



THE ROLE OF ACCOUNTING INFORMATION SYSTEMS IN ENHANCING FINANCIAL TRANSPARENCY AND FINANCIAL REPORTING FOR INSTITUTIONS (AN APPLIED STUDY IN THE SUMER COMMERCIAL BANK)

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Article history:	Abstract:
Received: 10 th April 2023 Accepted: 11 th May 2023 Published: 11 th June 2023	The research aims to identify the nature of the accounting information system in banks and the most important automated means and technical tools used in its development. And suggesting some automated means and technical tools to develop the accounting information system in the Sumer Commercial Bank. The search was applied in the Sumer Commercial Bank for the financial year 2020 data. The research concluded that information technology is a tool for developing the accounting information system in banks and for improving the banking service through many tools, the most important of which are computers, automatic teller machines, plastic cards, electronic transfer of funds and banking operations using the Internet, as well as through telephone banking technology, office or home banking, digital money, e-mail and the branch. The use of automated and technical means in accounting information systems in banks supports operational processes and decision-making processes, as well as supporting the competitive advantage of the bank.

Keywords:

INTRODUCTION:

Accounting information systems that use means, mechanism, and technology are considered an advanced stage in information systems because of the advantages that modern means and technologies achieve, especially with regard to the outputs of the system, as they provide quick and flexible reports, and they contain many details and analyzes of data, which allows automated means to store them in huge quantities and obtain them when The need for information in decision making. The importance of information and communication provided by automated means in the accounting information system is increasing day by day, until these means have become an element of development and progress and an important factor of success and growth in all fields, especially in the field of banking. Where automated means and modern technologies form the basis for upgrading banking services, in light of the wide global openness and the increasing importance of using automated means in providing banking services and in information systems in banks, especially the accounting information system, puts Iraqi banks in a

late position that cannot be confronted except with the weapon of modernization and keenness to keep pace with the banking sector. These developments and to make real efforts to develop its capabilities and modernize its services using automated means.

THE FIRST TOPIC: RESEARCH METHODOLOGY AND PREVIOUS STUDIES

1-1 Research problem:

Sumer Commercial Bank suffers from the problem of not using the automated means available to it in the operation of the accounting information system, and that these means are characterized by limitations in terms of number and type, as the computer is used only in certain departments, which leads to the complexity of procedures and the duplication of automatic and manual work together, and thus the effects of that are reflected negatively On the one hand, the provision of banking services and the delay in providing accounting information to decision makers, and not providing it in the required quantity and at the appropriate time.



1-2 Research importance:

The importance of the research comes through its handling of the topic of automated means and the mechanization of accounting work because of its importance and role in all areas of accounting work. The research also derives its importance from the importance of the banking sector and its important role in society by addressing the accounting information system in banks and identifying the automated means and technical tools that can be used in its development and thus help in improving the financial performance of the banking unit.

1-3 Research objectives:

The research aims to identify the nature of the accounting information system in banks and the most important automated means and technical tools used in its development. And suggesting some automated means and technical tools to develop the accounting information system in the Sumer Commercial Bank.

1-4 Research hypothesis:

The research is based on the following hypothesis (The use of automated means in the accounting information system helps in improving financial performance).

1-5 Research Sample:

The research sample is represented by one of the banks listed in the Iraq Stock Exchange, which is the Sumer Commercial Bank, for the financial year 2020 data.

THE SECOND TOPIC: THE THEORETICAL SIDE OF THE RESEARCH

2-1 The nature of automated means and their uses in accounting work:

The machines currently used in accounting work are the result of the efforts of many years of research and experimentation by mathematicians, physicists, and engineers to lay the foundations upon which the work of these machines is based. Although the important and rapid developments in the field of computers took place in a short period of time estimated at about a quarter of a century, the historical basis of these machines dates back to the beginning of the existence of numbers and dealing with them effectively and efficiently (Sherrill, 2013:214).

In 1614, John Napier, as an astronomer, was interested in the need to facilitate the task of performing complex mathematical operations, so he designed a guide or calculator that enables him to perform mathematical operations multiplying two numbers quickly, and in 1643 Blaise Pascal designed the first calculator consisting of wheels and gears, and

this machine could be used in subtraction operations and collection necessary for calculating taxes in France, and in 1673 Leibniz designed a new machine that could perform basic arithmetic operations, for this reason many designers of accounting systems believe that any office machine must give a return that covers its cost in a year or years, and this return is represented in the savings of employee salaries and this machine is the starting point for the production of manual and electric machines (Frey & Osborne, 2017:255).

