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The role of information technology in enhancing the banking sector

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Abstract---The topic of information technology is one of the important topics affecting the banking sector in general, in today's world, in light of the trend towards spreading the presence of the information and technology sector in general in all aspects of the banking sector. The problem that the research deals with is related to the role that information technologies can play in improving the performance of the banking sector, including the quality of that sector. The research reached a number of conclusions, related to the fact that information technologies (human resources skills, databases, communication networks and software) affect enhancing the quality of banking service. The research leads to a general recommendation, which is: the necessity of paying attention to information technologies, and working to develop them continuously due to their effective contribution to the success of the services provided by the banking sector.

Keywords---Technologies, informatics, banking sector, quality, risk management, profitability, electronic payment methods, enhancing competition.

Introduction

In today's world, information technology has become one of the important tools for the banking sector, as it represents the main components of the services provided by that sector, and any bank that wants to confirm its entity and presence needs to confirm and improve the quality of the services it provides to customers by developing the uses of information technology.

The research deals with the analysis of the role of information technology in enhancing banking services. The banking sector in general has witnessed major transformations as a result of the technological progress that has occurred, and banks are now working to provide distinguished services that advance within the framework of competition. Financial technologies are a group of innovations that

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aim to improve financial operations in an effective and rapid manner and enjoy the widest possible spread. Some banking services in today's world are now being implemented via smartphones. Online banking services have become a phenomenon that imposes its presence in light of the digital services of banks, and there is now greater interest in obtaining customer satisfaction, and even reaching it. Information technologies have also enabled the banking sector to provide innovative financial services, including: participatory financing (speculation), international financing, and money management in different ways. In other words, these technologies have become possible to quickly access the available banking services.

Research problem

There has been a great development in information technology in a way that imposed new facts in the banking sector, including the trend towards the digital economy, and there has become a clear role for these technologies in developing and improving quality in the banking sector, and the research will work to answer the following questions:

1. What is meant by information technology? And what is its impact on the banking sector?
2. What is meant by the quality of banking services? And what does the banking sector need to achieve the level of quality in the services it provides?
3. How does information technology affect improving the quality of banking services?

Importance of Research

Research on the topic of the relationship between information technology and the banking sector is one of the important topics, scientifically because it is related to banking management methods and part of its continuity and achievement of excellence is related to how to benefit from developments in the information sector. Practically, the banking sector faces challenges related to competition, which makes banks interested in keeping pace with developments so that they can provide better services to their customers and maintain their presence in the market.

Research objectives

1. Identify the impact of information technology on the quality of banking sector performance.
2. Identify the information technology that must be available in the banking sector.
3. Identify the level of customers' awareness of the banking services provided to them.

Research Hypothesis

The concept and importance of information technology

1. The banking sector in light of the development of information technology.

2. The role of applying information technology in enhancing the quality of the banking sector: risk management, profitability, electronic payment methods, and enhancing competition
3. Models of the impact of information technology in enhancing the quality of the banking sector

The structure of the research

The research was divided into the following paragraphs:

- First** - The importance of information technology
- Second** - The banking sector in light of the development of information technology
- Third** - The role of applying information technology in enhancing the quality of the banking sector: risk management, profitability, electronic payment methods, and enhancing competition.

First: The importance of information technology

Technology or technology is a general meaning that includes all available means to develop production or its method, in a manner that is compatible with the needs of technology users in general. Technically, technology or technology is the optimal application of knowledge in various sectors: industrial, agricultural, and social. Technology is used to convert specific inputs into useful outputs: goods and services, while information technology is data that carries a degree of credibility, which is classified in an appropriate way that enables the user to access knowledge. As far as the banking sector is concerned, it needs information technology, as long as it seeks to enhance its competitiveness, and in a way that gives high quality to its performance.

Information technology provides multiple advantages to all sectors in the business environment, including speed, cost reduction, rationality and quality. Technology here is a broad topic that includes communications, information access technology, available uses, and others. It also facilitates the relationship between the business environment and customers, and improves the process of mutual understanding between them, not to mention providing rationalization options for both parties. In light of the available technical development, the possibility of multiple organizations reaching customers has become easy, through advertising and various marketing operations through exhibitions, advertisements, etc. In order to understand what is meant by information technology, it means:

They are the physical components of computers, the programs used, and the applications that accompany them, and all the processes of processing, storing, displaying, sending, and retrieving information with the required efficiency, speed, and accuracy, which enables individuals to benefit from these technologies in achieving the fulfillment of their needs from the various business environments and the organizations in which they exist, not to mention the effectiveness of feedback between the two parties (Abdullah, 2007, 70).

