The Impact of Technical Knowledge on Increasing the Efficiency and Effectiveness of Accounting Information Systems in Banks: An Analytical Study in a Selected Sample of Iraqi Banks

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Abstract :

The study dealt with a topic of great importance at the present time in light of the continuous changes and developments in the information technology environment and the expansion of its use in various sectors, including the business sector in which accounting information systems operate.

The problem of the study is to determine the effect of technical knowledge on increasing the efficiency and effectiveness of accounting information systems in banks.

The study's goal was to clarify the concept of technical knowledge and the importance of it in the work of accounting information systems, with support coming from an exploratory study of a selected sample of Iraqi banks that used information technologies in their accounts.Various activities, including the work of accounting information systems.

One of the results of the study is that there are many uses of information technologies in accounting information systems in the study community, which is represented by a selected sample of Iraqi banks, and the study sample realizes the importance of using these means in the work of accounting information systems and that their use can contribute to enhancing the efficiency and effectiveness of accounting information systems. The study also recommended the need to provide technical knowledge through academic study, practical experience, continuing education, and participation in training courses to identify new uses and updates of various means in the work of accounting information systems.

Keywords: technical knowledge, accounting information systems, banks, efficiency of accounting information systems, effectiveness of accounting information systems.

JEL classification codes: Z02 ;Z21

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Introduction :

The research problem relates to a main question: Is there an impact of technical knowledge on the possibility of enhancing the efficiency and effectiveness of accounting information systems in business organizations that use information technology in their various activities?

The importance of the research is that it is on a topic that is directly related to the multiple and continuous developments that occur in the environment of information technologies and their various uses in various areas of life, including in the work of accounting information systems, and that requires those working on these systems to keep pace with these changes and developments and know how to make the most of their means.

Accordingly, the research aims to:

- familiarity with the concept of technical knowledge and its requirements.
- Clarify the importance of technical knowledge in the work of accounting information systems and how it contributes to enhancing their efficiency and effectiveness in business organizations that use various means of information technology in their various activities, including the work of accounting information systems in them.
- conducting an exploratory study to measure the impact of technical knowledge in a selected sample of Iraqi banks.

The research is based on two main hypotheses:

- Information technologies are used in accounting information systems in banks.
- There is a significant impact of technical knowledge on enhancing the effectiveness of accounting information systems in banks.

The inductive approach was adopted in the field study that was carried out in a group of Iraqi banks in which there is a use of information technologies in their various works, including in accounting information systems.

1. **The concept of technical knowledge**

The term "knowledge" came to be defined lexically as "understanding gained through experience" or "understanding derived from information acquired through study and learning," as well as "information acquired through study and facts gathered about a particular subject" (Mustafa, 1998: 5).

Since the term "technology" refers to the ability of people to understand and how to use and maintain the technical means used in their various jobs, the term "technological knowledge" refers to the ability of people to understand and how to use and maintain the technical means used in their various jobs, where technical knowledge is defined as "practical experience" and the technical

know-how that can be relied on to perform the tasks.(United Nations-ESCWA, 1992: 37).

Technical knowledge is one of the basic components within the components of information technology in that it is not possible to achieve the feasibility and benefit from the previous components (hardware, advanced equipment, software, and modern applications) unless there is a group of people (human elements) who are able to understand how to deal with, maintain, and sustain them in order to achieve efficient use of all its components.

Technical knowledge also requires the need to continue to be equipped with scientific and practical skills with all developments that occur in the field of information technologies and to work on the accumulation of this knowledge in a way that can lead to the opportunity of dealing with these technologies and additional areas to achieve the maximum possible benefit from them, which therefore determines the main factors for acquiring technical knowledge (Mustafa, 1998: 20).

1. The ability to comprehend depends on previous knowledge obtained through study and ease of learning during practical (applied) practice based on experience.
2. Research and development, through continuity of study and practical application of the developments that occur in information technologies,
3. Realizing and acquiring the knowledge generated in the surrounding environment (the mission environment) involves the economic unit exchanging information, holding joint training courses, exchanging experts, and conducting experiments, especially when one of the parties has unconventional solutions to its problems, which increases the ability of the economic unit to benefit from the knowledge available in the task environment.