In 1820, Thomas de Kulmer was able to make the first commercial calculator based on the idea that Betens designed his machine for, and in 1822 he designed the "differences machine", one of the English professors of mathematics, Charles Babbage, who was interested in the application side of mathematics, and this machine later developed into the analysis machine containing programming principles, a memory for arithmetic, and a calculator fed in by punched cards when Hollerith was able to apply the idea of punched cards in data-recording operations relating to the national census conducted by the United States government in 1890, and as a result of the need to use these machines help in recording and fixing business operations. Dr. Hollerith designed several sets of machines suitable for commercial use. These machines consist of a punching machine, card preparation, a machine to sort them into groups according to the required width, and a machine to print their data in a tabular form, in addition to a machine for collecting to summarize the recorded data. In these cards, the development towards electronic computers is linked to the first computer built at Harvard University in 1944, followed by the building of the first electronic computer by the University of Pennsylvania in 1946, followed by a series of major developments (Karun, & Mulish, 2017:23).

2-2 Considerations of using automated means in accounting work:

Automated means allow accounting data to be operated in a flexible manner capable of producing multiple information in terms of quantity and quality under all possible alternatives in a very short time and with a high degree of accuracy, meaning that the use of automated means contributes to the achievement and availability of the main qualitative characteristics in accounting information (Galati, et. al.,2020:46).

The use of automated means achieves internal and self-control over the implementation of operations so that errors can be avoided in the various stages of operation on a regular basis, as computers include means for control, control and verification of results,



as the use of automated means helps to complete computational and administrative work quickly and thus leads to cost reduction, especially in cases where the cost of manual labor is higher than the cost of automation, and for this reason many designers of accounting systems believe that any office machine must give a return that covers its cost in a year or years, and this return is represented in the savings of employee salaries (David, 2018:54).

The use of automated means provides the possibility of producing multiple documents with one automated process, and these documents are either multiple copies of a single accounting document or accounting documents and records that are used to collect the same data. Establishing an integrated system for accounting and management information (Marijanovic, 2008:81).

Data automation enables the provision of a huge amount of accounting and other information that can be used for various purposes such as planning, control and decision-making. And the principle of writing data is applied once, as the data is entered the first time, and the data in all files directly related to it is changed at the same time, and reports are extracted automatically. As the storage capacity and speed of information retrieval of the computer led to its centralization of information in a specific device, which entails various risks of penetration operations, and protecting information from these dangers is the only and practical way to preserve it, and such responsibility is entrusted to the heads of economic units that deal with information (John & Holloway, 2013:98).

The use of a computer provides an opportunity for economic units to build their organizational structures in a more flexible manner. Often, units that do not rely on computers have delays in processing and delivering information. In such a case, using a computer would provide flexibility in choosing for this reason many designers of accounting systems believe that any office machine must give a return that covers its cost in a year or years, and this return is represented in the savings of employee salaries the appropriate organizational structure, which helps reduce this delay. (Capsules, 2007:18).

2-3 Computer in the service of accounting and improving financial performance:

The computer is the pinnacle of the achievements of the modern scientific and technical revolution. During a short historical period, the computer entered and spread in all areas of human activity and became an essential tool in all fields. This wide spread of the computer and its applications is due to the actual

needs of modern societies represented by the need to control the large and increasing volumes of data required to be circulated by these societies, as a result of modern scientific and industrial progress, have increased the amounts of data needed to manage these societies, and their types have multiplied and their components have become more complex. In order to meet these needs, it was necessary to use methods, methods, and techniques that help in processing these large volumes of data and obtaining the necessary information from them quickly, accurately, and effectively (Melham, 2019:85).

Modern computer and communication technologies have helped solve this problem, so that the processing speed is measured in simple fractions of a second, hundreds of times the speed of data exchange, and the cost of these operations has decreased. The great capabilities provided by the computer and modern communication technologies represented in the large storage capacity, processing speed, data exchange, remote processing capabilities, the use of computer networks, information banks, and others. Thanks to these capabilities, it became possible to control the flood of information or the "information explosion" that modern societies are witnessing, controlling it, and benefiting from it in bringing about the desired economic and social development. Those interested in accounting and computer matters justified the use of computers in accounting activity with the growth of the size of economic units and the complexity of internal relations in them, while it greatly affected the amount of information required, whether from inside or outside the economic unit for decision-making and to achieve the required coordination between the activities that it exercises, and the work of economic units was affected. Uncertainty factors and rapid changes in the technical, economic, political and social fields, which requires the use of quantitative methods (Smarty, 2016:234).