Information technology depends on (Miclean, 2000, 18):

1. Human resource skills, which are the origin of the entire process, although artificial intelligence has reached a stage where programs and equipment can be directed to interact automatically without the need for a large number of human resources, but individuals with skills remain the origin that cannot be dispensed with in transactions.
2. Databases, which are the raw material that connects the two parties: the business with the organization that provides the service, and includes data about the client, the business environment and the organization, including needs, tastes, what can be marketed, etc.
3. Communication networks, i.e. the available tools and means of communication that connect clients and organizations, in light of the development witnessed by the various aspects of life, in light of the development of available information technologies.
4. Hardware, which includes everything available to both parties: customers and organizations to obtain data and in purchasing and marketing operations, and processors via feedback.
5. Software, which is the nerve used in the devices and through which communication takes place between the two parties: customers and organizations.

These data related to information technology deal with: challenges of infrastructure and the extent of its presence in the country. Organizations can be present in a specific location, and cannot be physically present in the entire geographical area. Spreading in the world of information technology is possible and depends on the process of approximation through communication methods, and transferring information to the largest possible number of customers. In return, the matter requires the presence of specialized education in the organizations sector in order to succeed in the process of marketing their products to customers (Mona, 2006, 131).

Information technology is a systematic approach that uses knowledge after organizing it to reach solutions to scientific and practical tasks. It is a technical language used to increase the effectiveness, speed and efficiency of the various available lifestyles. Thus, information technology includes all types of software, hardware and equipment related to the computer, its operation, communication through it, databases and software, all of which support modern uses for the work of all organizations, including the work of the banking sector (Hussein, 2014, 34).

The importance of the presence of information technology in the life of organizations is that it contributes to the production of knowledge in a sustainable manner, and that information technology is the most prominent factor in driving economic growth, and that it is difficult to imagine the existence of an organized life without these technologies and without the presence of a computer, as the digital world and information represent an important factor in contemporary life. Organizations can use these technologies to achieve the following (Haider et al., 2023, 436-439):

1. Quickly determine the costs and economic and financial benefits, in everything related to production costs, customer service, marketing its products, etc.

2. Provide complete transparency, reduce the possibility of making mistakes, and use time appropriately.
3. Provides an opportunity to simplify procedures, as long as the focus is on the goal or result and not on procedures despite their importance.
4. Information technologies focus on transferring data to the customer in the shortest time, at the lowest cost, and with the greatest impact. The most important thing is that the data transfer process is done interactively between the two parties: the organization and the customer.
5. Enhancing excellence, because technologies make the organization aware of its reality and the reality of the environment in which it operates, and how to activate its presence, and thus opportunities are available to possess excellence in work.
6. It is possible to reach the stage of creativity in the organization's work, as technologies allow the organization to organize multiple relationships with customers and competitors, and possess the ability to lead, and compete, ..

The main components of information technologies are determined by the following (Boubaker, Ibrahim, 2019, 228-231):

- A) Hardware and software components (Hard Ware & Soft Ware): These are the physical devices used in input, storage, processing, and output activities. The computer is an electronic device that performs instructions and operations on a set of data, to process it and output the results. It is an electronic system that can give instructions to process information (Ghassan, 2007, 34-39).
- B) Human Recourse Skills: They are the qualified cadres to implement the various activities related to information technology, and that human elements undergo appropriate training to deal with these technologies.
- C) Communication Networks: The means used to send and receive data and information, and that they are linked together by means that allow beneficiaries to carry out the sending and receiving process. And that they are based on a program that allows the process of transferring and storing all types of information from programs, news, sounds and video images.
- D) Data Base: It is a group of data linked together or information stored on data storage devices and means, and that this data can be transferred over the Internet, and that the administration is able to benefit from it.

Second - The banking sector in light of the development of information technology

The banking sector is one of the important sectors in the economic system, because it is difficult to have an appropriate accumulation of wealth to launch various economic projects, so banks intervene to be a center for collecting capital, which is used to manage the economic system of the state.

