of accounting information | 4.70 | 0.54               | 94%        | Very high |
| Staff training and the availability of necessary expertise ensures the integrity of accounting information | 4.62 | 0.76               | 92.4%      | Very high |
| Maintaining paper documents (entries) evidencing the accounting operations enhances reliability in accounting information | 4.36 | 0.85               | 87.2%      | Very high |
| Adopting backup copies of the outputs so that if a virus is introduced into the accounting information system, these copies will be alternative | 4.26 | 0.89               | 85.2%      | Very high |
| Updating methods of protecting data and information according to the changes taking place in the technological environment prevents any risks | 4.25 | 0.82               | 84.6%      | Very high |
| The arithmetic mean of all paragraphs                                       | 4.44 | 0.87               | 88.7%      | Very high |

Based on the above, we considered the quality of accounting information is a necessary requirement for all used parties have and this is due to the extent of its impact on the taken decisions by them, and exposed the accounting information system to many risks, whether intended or unintended. The results of the study show that the accounting information system has already been exposed to the risk of several during all stages and these risks have a negative impact on the quality of accounting information, and the researcher believes that it is necessary to avoid them with the highest possible prudence and caution, and to adopt the necessary protections for that, including:

1- Providing protection measures for the outputs and inputs of the system to ensure the integrity and integrity of accounting information.
2- Staff training and the necessary expertise to ensure the integrity of accounting information.
3- Maintaining the paper documents (entries) confirming the accounting information that enhances the reliability of the accounting information.
4- Adopting backup copies of the outputs.
5- Updating the methods of protecting information and data in accordance with the changes taking place in the technological environment prevents the occurrence of any risks.

4. Conclusion

Considering the quality of accounting information is a necessary requirement for all used parties have and this is due to the extent of its impact on the taken decisions by them, and exposed the accounting information system to many risks, whether intended or unintended. The results of the study show that the accounting information system has already been exposed to the risk of several during all stages and these risks have a negative impact on the quality of accounting information, and the researcher believes that it is necessary to avoid them with the highest possible prudence and caution, and to adopt the necessary protections for that, including:

1- Providing protection measures for the outputs and inputs of the system to ensure the integrity and integrity of accounting information.
2- Staff training and the necessary expertise to ensure the integrity of accounting information.
3- Maintaining the paper documents (entries) confirming the accounting information that enhances the reliability of the accounting information.
4- Adopting backup copies of the outputs.
5- Updating the methods of protecting information and data in accordance with the changes taking place in the technological environment prevents the occurrence of any risks.

5. Results

The researcher reached a set of results after analyzing the answers of the study sample in the questionnaire, the most important of which are the following:
1. Accounting information systems are exposed to several risks that threaten their security.

2. The study revealed that most of the risks are the result of internal reasons and not external causes, and they arise due to unintended errors or negligence.

3. The risks of computerized accounting information systems affect the quality of accounting information.

4. Applying measures to protect computerized accounting information systems reduces the possibility of risks.

5. The protection measures taken have a positive impact on the quality of accounting information.

The results of this study are in agreement with the study (Al-Helou, 2000) that investment in computerized accounting information systems leads to an increase in bank profits, an increase in depositors’ turnout, and an increase in the level of service provided to customers. The results of this study agreed with the results of the study (Hongjion, 2003) in that the most crucial factors to ensure the quality of data and information in accounting information systems is the modernity of computerized accounting information systems. The results of the current study also differed with what the study (Al-Qatanani, 2005) continued, the characteristics of the control system in computerized accounting information systems in Jordanian commercial banks are inconsistent with the regulatory control controls and the existence of a significant weakness in the applied supervisory controls, such as: The absence of an independent committee to control accounting information systems.

**Recommendations**

The researcher recommends the following:

1. Holding training courses to raise the practical and scientific qualification in accounting and technology that keeps pace with technological developments in general for employees assigned to operate accounting information systems.