Thus, "technical knowledge" refers to people's ability to understand and use the technical means used in their various jobs, and that this knowledge is acquired through academic qualifications, practical experience, and the accumulation of experience over time.

Based on this definition, the basic components of technical knowledge can be identified as follows: (Al-Saqa, 2022: 30-32)

1. Appropriate scientific qualification for individuals, which comes through academic study (initial and higher) in the field of information technologies and various related sciences (direct and indirect), is needed in addition to the need to perpetuate this through continuous education in

order to become familiar with the latest changes and additions that occur in modern information technologies and the various sciences related to them.

2. Practical qualification based on actual experience dealing with modern information technologies and identifying their components, how to use them, and what their multiple and secondary uses are.
3. The accumulation of experience gained through the additions that individuals can obtain (whether in theory or in practice) over time in order to practice their work using modern information technologies.

It is noted that the above components are linked with each other in an integrated manner so that none of them can be dispensed with in the formation and acquisition of technical knowledge, which requires the necessity of the availability of those in charge of various businesses that use the means of modern information technologies in economic units so that they can achieve their goals efficiently and effectively.

11. **The importance of technical knowledge in the work of accounting information systems**

The importance of technical knowledge in the work of accounting information systems can be clarified through the following:

1. Through the definitions that defined the concept of accounting knowledge management as: "it is the processes that help economic units to generate, obtain, select, organize, use, and publish accounting knowledge and transfer important information and experiences that the economic unit possesses, which are necessary for various administrative and accounting activities such as making decisions and solving problems, learning, and strategic planning" (Siyam, 2000, 6), it can be said that technical knowledge represents a part of accounting knowledge that can be formed as a result of using modern information technologies in the work of accounting information systems, which means that there is a need to take it into account in order to achieve goals integrated accounting knowledge.
2. Technical knowledge is one of the methods that can help you get the most out of the use of modern information technologies in the fields of accounting and information systems work.
3. Since information technology represents a real challenge to the accounting profession, it requires accountants, in the main, to be familiar with it and all the developments that occur in its field (Dahmash and Abu Zir, 2004, 2), which confirms the need to work on the contribution by economic units in the formation and

acquisition of technical knowledge for all those responsible for the work of accounting information systems in them.

In order for individuals working within the accounting information system to perform their work efficiently and effectively in light of the use of modern information technologies, it is necessary to provide them with the appropriate technical knowledge for the following reasons:

1. According to studies (Al Taweel and Sultan, 2004; 17), there is a positive moral relationship between the use of devices and equipment (represented by computers and their accessories, as well as communication technologies) and knowledge management processes in general, and technical knowledge in particular, because the majority of individuals have experience in the field of their company's work, allowing them to provide a clear picture of the components of information technology.
2. If the accountant wants to be present and important in all stages of accounting work (from recording data to operating it and displaying the information resulting from it), it is necessary to provide him with the necessary technical knowledge to program and operate the computer (as one of the basic components within modern information technologies) and be able to: carry out the necessary and required operations on the data (input) in the form and format required.
3. The use of modern information technologies in the areas of accounting information systems work can contribute to increasing the effectiveness of these systems if those in charge of accounting information systems have identified the most important effects and areas in which these techniques can be used, and in what would facilitate The work of accountants, in particular, gives them a broader scope to carry out duties and work that can contribute to serving the objectives of the economic unit within its scope more effectively.
4. There are many applied programs that can be used in the fields of accounting information systems work, such as the "ideal accountant" program, the "accounting horizons system," the "Jamsheed accounting system," computer-based accounting, etc. (Al-Rawi, 1997, 94–98), and dealing with such programs requires

the presence of sufficient technical knowledge to operate them and achieve the maximum benefit from them.

5. Full knowledge of the degree of technology available mainly in the preparation and operation of accounting information systems that use modern information technologies is necessary and falls within the basic requirements for the study of accounting information systems. (Al-Khateb and Al-Attar, 2008, 9–10)
6. The technical knowledge of the means of modern information technologies can contribute to identifying and choosing the appropriate means for conducting various accounting operations, taking into account the rapid and continuous technical changes in this field, as well as the general specifications of the devices that will be used in order to harmonize these devices with other means, especially the modern means of communication (Al-Abdali, 2003, 8).

