"The role of digital accounting techniques in bank governance enhancing"

Theoretical Study

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Introduction:

Over the past years, the business environment has witnessed a range of technological trends in various The sectors are especially in the information systems field and become more complex than in the past decades, such rapid technological development has led to the erosion of a shift from information systems generally, traditional accounting information systems, and the gradual and phased transition to the digital economy Including digital accounting requirements, digital transformation processes have had a significant impact in various areas. Accounting is one of the areas affected by modern technological infusion.

Digital accounting techniques include all accounting transactions in an electronic environment in the current Digital economy can help companies to complete job tasks faster and more accurately interpret data And information and reports more efficiently and effectively. So, digital accounting technologies are Competitive methods to enhance companies' institutional governance system to apply best practices in the Banking sector Through the development of structural, legislative, and regulatory folding aimed at reducing risks that The banking sector may be exposed.

First: Research methodology

A.Study problematic:

Accounting is one of the most important service activities within a social science activity that has become for those interested in the field of accounting or auditing, as well as in the field of ccounting sciences, to adopt contemporary techniques.

one of the contemporary technologies used is digital accounting techniques, as they are one of the main reaches to ensure the application and development of organizations' governance rules. But rather provide quality financial information formulated in current and future financial statements, as well as non-financial information included in financial reports.

In addition, the application of digital accounting techniques will be directly reflected in the re-formulation of the job description of the accounting professions in order to keep pace with the continuous and effective changes in the modern business environment according to the strategic perspective. Hence, the problematic of research can be identified by answering the following questions:

1. How can digital accounting techniques enhance bank governance?
2. How do digital accounting techniques affect the application of governance mechanisms, procedures, and rules in the banking sector?

B: The importance of research:

The competition process between business organizations in general and banks, in particular, takes a number of forms, one of which is important to work towards the economics of information and reduce the cost of obtaining such information in accordance with the principle of "Cost-benefit analysis". Therefore, the application of digital accounting techniques will directly contribute to reducing costs in general, in particular the cost of obtaining information, speed of obtaining, degree of information, and analysis of information. as well as reducing the rates of error in accounting work and securing the provision of administrative and office workers, in particular administrative expenses, as well as ensuring computerized information systems through achieving their security and confidentiality. All of such help to

highlight the role of digital accounting techniques in both bank governance and the quality of accounting information on the other hand.

C. Research objectives: The study seeks to achieve the following objectives:

1. Recognize the role of digital accounting technologies in achieving bank governance requirements.
2. Identify the role of digital banking services and their impact on the efficiency of financial and administrative performance.
3. Help to solve problems facing the banking business with the use of modern technologies.

D. Research hypotheses

1. Digital accounting techniques help conduct all accounting transactions in an electronic environment that contributes to faster, more accurate completion of functions and more efficient interpretation, and reporting of data and information.
2. Digital accounting techniques are a valuable methodology to helping banks deliver high-quality financial reports, create quality and usefulness accounting information, and support the effectiveness of the strategic decision.
3. Digital accounting techniques enhance the establishment and application of banking governance principles through the passing of structural, legislative, and regulatory developments aimed at reducing risks to the banking sector.

Secondly. The theoretical framework for research

2-1 The concept of digital accounting

The concept and expansion of the uses of the term "digital accounting" and its direct and indirect effects on economic life continue to form part of the dynamic development of accounting science and the arts of its practical and professional applications, although more than half a century has elapsed since this concept was introduced as an attempt to reduce the effects of the financial and economic

implications of the international economic scene as part of the outcomes of the World War II.