2. Determine the persons authorized to enter the accounting information system and specify a password for them.

3. Developing means of protecting computerized accounting information systems and keeping them abreast of technological developments.

**References**

Al-Dahan, U., & Makhamrah, M. (1990). The Use of Computers on Business Activities in Banks, Jordan, in Jordan. Studies for Administrative Sciences, 16.

Al-Helow, B. S. (2000). The Impact of Using Information Systems and Technology on Banking Services, Unpublished Master Thesis, Al-Bayt University, Jordan.

Al-Qatnani, K. M. H. (2005). Controls in Computerized Banking Accounting Information Systems (Analytical Study) for Commercial Banks in Jordan. PhD thesis in accounting, unpublished Damascus University, Syrian Arab Republic.

Bansah, E. (2018). The threats of using computerized accounting information systems in the banking industry. *Journal of Accounting and Management Information Systems, 17*(3), 440-461. https://doi.org/10.24818/jamis.2018.03006

CPA. (2021). Requirements by State | CPA Exam and Accountant Education. 2021. Accounting Information Systems - Functions and Parts of the System | CPA 2021 Requirements by State | CPA Exam and Accountant Education. Retrieved from https://www.accountingedu.org/accounting-information-systems

Deborah, & Wen, H. J. (2007). Reducing the threat Levels for Accounting Information Systems Challenges for Management, Accountants, Auditors, and Academicians, the CPA Journal Publication of the New York state Society of CPA.

El-Dalahmeh, S. M. (2016). The basic of Accounting Information System and Information Technology. Warraq Foundation for Publishing and Printing.

Ferguson, C., & Seow, P. (2010). Accounting information systems research over the past decade: Past and future trends. *Accounting & Finance, 51*(1), 235-251. https://doi.org/10.1111/j.1467-629X.2010.00393.x

Gel, E. T. (2010). The Effectiveness of Accounting Information Systems in Private Iraqi Commercial Banks from the Management Point of View. Unpublished Master Thesis, Jordan Middle East University, Amman.

Hongjion, X. (2003). Critical Success Factors for Accounting Information Systems Data Quality. University of
Southern Queens Land.

Ilić, M., & Andelić, S. (2017). The role of computerized accounting information system in detecting accounting errors and accounting fraud. *Bizinfo Blace, 8*(2), 17-30. https://doi.org/10.5937/bizinfo1701017I

Lewis, B., & Hendrawan, A. (2020). The impact of public sector accounting reform on corruption: Causal evidence from subnational Indonesia. *Public Administration and Development, 40*(5), 245-254. https://doi.org/10.1002/pad.1896

Lim, J. H. (2010). A Study on the Effects of Accounting Information System Characteristics on Accounting Information System Performance. *Korea International Accounting Review*, (34), 129-146. https://doi.org/10.21073/kiar.2010..34.006

Noor, A. I., & Malcolm, K. (2008). Factors influencing the alignment of accounting information systems in Small and Medium sized Malaysian Manufacturing Firms. *Journal of Information Systems and Small Business*.

Oh, H., & Ko, D. (2018). Effects Characteristic of Accounting Information System Cause on Accounting Information System Performance. *Journal of Industrial Economics and Business, 31*(5), 1673-1691. https://doi.org/10.22558/jieb.2018.10.31.5.1673

Thanh, B. V., Tran, N., Thanh, D., & Hong, N. N. (2020). Impact of Accountant Resource on Quality of Accounting Information System: Evidence from Vietnamese Small and Medium Enterprises. *ACRN Journal of Finance and Risk Perspectives, 9*(1), 1-14. https://doi.org/10.35944/jofrp.2020.9.1.001

**Copyrights**

Copyright for this article is retained by the author(s), with first publication rights granted to the journal.

This is an open-access article distributed under the terms and conditions of the Creative Commons Attribution license (http://creativecommons.org/licenses/by/4.0/).