It is clear from the above that technical knowledge is of great importance, as it requires from working individuals the need to acquire it through scientific study, practical experience, and continuity of learning in light of the continuous and rapid developments in the information technology environment. With the technical knowledge that accountants possess, it can have a clear and tangible impact on their work, which can contribute to enhancing the efficiency and effectiveness of accounting information systems in the units in which they work, which we will try to discuss in the practical side of this research.

111.Mythology

1. **The survey and analysis of its results**

1-1. Research community

The research community consists of a group of Iraqi banks that use information technologies in their work for the purpose of determining the extent to which they are used effectively. The field survey, which included 13 banks, was divided into private and public banks.

1-2. The research sample

The research sample consists of accountants who work in the accounting department or other departments, managers and heads of departments, and other individuals who have an interest in accounting work, as well as those working on information technologies. Of the 58 questionnaires distributed, 53 were returned, for a percentage of 91.38%.

1-3. Designing a questionnaire form, describing its content, and testing it.

In order to test the research hypotheses, a questionnaire was designed, which consists of two parts:

1-3-1. Characteristics of the research community and the research sample

This section includes a set of questions for each bank in order to determine the characteristics of the research community, and it includes a set of data related to the bank, such as the name of the bank, the date of the bank's establishment, its ownership, the types of information technologies owned by the bank, and the time that has passed since the use of information technologies in information systems. accounting in the bank, and also included a set of questions related to the research sample in order to determine the characteristics of the research sample, and it included a set of data on: scientific specialization, academic qualification, job location, years of experience in accounting and banking work, and training courses in the field of information technologies.

1-3-2. Questionnaire questions

The second section was divided into two parts:

Part One: Using information technologies in accounting information systems in banks.

This part includes a set of questions through which the first hypothesis can be tested about the extent of the use of information technologies used in accounting information systems in banks. And applications and communication techniques in accounting information systems in banks.

The Likert scale was used to answer the questions of the questionnaire. The scale scores for each question were determined to express the degree of agreement. These scores are: strongly agree (more than 80–100), agree (more than 60–80), unsure (over 40–60), disagree (over 40–20), and strongly disagree (0–20).

Part Two: The impact of technical knowledge in enhancing the effectiveness of accounting information systems in banks.

This part included a set of questions through which it was possible to know the impact of technical knowledge on enhancing the effectiveness of accounting information systems in banks. It included nine questions from Question No. 13–21 as well as reliance on the Likert scale to answer the questions of the questionnaire.

1-3-3. Test for reliability.

The questionnaire was subjected to testing the credibility of the questionnaire results and the correlation between its questions. Reliability analysis was used to calculate the Cronbach's alpha correlation coefficient, and it was found that its value amounted to 77%, which exceeds the acceptable threshold of 60%, This means that the questionnaire results can be approved, and the reliability of the questionnaire is reassured in a positive way.

1-4. Analysis of the characteristics of the research community and its sample

1-4-1. Analysis of the characteristics of the research community

The research community consists of 13 Iraqi commercial banks, and the selection of the research community has been taken into account as it includes banks from the public and private sectors. In accounting information systems:

1. Distribution of the research community by sector.

Table (1): Distribution of the research community by sector

Sector	Number of banks	Percentage
general	5	38.46
The private	8	61.54
the total	13	100

2. Distribution of the research community according to the date of establishment.

Table (2): Distribution of the research community by date of establishment.

Date of establishment	Number of banks	Percentage
Before 1980	1	7.7
1980-1990	4	30.77
1990-2000	6	46.15
200-2010	2	15.38
Total	13	100

Through table (2) it is noted that more than half of the banks that represented the research community had the date of their establishment after the year 1990, which indicates that these banks had started their work with the beginning of the emergence of information technologies, as they constituted 61.53% of the research community.