The use of computers in operating accounting data led to the loss of most of the audit documents, as well as the emergence of risks surrounding the operation and data protection process. In general, it can be said that this has resulted in a change in the nature of the audit path, and thus a change in the audit procedures in general. Studies have shown that one of the most important factors that encouraged the occurrence of theft and the risk of fraud in economic units that use computers to process accounting data is that auditors do not understand the nature of computer work in the first place. In the bank (Medina, et.al., 2018:136).

Studies have also shown that one of the most important factors in the occurrence of thefts is the



inconsistency of audit procedures with the nature and environment of electronic data processing, which called for the necessity of making a change in auditing technology, especially in the areas of computer use, statistical methods, mathematics, and quantitative analysis methods, and this represents the most important contemporary trends in auditing, so as to be an auditor Able to evaluate the internal control system. He must understand the technical aspects of operating accounting data and the problems associated with them (Paul, 2016:76).

THE THIRD TOPIC: THE APPLIED SIDE OF THE RESEARCH

3-1 An introductory brief about the research sample:

Sumer Commercial Bank came at the forefront of commercial banks operating in Iraq, not only in terms of establishment, but also in many aspects, such as capital, reserves, number of branches, bank assets, volume of deposits and volume of daily activities, and this is due to the confidence that Summer Bank enjoys in the financial, commercial and industrial circles. Including the circles of banking services that it provides to customers, and it is the school from which all the advanced cadres currently working in the private banking sector in Iraq graduated. The Bank has recently witnessed an increasing growth in its financial indicators, especially in the last two years, due to a set of policies adopted by the Bank during that period, the most important of which is the expansion of granting credit of various types. As it expanded to include a large number of customers with the bank, with an increase in the ceilings of the amounts of facilities granted to customers, and this expansion provided cash liquidity to a large number of customers in the private sector, individuals and companies, and reflected positively on the bank's revenues as a result of the increase in commissions, wages and benefits, and the expansion of various banking activities as a result of providing And creating new working methods to raise the level of employees' performance through expanding the use of computers and giving employees in the electronic calculator department and its sub-centers the necessary attention to develop banking operations by developing the expertise of employees in this department by involving them in courses to see the latest findings of the computer development and development A plan to generalize the experience to the rest of the branches.

3-2 The application of automated means of accounting information systems in the research

sample to improve financial performance during the year 2020:

It has become known that the branch uses the computer in a number of banking departments represented by the current account department, the savings and deposit accounts department, the documentary credits department, and the general accounts department. Many and varied and cover all banking activities.

In order to expand the use of the computer, we suggest the following:

1. Replacing the systems currently in use or making modifications to them so as to ensure the efficiency of the automated system and dispense with the manual system, so that the modified system ensures that all defects and problems of the current systems are avoided and that it has sufficient flexibility for future modifications. This step includes each of the current accounts section, the savings and deposit accounts section, and the accounts section the public.
2. Introducing computers into the work of other banking departments, taking into account the selection of appropriate software that suits the Iraqi banking environment. This can be done by drawing up a future plan that includes the gradual introduction of computers into banking departments, so that priority is given to departments that have a direct impact on customers to improve their service.
3. Work on linking the computer systems of all banking departments with a database through an internal communication system that links the application programs of the banking departments to each other through a set of coordinated and integrated files called the database that helps reduce data repetition and ensures that data is updated on a timely basis by using the communication system This facilitates the process of obtaining the required data and information in a timely manner, and this is done through the database management system program, which is a package of complex programs that make the user able to connect to the database.
4. Linking the application programs of the different departments to the database. The use of a computer leads to ease of linking between the different systems applied to it. Through one input process, it is possible to influence many files and take many steps such as extracting different reports and transferring



data through the network, which increases the effectiveness of the accounting information system. Taking into account the database management system, recording each update process so that it is possible to identify the department and the operator that performed the update process, to allow the possibility of identifying any unauthorized violation of the information system.

5. Take the necessary measures to ensure the confidentiality and security of information and data, such as taking measures to protect data and information from unauthorized violations,

as well as providing technical protection by taking protection measures within the bank.

It is possible to clarify the most important indicators that can be achieved as a result of which increases the effectiveness of the accounting information system. Taking into account the database management system, recording each update process so that it is possible to identify the department and the operator that performed the update process the application of automated means of information systems in the Sumer Commercial Bank during the year 2020, as shown in the following table:

Table (1): The most important indicators that can be achieved as a result of applying automated means of accounting information systems in Sumer Commercial Bank during the year 2020

Details	Before applying automated means	After applying automated means	Deference
Number of employees	43	32	11
Operation execution time	60 Min	15 Min	45 Min
Transaction error rate	5%	1%	4%
Transaction cost	7500	2500	5000
The number of programs used	10	18	8
Transaction audit time	30 Min	10 Min	20 Min
Additional working hours	2	0	2
The number of credit cards	100	500	400
Instant payment cards	50	90	40
Number of smart cards	80	140	60
Electronic transfer times	85	125	40

Source: Prepared by the researcher based on the bank's data for the year 2020.