There is no single organization for the banking sector, nor a specific goal for it, but there is continuous innovation in the work of the banking sector, and banking systems in general have become distributed between a commercial banking system and an Islamic banking system, and the banking system takes into consideration achieving multiple goals, including: financing, deposit, buying and selling, insurance, credit, and others. The banking sector seeks to reach the customer by spreading its branches in different cities to ensure the widest

possible geographical coverage. Through the banking sector's coverage of financial activities, and the diversity of banking presence, investment and economic activities are covered through the intervention of the banking sector to finance activities, which contributes to stimulating the economy through various activities by providing funds to cover the needs of educational, health, industrial, real estate institutions, and others, which allows for the provision of job opportunities and the achievement of economic growth (Maih, 2009, 67-68).

The tasks of banks are diverse, but from a methodological point of view, these tasks or functions are distributed into the following titles (Mamdouh, 2021, 223):

- A) Saving and saving, including deposits in various forms, because individuals tend to deposit surplus funds either in banks or in investment groups, and these banks and companies are large capital bodies.
- B) Money management, which is mostly the money of depositors and investors, and the bank undertakes several activities by pumping part of that money into activities whose importance to the banking sector has been estimated, whether through purchases, investments, financing or insurance, in a way that ensures the bank achieves a profit that covers the costs of its activities and the costs of profits from depositors' money.
- C) Financing, which is the most important activity of the banking sector, because most of those who carry out economic, commercial, industrial, supply, and other activities do not have sufficient capital coverage, so they take a large part of it from the banking sector in return for interest for the bank.
- D) Consulting services for individuals and economic institutions, within the limits of the activities requested by the individual and the company, given that the bank has feasibility studies regarding projects that can be financed or insured.
- E) Mediation in commercial businesses, which is one of the functions of the banking sector, during which the banking sector either finances purchase operations (Murabaha) on behalf of the work of an individual or company or provides an insurance umbrella that enhances the financial position of the individual or company, or any other task that revolves within the framework of banking mediation.

The roles played by the banking sector, whether mentioned above or otherwise, in line with the changes in tasks, have made the banking sector one of the most important financial institutions. In light of the technological transformations and developments, this sector has been affected by what made it respond to technological developments. The bank found itself able to easily and conveniently reach customers, and vice versa, at a time when banking has become subject to fierce competition in today's world due to the size of its profitability. There are many types of banks in today's world, some of which are governmental and are in constant decline (and some of which are specialized to cover specific activities (commercial, real estate, or industrial, etc.), some of which are private commercial, some are Islamic, and some are branches of foreign banks, each of which has a specificity in dealing with banking activities, despite the existence of commonalities that unite them all under the title: banks (Faril, 2024, 178).

Technological developments have allowed banks to spread geographically to reach the largest possible group of customers, and to expand vertically in activities. Banks no longer provide savings and credit services, but have expanded to cover every activity that can achieve returns and profits. With the development in the

technology sector, and the dominance of the information technology sector, which benefits from the transformation of part of the activities into digital activities, whether as an activity or as a process of communication with customers, it has brought the bank and the customer closer to each other, and thus competition has increased between banks because they all have the ability to reach the largest possible group of customers. Some have gone so far as to say that information technology has imposed itself on the banking sector, and no bank that is terrified by competition in today's world can be far from it, because it facilitates the banking sector to provide various packages of banking services (Muhammad, 2024, 171-172).

Technological progress in the field of banking has led to many changes and developments, and the economic impact of new technology, especially in light of the dominance of information technology, depends on the rate of increasing use of that technology, as well as the degree of its absorption by the banking sector. Banks find themselves among the institutions that use information technology the most, and have even benefited from this technology in developing the services they provide to customers, which is observed from the increased spread of banking services and in increasing the efficiency of banking work compared to the activities that existed before the expansion of the use of these technologies in managing banking activities. Following the transformation in banking activities in today's world will notice an expansion in banking activities, as banks in general no longer use traditional methods to carry out savings, deposits and financing activities, but have begun to focus on the idea of commercial marketing for themselves to customers, in order to expand activities and gain the largest possible number of them for their services, especially electronic payment methods (Mustafa, 2013, 62-63).