3. Distribution of the research community according to the information technologies you own

Table (3) shows the information technologies owned by banks

Types of information technology	Number of banks	Percentage
Computer and its accessories	13	100
Software	13	100
Telecommunications	8	61.54

From Table (3) it is clear that most of the research community owns computer technologies and its accessories, programs and applications, with a full percentage of 100%. As for communication technologies (internet, intranet, extranet, etc.), the number of banks owned by them is (8) at a rate of 61.55%.

4. Distribution of the research community according to the period since the use of information technologies in accounting information systems.

Table (4): Distribution of the research community according to the period since the use of information technologies in accounting information systems.

period	number of banks	percentage
Less than 3 years old	-	-
3 to 6 years old	1	7.69
6 to 9 years old	3	23.08
More than 10 years	9	69.23
the total	13	١100

It is noted from Table (4) that: the majority of the research community has used information technologies in accounting information systems in the bank for a period of 10 years or more, so their number reached (9) banks from the research community, at a rate of 69.23%, which is a high percentage of more than half, which supports the accuracy of the selection of the research community and the accuracy of the research results.

1-4-2. Analysis of the characteristics of the research sample.

The following is a review and analysis of the research sample that was relied upon for the purposes of analysis:

1. **Distribution of the research sample according to scientific specialization.**

Table (5): Distribution of the research sample according to scientific specialization.

Scientific specialization	Number	Percentage
Accounting	24	45.28
Business Management	7	13.21
Banking and Financial Sciences	4	7.55
Economy	4	7.55
Computers	5	9.43
Statistics	2	3.77
Other	7	13.21
Total	5	100

2. **Distribution of the research sample according to academic qualification.**

The research sample is distributed among different scientific levels, as shown in Table (6):

Table (6): Distribution of the research sample according to academic qualification.

Qualification	Number	Percentage	Combined percentage
PhD	-	-	79.25
Masters	2	3.77	
Higher Diploma	1	1.89	
BA	39	73.59	
Technical Diploma	6	11.32	20.75
Other	5	9.43	
Total	53	100	100

From able (6) it is clear that:

The research sample consists of graduates of university qualifications (42) individuals, at a rate of 79.25%. As for graduates of other institutes and institutions, it amounted to (11) individuals, at a rate of 20.75%.

3. **Distribution of the research sample by job location**

The research sample is distributed according to the job location as shown in Table (7):

Table (7): Distribution of the research sample by job site

Job position	Number	Percentage
Boss	6	11.32
Assistant manager	8	15.09
Head of the department	8	15.09
Accountant	14	26.41
Accounts clerk	9	17
Other	8	15.09
Total	53	100

4. **Distribution of the research sample according to years of experience.**

Table (8): Distribution of the research sample according to years of experience

Years of Experience	Number	Percentage
Less than 5 years old	9	16.98
From 5 years to less than 10 years	16	30.19
From 10 years to less than 15 years	12	22.64
From 15 years to less than 20 years	6	11.32
20 years and over	10	18.87
Total	53	100

It is noted from Table (8) the distribution of the research sample according to years of experience, and that the experience from 5 years to less than 10 years took the first rank of the research sample, and their number is (16) individuals, at a rate of 30.19%; from 10 years to less than 15 years took the second place, and their number is (12) individuals, at a rate of 22.64%; more than 20 years took the third place, and their number reached (10) individuals, at a rate of 18.87%, less than 5 years took the fourth place, and their number is (9), at a rate of 16.98%, from 15 years to less than 20 years took the last rank, and their number is (6) individuals, at a rate of 11.32%.

5. **Distribution of the research sample according to participation in courses in information technologies.**

Clarifying the distribution of the research sample according to individuals participating in computer courses, software technologies, applications, the Internet, and other communication networks, and individuals who did not participate in courses, as in Table 9:

Table (9): Distribution of the research sample according to participation in courses in information technologies

Courses	Number	Percentage
Computer courses	33	62.26
Software and applications technology courses	15	28.3
Internet and networking courses	10	18.87
Without courses	14	26.42

1-4-3. Analysis of the results of the field study and testing of hypotheses.