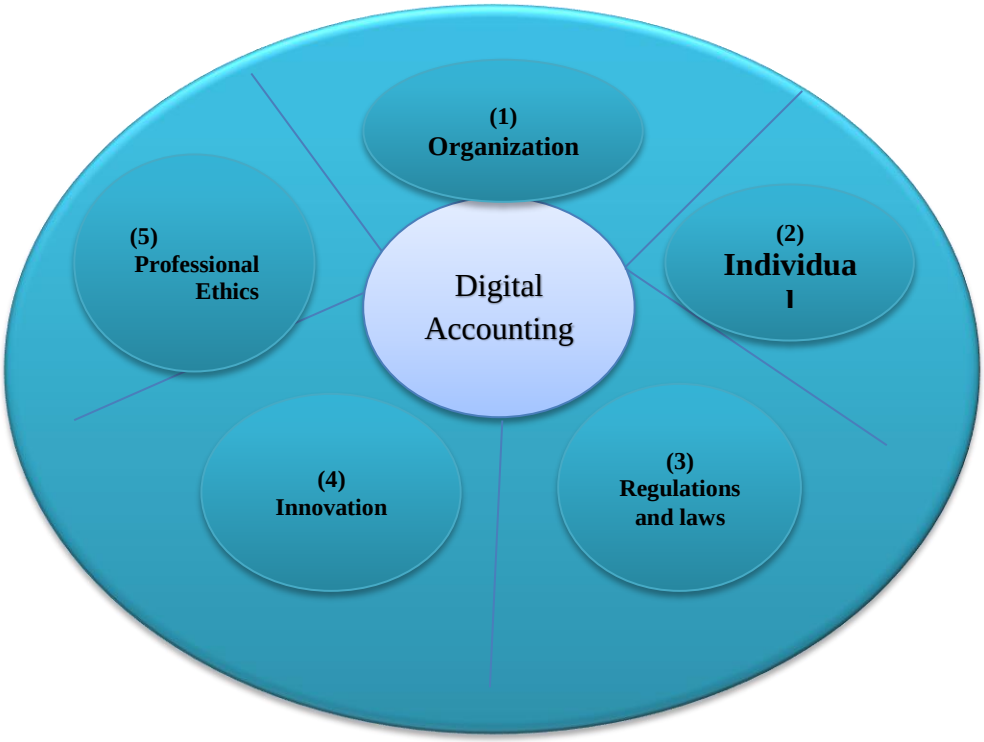
The current set of traded definitions indicates the evolution and change that has occurred in traditional accounting due to the transition of modern technologies, which has made a clear impact on the theoretical processes and accounting practice, and the concept of digital accounting means "digital accounting or electronic accounting" processing and transferring accounting data in a digital electronic context (Elamir and others, 31, 2021).

Some have defined it as: "means the implementation of traditional accounting functions, accounting research and educational areas of accounting through the computer and the various components of the International Internet Information Network. and one of the definitions refers to the concept of digital accounting means the preparation, presentation and transfer of financial and accounting data and information in electronic form through the significant contribution of the role of computers and accounting software that enhanced technological progress and the development of the role of the accountant in the process of faster analysis, interpretation More efficient and disclosure of information. "(Brukhansky & Spilnyk, 2020)

Hence, the term digital accounting means the use of modern techniques to develop new accounting systems or existing systems to keep pace with the significant shift associated with the magnitude of financial and accounting statements in a sophisticated business environment that contributes to the development of accounting functions. (Brukhansky & Spilnyk, 2020:219)

Digital accounting is based on five axes: organization, individual, regulations and laws, and innovation, morals, and possible theories in all axes figure (1)

Organization, individual, regulations and laws, innovation, professional ethics, and possible theories in all axes as shown in Figure No (1)



Source: Lehner et al., 2019: IV

2-1-2 Digital Accounting Technologies in the Digital Economy

In this context, it is important that theoretical developments reflect them in the development of methodological recommendations whose practical implementation will contribute to the effective implementation and development of the accounting system. Improving accounting is an important asset for the digital economy and highlighting the status, features, and prospects of developing accounting under the conditions of digitizing the economy and updating the development of a new digital accounting model. Among the techniques that develop the accounting system in the digital economy we may mention the below:

2-1-3 Extensible business Reports Language XBRL

According to the Financial Accounting Concept Statement (SFC), accounting information "cannot be useful for decision-makers who cannot understand it, although it may be relevant to the decision and reliable." In order to be understood, financial disclosures must be readable, and according to the Chairman of the Securities and Exchange Commission Christopher Cox (SEC), the ease of reading is

undermined by excessive technical elaboration and writing, reflecting either length and content caused by difficulty reading. (Cahan et al., 2022:2).