Following the reality of the banking sector today, it is noted that this sector is important in economic life, and it carries out many activities, including the following (Haider, 2018, 111):

1. Savings, i.e. accessing individuals' savings and making them put them in the banking sector in exchange for multiple profits by choosing between more than one system: short-term or long-term temporary savings.
2. Credit, and the transformation of the concept of credit from its paper form to the possibility of simplifying procedures and carrying out most of them through various bank cards.
3. Financing, with different systems, including the Murabaha system, which allows the bank to enter as an intermediary buyer and then carry out the process of selling it to the customer at a later time.
4. Insurance to cover the risks associated with a commodity or any case permitted by law.
5. Providing financial credit to cover purchase or investment operations or enhance the strength and position of a customer of the banking sector.

These tasks remained relatively stable, but the change that occurred in them was the banking sector benefiting from technological transformations, including the use of bank cards, i.e. electronic payment methods, as one of the important changes, and the discontinuation of the previous trend of direct physical access

to obtain a financial transaction procedure, but rather the shift to digital electronic procedures.

Third -The role of applying information technology in enhancing the quality of the banking sector: risk management, profitability, electronic payment methods, and enhancing competition

The general trend in the economic institutions sector is to evaluate them from a quality perspective, and the extent of their performance's harmony with the level of satisfaction of the beneficiary or customers, and the activities performed by institutions and organizations were subject to specific requirements, but with the shift to electronic and digital characteristics, multiple activities have been transformed from their direct and physical reality to a virtual reality, meaning that the process is done digitally, and reaches customers digitally, and here the message issued by the bank must be aware of the extent of the change that has occurred, as it directs its services to a large segment of customers with different trends and inclinations, and therefore expanding the circle of customers requires that the speech directed to them be proportional to the goal that the bank wants to achieve.

The effects of modern technology in general, including information technology, on the banking sector have multiplied, and analyzing these effects, it is noted that they are determined by the following (Rahhal, 2009, 92):

- ❖ Technology in general is a double-edged sword for managers, as technology has an impact on implementation and the overall performance of banks on the one hand, as it allows banks to expand their activities horizontally and vertically, with all the services available to the banking sector to provide to the largest segment of customers, and at the same time imposes restrictions and limitations on the work of banks.
- ❖ Technology affects the development of the banking sector to a diverse range of financial services, which are compatible with the desires of customers.
- ❖ Technology affects the workforce in banks, as the available workforce must be able to work in a digital environment, and therefore it requires them to be familiar with technological developments, possess skills in electronic accounts, master more than one language, and communicate with customers.
- ❖ Information technology helps the banking sector in providing new services, including electronic payment, which will diversify the bank's revenue base through the fees and commissions system, and not focus on traditional sources of profits, including: the difference between the debit and credit interest rates, interest on the credit system, insurance, and covering financial credits for companies, (Essam, Nagham, 2024, 158).

The banking sector, while working to reach the largest possible number of customers and provide the largest possible number of services, with the aim of achieving the largest possible return, is concerned with a number of points, the most important of which are: the ability to compete, and improving the quality of the bank in the markets in which it operates and among customers dealing with the banking sector. In light of information technology, the latter contributes to improving the quality in the banking sector, given what it provides (Ben Zakoura, 2019, 11).

- A) Opportunities in terms of expanding banking services
- B) Reducing costs
- C) Speed in risk management
- D) Opportunities to enhance profitability
- E) Speed of access to customers
- F) Ability to enhance competition
- G) Ability to innovate appropriate tools to reach the largest number of customers, including the expansion of electronic payment methods, which are among the most important developments in banks' means of dealing with customers and markets.

The quality of banks means that the services provided by the banking sector are consistent with the expectations and desires of customers about banking performance, i.e. banking activities have a content that is accepted by the beneficiary of banking services, including credit, savings, etc. (Samiha, 2016, 33), and the activities that are related to quality do not stray from the fact that they include the following dimensions (Abdul Amir, 2016, 95):