1. The second section of the questionnaire deals with the questions in the questionnaire. It was divided into three parts based on the number of research hypotheses and the reason for dividing the second section in order to reach the hypothesis test.
    1. Analyzing the answers of the members of the research sample to the questions about the use of information technologies in accounting information systems in banks

The questions in the first part of the second section of the questionnaire are related to the first hypothesis of the study. The answers of the research sample members to the questions included in the first part of the second section of the questionnaire were unloaded, and they were as shown in Table (10):

Table (10): Analysis of the results of using technical knowledge in accounting information systems.

N.of Q	Question	Arithmetic mean	standard deviation	coefficient of variation	percentage
1.	The bank uses information technologies to achieve: a- Continuous gains for new numbers of dealers. b- A continuous reduction in the costs of the banking service provided.	4.283 4.208	.769 .84	17.95 16.96	85.66 84.16
2.	The bank uses the following information technology tools: a. Automated teller machine. b. electronic cards	3.849 3.208 2.811 3.793	1.277 1.432 1.157 1.387	33.17 44.64 29.48 32.82	76.98 64.16 78.5 56.22

	✓ Credit Card ✓ Smart Card ✓ Electronic Checks ✓ ATM card c. digital money (electronic)	2.604	1.245 1.391	53.42	75.86 52.08
3.	The information technology in the bank is used to achieve the following functions: a. Electronic money transfer. b. Online banking operations.	4.132 4.019	1.092 1.2	26.42 29.85	82.64 80.38
4.	The bank relies on the computer to record various financial transactions.	4.585	.602	13.13	91.7
5.	The computer is used to conduct operational operations (processing) using different methods and methods on the computer to extract information in the form of reports and financial statements.	4.604	.994	21.59	92.08
6.	The computer is used to write data once	4.076	.814	19.97	81.52
7.	In its accounting information systems, the bank uses ready-made accounting software.	4.208	.704	16.73	84.16
8.	Excel is used to record financial operations, copy and tab reports, and make analyses and comparisons.	3.906	.706	18.07	78.12
9.	The Access program is used in accounting information systems with the aim of facilitating dealing with the huge amount of data by making use of the ready-made tables in them.	3.472	.388	11.17	69.44
10.	The Word program is used in accounting information systems for writing reports and financial statements and interpreting the results of financial analysis and other reports.	4.17	.505	12.11	83.4
11.	The bank has the following means of communication used in exchanging data and information: a. the internet b. Intranet c. Extranet	4.264 4.057 3.717	.463 .706 .994	10.85 17.4 26.74	85.28 81.14 74.34
12.	The use of communication networks in the bank made it easy to deal with any of the bank's branches	4.208	.857	20.36	84.16
	General Average	**3.93**	**.93**	**25.01**	**78.19**

The results contained in Table No. 13, which includes 12 questions, show that the general average of the severity of the answers of the research sample members reached (78.19%) with a weighted arithmetic mean of (3.909), which is a good degree and exceeded the accepted measurement tool (3) and was close to (4) on the five-point Likert scale with a standard deviation of (0.930) versus the coefficient of variation (25.01%), indicating that the answers of the research sample members were positive towards the questions of the first part, and that there is support for using technical knowledge in accounting information systems in banks.

1. **Analyzing the relationship between technical knowledge and accounting information systems in banks.**

In order to identify the relationship between technical knowledge and accounting information systems, table No. 14 shows the simple correlation coefficient between information technologies and accounting information systems in banks:

Table (14): The simple correlation coefficient between the uses of information technologies in accounting information systems in banks

AIS (Y) / IT (X)	Simple correlation coefficient value
Hardware and Equipment Technologies	.486
Software Technologies	.508
Communication Technologies	.479

* Statistical significance level (5%)

Based on the results of Table 14,, it is clear that:

1. Relationship of hardware and equipment technologies to accounting information systems
2. There is a positive relationship between the techniques of devices and equipment (represented by the computer and its accessories) and accounting information systems, as the simple correlation coefficient between them reached (0.486), which is a statistically significant value at the level of 5%,, and this indicates the presence of the use of the computer and its accessories in accounting information systems in banks.