Hence the main objective of the trend towards electronic dissemination of electronic financial reports is to facilitate the accessibility of investors and users of their financial lists for their benefit and optimization But in the absence of a standard metering method and the publication of electronic financial reports, there is mess in electronic publishing, Users are unable to make full use of this financial information. Claims have therefore increased towards a standard counting method for actuarial financial reports.

XBRL aims to simplify the use of financial listing information. XBRL is to facilitate: (Perdana et al., 2019:492)

Electronic communication of financial listing information between business systems and (2) processing of such information by computers (3). XBRL marks accurately identify each part of the financial statement data for subsequent electronic processing, thereby reducing search, extraction, transfer, and error costs.

2-1-4 Nature of XBRL Extensible Business Reports Language

One of the most important innovations associated with accounting is the language of Extensible business reports XBRL. Where the Language of Reports Is Prepared for Extended Business Reporting Language reports for expanded work. XBRL Where Extensible business reporting language is one of the most important programming languages Used in the accounting field, whose bases are built according to XML (extensive markup) language which aims to build an information system that transfers and converts accounting information via the Internet to users.

XBRL is defined as "an Internet-based system for viewing and disaggregating information in the Organization's files so that it can be grouped in slides in a number of ways that increase the effectiveness of electronic dissemination of accounting information. Expanded business reports defined XBRL as "a digital language specifically developed to support the disclosure and exchange of information

between entities and parties of economic activity and users of information and financial statements." (Nossier, 239:2022)

Through definitions, it is clear to us that XBRL is the development of XML, the aim of which is to improve and accelerate the process of electronic accounting disclosure at the lowest cost, by providing a standardized format and exchange of financial listings, thereby ensuring transparency and reliability in financial listings.

XBRL is not monopolized by a particular entity as being flexible and free In other words, it is a non-profit programming language for the designer and developer, Designed and developed by many large companies known for the software world and with the help of accountants, whether within the private sector or the government sector and can be an economic unit or entity to start using and apply a language) XBRL (after obtaining a free license from Language International organization) XBRL.

XBRL works to solve and address problems by facilitating the use of this information by beneficiaries. Any information from the language of the XBRL computer may be used by the applications of the extract computer easily (Qazaz & Sakka, 261:2019), In the researcher's view, XBRL can be defined as a language that provides a standardized electronic model to facilitate an electronic disclosure process and to provide a report covering all economic, social, and environmental areas of companies in a manner that increases the effectiveness of the electronic dissemination of accounting information.

2-1-5 Cloud Accounting:

With the evolution of modern technologies for the global working environment, accounting is constantly changing, especially developments and technological and informational innovations that add value to corporate business.

The most important of these developments and innovations is the emergence of The concept of cloud computing defined as "a model for enabling access to a network from everywhere and conveniently - to a common set of configurable or configurable computing resources (such as networks, servers, storage, applications and services)

(on demand, which can be quickly provided and launched with minimal administrative effort or interaction with the service provider (Elgendy&Elragal,2016:287)

With the use of new services based on the evolving model of cloud computing, accounting services, analysis of procedures, compliance and verification, implementation of controls, improvement of controls, inspection of overstatement and report design, and data management have become essential functions involving cloud-based accounting solutions, which can be used to improve efficiency, reduce costs, improve internal processes, and enhance accountants' choices andflexibility. As cloud accounting is defined as a package of accounting services provided through the Internet in comparison with the traditional accounting information system, they have an absolute advantage over input costs, maintenance costs, and data reliability as well as their ease of use in companies, Today's cloud accounting model provides an innovative model for addressing many factors such as competition and others - easy access, customization, and collaboration via the use of the Internet in cloud computing In addition to the activities of accounting software companies, the basic principles that drive cloud computing have led to the emergence of cloud accounting, which includes the same functions in an accounting information system installed on the client company's computer but works virtually on servers equipped with computing service and provides accounting services through cloud computing services. (DNOON 75 :2018)