1. Banking services, which are the various activities that the bank demonstrates its ability to commit to providing to customers, whether they are: savings, credit, financing, profit, insurance, or covering purchases via electronic payment, or any other activity that the bank can do.
2. The method of providing them and serving customers, meaning that there is a strategy followed by the bank to deal with the customer in a way that makes the bank distinguished in public relations, and in searching for customer stability to deal with and gain new customers.
3. Material and electronic resources and capabilities, i.e. there are tools that the bank can use to reach customers and gain them to deal with the bank.
4. Reliability: This means the bank's ability and the extent of its ability to perform its services correctly, in a reliable manner, and the extent to which the bank fulfills its promises in providing its services to its customers, so that this represents a type of reliance that can be trusted in the work of the bank in question. And the reduction in the amount of risks expected by the customer in the bank, for the services that are secured or provided to customers, in a way that makes the customer closely linked to the bank, in various services including: credit, savings, securities brokers, insurance agencies, etc., as the bank works hard to build trust and loyalty between the bank's employees and the customer.
5. Responsiveness: This refers to the extent of the service provider's (bank's) readiness and desire to provide the customer with the required service and assist him in solving specific problems within the appropriate time frame. This includes the bank opening an entrance for questions and complaints, including the bank showing flexibility in dealing with everything that satisfies the customer and supports the bank's position.

The role or impact of information technology on the quality of the banking sector is linked, from the point of view of some, to the availability of opportunities and the reduction of determinants. A study of the motives and reasons that prevent the expansion of the use of information technology in the banking sector shows that it weakens the competitiveness of banks, given that there is a relationship between the dimensions of banking services (convergence, suitability, credibility

and security) and the obstacles to the development of these services in light of the development in information technology. The more banks succeed in using these technologies appropriately, the more they succeed in: managing risks, achieving profitability, and moving towards achieving success in electronic payment methods and enhancing competition (Ahmed, 2010, 22).

While some have argued that customer dissatisfaction with banking technology is an important factor in weakening the competitiveness of the banks concerned, which requires them to continuously update their banking information services and fulfill their customers' desires (Mathew, 2005, 17). In conclusion, there is a positive relationship between the information technologies used by banks and their profitability, so banks are working to expand electronic business, due to the changing nature of the business environment in today's world, and the goal is to satisfy customers (Faril, 2022: 46).

In other words, the information technologies used by the bank require the possession of resources, techniques, and strategies, the purpose of which is to achieve reliability, credibility, and rapid response according to the bank's needs. This requires the bank to be able to: innovate in dealing with banking services and marketing them to customers, and work on developing banking services continuously. The origin is not information technologies, but the ability to employ these technologies in a way that enables the bank to market its banking services. That is, these services are improved using information technologies, and each bank finds it in its interest to continuously improve its services. Therefore, the bank is interested in the issue of quality in its services, whether related to the management process, public relations, the financial aspect, marketing, or re-correcting the provision of banking services. Thus, the independent variable is information technologies, and the dependent variable is the quality of banking services.

Conclusion

At the end of the study of the relationship between information technology and quality in banking services, it is noted that information technology, which represents an independent variable, affects all sectors, including the banking sector, because it reproduces the marketing production capacity, and forces organizations to evaluate their work and activities, as long as they work for profit in most cases, or they are public benefit institutions, and in all cases the organization cannot continue to perform work that is not in line with the developments taking place in its environment, and information technology has become obligatory on organizations to provide a large part of their work electronically.

Today, the banking sector is obliged to provide computers and link them appropriately with banking services, and to provide appropriate training for its employees to perform banking services electronically, and to continuously update the bank's data and the banking services it provides to customers, and to choose the appropriate programs to reach customers and market its services.

At the end of the research, the following conclusions were reached:

1. Information technology is an important factor in providing and evaluating the quality of banking services. The more the transformations that occur in light of the development of these technologies are absorbed, the bank can obtain quality in banking services.
2. Banks today are interested in qualifying and training human resources to be familiar with developments in the field of using information technology, because the output related to banking services is marketed electronically to customers, and customers have become electronically dealing with the banking sector.
3. Lack of a sound and comprehensive legal framework that covers the administrative, financial and accounting systems of electronic services for banks. In addition to bank employees.

As for the proposals presented by the research, the following can be presented:

1. Every bank is obligated today to employ human resources capable of managing its activities according to the developments related to information technology, in terms of computers and programs, in addition to public relations and marketing skills.
2. Every bank must be interested in the developments in information technology, and support the innovation of distinctive programs that lead the bank to the largest number of customers, and in a way that enhances the bank's ability to provide the largest number of banking services, and thus enhance the bank's profitability.
3. Every bank must adopt administrative, financial and accounting systems that facilitate banking activity operations and in a way that enhances the achievement of the set goals, in addition to using banking operations that help in innovating more effective electronic technology services.

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