3. The relationship of software and application technologies with accounting information systems
4. There is a positive relationship between software and application techniques in accounting information systems, as the simple correlation coefficient is 0.508, which is a statistically significant value at the level of 5%,, and the relationship indicates the presence of the use of software and application techniques in accounting information systems in banks.
5. The relationship of communication technologies with accounting information systems

And then: there is a positive relationship between communication technologies and accounting information systems, as the simple correlation coefficient reaches (0.479), which is a statistically significant value at the level of 5%,, and the relationship indicates the existence of a use of communication technologies in accounting information systems in banks.

Through the above correlations, it was found that there is a use of technical knowledge in accounting information systems, and to enhance the previous result, the relationship was analyzed through the analysis of variance in order to reach the first hypothesis test.

Table (15): ANOVA analysis of a relationship model between technical knowledge of accounting information systems

Sources of variance	Degrees of freedom	Sum of squares	Mean sum of squares	F . Value	
				Tabular	Calculation
Regression	3	43.522	14.507	3.411	2.804
The error	49	208.365	4.252		.05
Total	52	251.887			49.3

* Freedom (49.3) Statistical significance (0.05) degree

It is noted from Table No. (15), the calculated value F is greater than the tabular value F, so it indicates the existence of statistically significant differences between information technologies and accounting information systems at the level of statistical significance (0.05) and the degree of freedom (49.3). Therefore, the hypothesis that “information technologies are used is accepted.” in accounting information systems in banks.

1-4-6. Analyzing the answers of the research sample members to the questions of the use of information technologies in enhancing the effectiveness of accounting information systems in banks.

The questions in the second part of the second section of the questionnaire are related to the second hypothesis, and they include questionnaire questions on the impact of technical knowledge in enhancing the effectiveness of accounting information systems in banks. The results of the answers of the research sample members were as follows:

1. Analyzing the results of the impact of technical knowledge in enhancing the effectiveness of accounting information systems in banks.

The questions of the second part of the second section of the questionnaire are related to the second hypothesis, and it includes questionnaire questions on the impact of technical knowledge in enhancing the effectiveness of accounting information systems in banks. The results of the answers of the research sample members were as in the following table (16):

Table (16): Analysis of the results of the answers of the members of the research sample on the impact of technical knowledge in enhancing the effectiveness of accounting information systems.

N.of Q	Question	Arithmetic mean	Standard deviation	Coefficient of variation	Percentage
13	The use of technical knowledge in accounting information systems greatly contributes to the effective completion of accounting work	4.453	1.147	25.71	89.06
14	The positive impact of information technologies on the components of accounting information systems in the bank on all levels (documentary group, book group, chart of accounts, financial reports)	4.094	.953	23.27	81.88
15	The positive impact of information technologies on the accounting information systems approach in the bank is demonstrated by shortening the steps of the accounting cycle into three steps (registration and tabulation, processing, and preparing reports).	4.208	1.106	26.28	84.16
16	Information technologies provide ease, speed, and accuracy in collecting, sorting,	4.472	1.03	23.03	89.44

	and tabulating data.				
17	The ability of information technologies to produce useful information (outputs) based on inputs	4.264	1.088	25.51	85.28
18	The necessity of providing sound control methods over inputs, operations and outputs in light of the use of information technologies	4.509	.677	15.87	90.18
19	Information technologies contribute to the conduct of daily operations through the storage, retrieval, reproduction, updating, and maintenance of data through the data management function.	4.321	1.24	28.69	86.42
20	Information technologies contribute to the production of information at the right time in the required form and at the appropriate speed for delivery to the beneficiaries.	4.321	.994	23	86.42
21	The objectives of accounting information systems in light of the use of technical knowledge do not differ from those of the manual method except that the first achieves them with higher speed and accuracy compared to the second.	3.774	.989	26.2	75.48
	General average	4.268	1.025	24.17	85.37

The results contained in Table No. (16), which includes (9) questions from the questionnaire, indicate that the overall rate of the intensity of the answers of the research sample members is (85.37%) with a weighted arithmetic mean of (4.268), which is very large and exceeded the accepted measurement tool (3) and with a deviation Normative (1.025) versus the coefficient of variation (24.17%), and this indicates a clear consistency between the answers of the research sample and the positivity of the research sample members towards all the questions of the second part, and there is support that there is a role for technical knowledge in the effectiveness of accounting information systems.