It is clear that the use of the computer and its communication techniques achieve many advantages for the accounting information system in the branch, as it increases the effectiveness of the accounting information system in achieving its main objectives in providing appropriate information in a timely manner to internal and external parties, which contributes to rationalizing decisions for users of accounting information, so as to increase the effectiveness. The accounting information system achieves its sub-objectives, as it achieves the goal of safety if the necessary measures are taken, as well as achieving speed in implementing banking services.

As the speedy access of customers to banking services improves the competitive position of the branch, as the officials and employees of the banking departments have specific powers and responsibilities in carrying out banking operations, for example, a withdrawal process for the current account of a specific customer if its amount exceeds the authority of the employees of the current accounts department, then the branch manager has an entry password

Especially on the current account system to carry out the operation himself. In the current system, the matter requires the presence of the branch manager to the concerned department to carry out the operation. Either in the case of using a communication system between the computer into the computer using specific input devices, which reduces the cost of banking operations and increases their efficiency. Instead of the competent employee referring to the signature form card to match the customer's signature of the current account department or any other department and the computer in the manager's office, he can carry out the operation from his office, which saves a lot. It also allows the branch management supervise the work of all banking departments.

The existence of a database allows all banking departments to carry out banking transactions and services directly on the accounts of customers. For example, the receipt of a transfer drawn on the branch - by phone, postal or check - to the account of a customer who has a current account, as soon as the transfer data is entered by the employee of the



transfer department, including the amount, number and account number of the transfer. At the same time, the amount of the transfer will be deposited in the current account of the customer, as well as posting to the general ledger accounts, with issuing a notification to the customer automatically, and this shortens many procedures and provides many documents that are prepared manually, which reduces the cost of banking service.

Dispensing with many documents and manual notifications that are currently being prepared. For example, it is possible to dispense with the signature form card by entering the customer's signature into

the computer using specific input devices, which reduces the cost of banking operations and increases their efficiency. Instead of the competent employee referring to the signature form card to match the customer's signature, it is possible to He reviews it on the computer screen as soon as he enters the customer's account number. Likewise, with regard to customer notices, they can be issued automatically by the computer.

The most important indicators of profitability can be clarified before and after applying the automated means of accounting information systems in the research sample bank, as shown in the following table:

Table (2): Profitability indicators before and after the application of automated means of accounting information systems in Sumer Commercial Bank during the year 2020

Details	Before applying automated means	After applying automated means	Deference
Return on equity	14.5%	18.6%	4.10%
Return on investment	22.8%	25.9%	3.10%
Return on sales	6.7%	8.1%	1.40%

Source: Prepared by the researcher based on the bank's data for the year 2020.

It is noticed that the indicators of profitability have improved as a result of dispensing with manual work in manual accounting records and books, and simply storing data and information on computer records, which reduces the cost of information production, as well as dispensing with daily schedules that are used in posting to the general ledger, where the posting to the general ledger is done directly into the computer using specific input devices, which reduces the cost of

banking operations and increases their efficiency. Instead of the competent employee referring to the signature form card to match the customer's signature by Concerned departments once data is entered for banking operations, which saves time, effort and cost.

The most important liquidity indicators can be clarified before and after applying the automated means of accounting information systems in the research sample bank, as shown in the following table:

Table (3): Liquidity indicators before and after applying automated means of accounting information systems in Sumer Commercial Bank during the year 2020

Details	Before applying automated means	After applying automated means	Deference
Trade rate	0.5	0.7	0.2
Quick liquidity ratio	1.2	1.4	0.2
Cash flow ratio	1.3	1.7	0.4

Source: Prepared by the researcher based on the bank's data for the year 2020.

The improvement of liquidity indicators is evident through the use of the computer, but it provides banking services only during official working hours and inside the branch building, while banking services at the present time have developed so that they are available banking services at any time and in any place using modern technologies, and among these technologies is the automated teller machine Its use made it possible to reduce office burdens and provide

financial services to customers during and outside official working hours, as well as during holidays and festivals, by relying on ATM technology and its various capabilities and the many advantages it provides.