(Sobhan, 2019) Summarized four important factors to be considered by the cloud accounting system credits of its research in Bangladesh. As shown below (Sibuea et al., 2021:29):

1. External factors play an important role in influencing the decision on the adoption of cloud accounting in the business. These factors include pressure from competitors, pressure from the community, pressure or support from the government, and support from vendors.

2. Organizational factors may vary from one organization to other based on their characteristics. Some of these factors include governance, policy, cognitive awareness, and support from senior management.

3. Technological factors deal with the physical appearance of cloud accounting technology. This includes cost-effectiveness, reliability, German, and complexity.

4. Environmental factor is an important factor in the adoption of cloud accounting. Decision makers' awareness of environmental sustainability is part of this factor.

The basic difference between cloud accounting and traditional accounting software is that the first can be operated on host servers through an internet connection and can be easily accessed from anywhere at any time while the latest can be accessed through the user system where it is installed. Therefore, cloud accounting is better than traditional accounting for its flexibility, accessibility, and other potential benefits to its users. The main benefit of cloud accounting is that it enables users to access accounts from anywhere with an internet connection. (Sibuea et al., 2021:27)

2-1-6 Blockchain Series Technology

The blockchain, the so-called blockchain technology, has a considerable attention to and spread globally in recent years because it is one of the important technologies that is one of the essentials of the Fourth Industrial Revolution and that will lead to change in the characteristics of the global economy. It’s potential to open new horizons for promoting development, and improving human life in addition to increasing demand and the global use of smart devices, communication networks and big data, and the growing need for more sophisticated technologies in the protection of cyberspace (Hussein, 2020).

Blockchain technology is, therefore, the largest distributed and open digital record that allows the transfer of ownership assets from one to another at the same time in Real Time without the need for an intermediary, while achieving a high safety degree for the conversion in facing of fraud or manipulation attempts. All individuals around the world are participants in such register. Blockchain can now be considered the largest database distributed globally among individuals (Al-Sharqawi, 2019).

With all these big coordinates of blockchain technology, the technology will show some problems related to privacy, decentralization, and control of private banks(Khalifa, 5:2018).

The Blockchain technology can be defined as an encrypted information system based on a central information base that is distributed across all the network's accessories, to record and modify all transactions data, in a manner that ensures that all relevant parties agree to the validity of the data. The power of blockchain technology lies in two basic standards: decentralization and high transparency in the management of transactions of all kinds, such as payments, bank transfers, registration of real estate ownership and national identities, or exchange of assets, documents, and voting documents or operations of the Faculty of Law. Khalifa, 5:2018).The researcher's view, Blockchain technology will become an urgent necessity and a key requirement in the near future when working in the IT environment for all matters relating to the financial and accounting issues of various commercial banks.

Blockchain is also defined as a permanent and unchangeable digital file for encrypted transactions that can be distributed in multiple copies via a network of associated devices, as each device has an accurate and up-to-date version of the data ", which can be verified and considered immutable, that is an important feature when transactions occur between users who know or trust each other. (Al Rahili and Al Dahawi, 2020).