2. Analysis of the relationship between technical knowledge and its role in the effectiveness of accounting information systems.

In order to identify the role of technical knowledge in the effectiveness of accounting information systems, table (17) shows the value of the simple

correlation coefficient between technical knowledge and the effectiveness of accounting information systems:

Table (17): The simple correlation coefficient between technical knowledge and the effectiveness of accounting information systems in banks.

Effectiveness of AIS (Y) / Tk (X)	Simple correlation coefficient value
Technical knowledge TK	.486

* Statistical significance level (5%)

It is clear from Table No. (17) that the relationship between technical knowledge and the effectiveness of accounting information systems is a positive value and indicates the existence of a relationship between technical knowledge and the effectiveness of accounting information systems, as the simple correlation coefficient reached (0.486), which is a statistically significant value at the level of (5%). Therefore, the relationship indicates that the use of technical knowledge has a role in enhancing the effectiveness of accounting information systems.

Through regression analysis of the relationship between technical knowledge and its role in enhancing the effectiveness of accounting information systems, the previous result can be strengthened through the following table (18):

Table (18): Results of estimating the simple regression between technical knowledge and the effectiveness of accounting information systems.

Regression equation	Y=47.319+1.247x1		
Relationship	Beta Values	T Values	Coefficient of determination
Technical knowledge with accounting information systems	Y: 47.319	7.471	46.62%
	X: 1.247	2.556	

It is noted that there is a relationship between technical knowledge and its role in enhancing the effectiveness of accounting information systems, as indicated by the values of beta (1.247) at the level of statistical significance (0.05), T (2.556), and the value of the coefficient of determination (R2) (46.62%), which indicates the explanatory power between technical knowledge and the effectiveness of accounting information systems. The coefficient of determination means that technical knowledge is able to explain 46.62% of the increase in effectiveness of accounting information systems.

To test the second hypothesis, analysis of variance was used to determine the extent of significant differences between technical knowledge and its role in the

effectiveness of accounting information systems, as shown in the following table (19):

Table (19): Table (19): Analysis of variance (ANOVA) for the model of the relationship between technical knowledge and the effectiveness of accounting information systems

Sources of variance	Degrees of freedom	Sum of squares	Mean sum of squares	F . Value	
				Tabular	Calculation
Regression	1	45.151	45.151	4.514	4.036
The error	51	510.094			.05
Total	52	555.245			51.1

* Statistical significance level (0.05) and degree of freedom (51.1)

Table (19) shows that there are significant differences (effects) between technical knowledge and the effectiveness of accounting information systems in banks because the calculated value F is greater than the tabular value F at the level of statistical significance (0.05) and the degree of freedom (51.1), so the alternative hypothesis is accepted that there is a significant effect of technical knowledge in enhancing the effectiveness of accounting information systems in banks.

Conclusion

The use of technical knowledge in accounting information systems will not change the objectives of the systems, but will contribute to enhancing their effectiveness by providing quality information that is accurate, reliable, and credible that supports the decision-making process while shortening the effort and time needed to produce the same amount of information if it is produced using the manual method, while preserving information (the so-called "information security") by following the procedures for the security of information systems in banks.

The results of the applied study:

❖ There is a percentage of the study sample members (78.19%) with a weighted arithmetic mean of (3.909) who agree to the use of information technologies in banks as well as their use in accounting information systems, as the use of information technologies in banks led to the emergence of information technology tools and benefits in achieving their functions.

❖ There is a percentage of the study sample members (85.37%) with a weighted arithmetic mean of 4.059 that supports or agrees that technical knowledge has a role in enhancing the effectiveness of accounting information systems in banks by completing the accounting work effectively and accurately, as well as the positive impact of the components of the study.

Accounting information systems and their positive impact on the accounting information systems approach by shortening the accounting cycle to three steps (recording, tabulating, processing, and preparing reports) and affecting the functions of accounting information systems and their effective completion, as well as contributing to the delivery of information in a timely manner, in appropriate form, and with appropriate content through appropriate means of communication It also contributes to achieving the objectives of accounting information systems with high speed and accuracy.

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