Where the ATM can be used to carry out all banking business and provide traditional and modern banking services, the use of ATM technology can be an auxiliary tool that provides banking services for all technical departments in the branch, and if an internal



local ATM is installed as a starting stage and ATM cards are granted to customers with a reasonable banking culture. This stage is computer using specific input devices, which reduces the cost of banking operations and increases their efficiency. Instead of the competent employee referring to the signature form card to match the customer's signature a phase of familiarizing customers with the ATM and the

services they can obtain by educating customers about the importance of confidentiality of cards and security measures such as providing card holders with a secret number to enter their accounts. It is possible to clarify the most important indicators of activity before and after applying the automated means of accounting information systems in the bank, the research sample, as shown in the following table:

Table (4): Activity indicators before and after applying automated means of accounting information systems in Sumer Commercial Bank during the year 2020

Details	Before applying automated means	After applying automated means	Deference
Accounts receivable turnover ratio	1.25	1.45	0.2
Total asset turnover ratio	1.5	1.8	0.3
Working capital turnover rate	2.4	1.6	-0.8

Source: Prepared by the researcher based on the bank's data for the year 2020.

It is clear that the use of automated means has helped in improving activity indicators. After the introduction of ATM technology, customers have access to one type of plastic cards, which is the ATM card. The success of using this technology encourages the branch to deal with the rest of the types of plastic cards to provide new services to customers from outside the branch building. Which reduces the demand for banking service during official working hours and facilitates the provision of banking services to the customer, and the most important cards that can be suggested to be used are the credit card, as this card is granted as a kind of banking facilities granted to customers, The credit card is, in fact, a loan that the customer can use to purchase his supplies and then pay later, and he undertakes the task of granting the credit card to the Banking Facilities Department according to the financial position and the degree of trust granted to the customer, as a specific amount is determined for the card or issuance of cards with certain categories and types (gold card, silver card, card Ordinary) and one of the most famous credit cards, as well as the instant payment card that gives this card to customers who have current and saving accounts to facilitate them and save time and effort. When using this card, the customer transfers the money belonging to him (within the limits of his account balance) to the seller when using this card in his purchases. This card is granted by the Current Accounts Department and the Savings Accounts Department. As for the techniques of electronic transfer of funds, they depend mainly on the linking operations between the branch and the rest of the bank's branches and local banks.

4-1 Conclusions:

The research reached the following conclusions:

1. The computer is the most important automated means in accounting work because it has many capabilities that make it a basis for using automated and technical means, as well as its effective role in accounting applications in banking units.
2. The accounting information system in banks has characteristics that distinguish it from the accounting information system of the rest of the economic units, because the banking sector has characteristics that distinguish it from other economic units and the impression of the financial side on all its dealings.
3. Information technology is a tool for developing the accounting information system because this technology has great capabilities and advantages as it is an effective tool for reducing the volume of expenditures and also helps in expanding the field of control of senior management as well as contributes to creating communication channels between the sub-systems of the accounting information system as well as at the external level.
4. Information technology is a tool for developing the accounting information system in banks and for improving the banking service through many tools, the most important of which are computers, automatic teller machines, plastic cards, electronic transfer of funds, and others.
5. The use of automated and technical means in accounting information systems in banks supports each of the operational processes and decision-making processes, as well as by

THE FOURTH TOPIC: CONCLUSIONS AND RECOMMENDATIONS



supporting the competitive advantage of the commercial bank.

6. The use of automated means does not affect the objectives of the accounting information system in banks, but the impact is on the components of the accounting information system and its mechanism of action, as the accounting information system in banks is formed under the use of automated means.

4-2 Recommendations:

The research recommends the following:

1. Benefiting from the experiences of some Arab countries that preceded the Iraqi banks in developing and modernizing their banking services by adopting successful technologies that achieve greater efficiency in achieving the bank's goals.
2. Work on developing the banking culture of the Iraqi society through media networks as well as Iraqi universities, as the success of banking techniques in achieving its objectives, especially in reducing the cost of banking services.
3. Work and cooperation by Iraqi banks with the media in its written, visual and audio forms for a media policy that adopts information and communication issues and contributes to the dissemination of this culture.
4. Developing and qualifying the human resources in the bank by studying their abilities and capabilities as they are an essential and important part in the accounting information system of any economic unit and that the success of the accounting information system, whatever it is, depends mainly on the individuals in charge of its management and operation.
5. Using other technologies, such as the automated branch, digital money, and the telephone bank, and studying the conditions that match their use in the Iraqi environment.
6. Conducting comparative research studies to measure the cost of banking services under the current system of Sumer Commercial Bank with the cost of services for a bank that uses modern banking technologies to show the impact of these technologies on the cost of banking services.

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