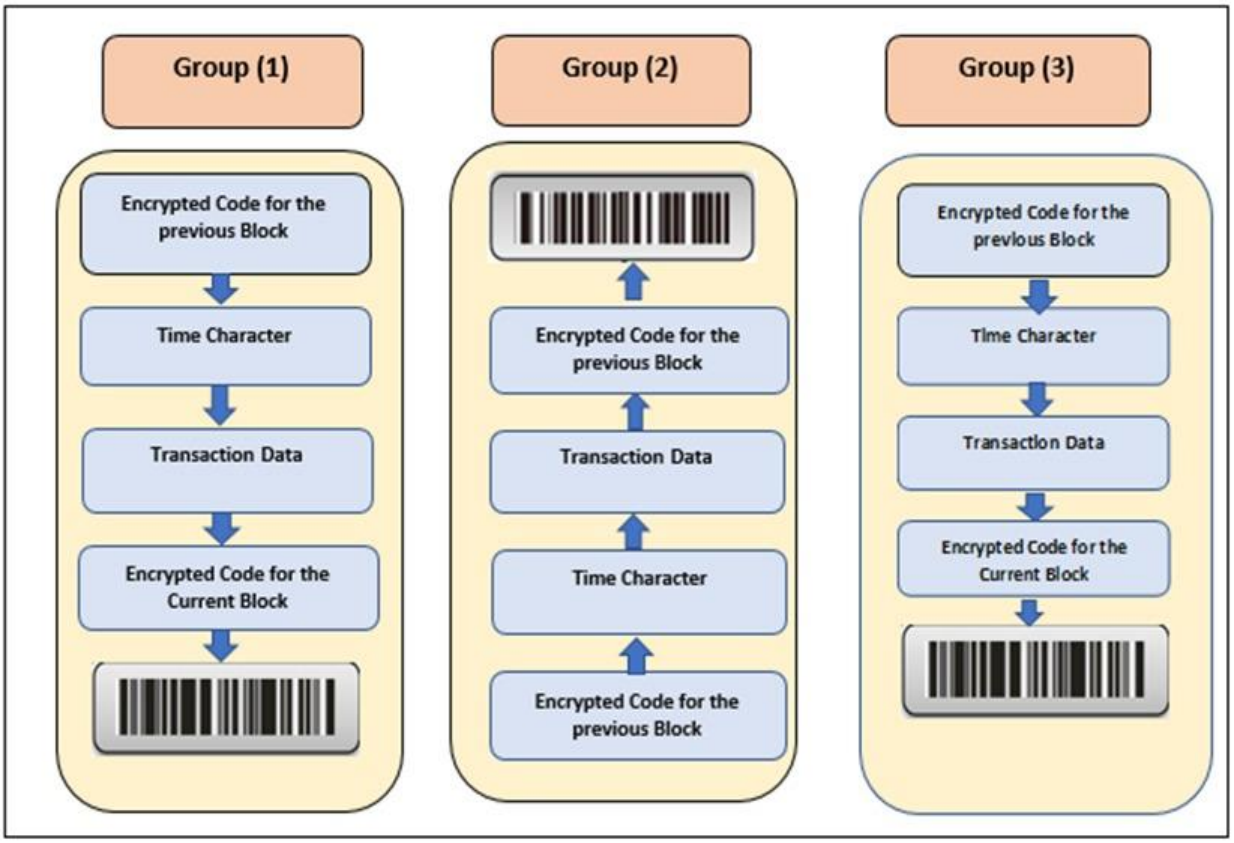
2-1-7 Blockchain System Elements:

The block series consists of four main elements: Group, information, hash, and time footprint. These elements in their entirety represent the blockchain, and can be explained as follows :(Khalifa, :2018:2).

a. **Group**: represents the Series Building Unit, a set of processes or tasks hoped to be performed or carried out within the chain.

b. **Information**: means the sub-process within a single block, or "individual order", which takes place within a block, and represents with the other orders the group information commands.

c. **Hash**, hash is a programed code designed with an algorithm embedded in the blockchain and called the hash function. Such a function carries out a set of functions and each block is linked to the previous hash and appended to it in a manner that allows modification of the content of the groups, as follows: Figure No(2).



Source: Ahmed, Ahmed Said Abdel Azim, Al-Najjar, Sameh Mohamed Amin(2021), "The role of integration between big data and blockchain technology in achieving the quality of accounting information with financial statements - field study", Scientific magazine of Accounting Studies, Issue IV, Egypt.

2-1-8 BLockchain Technology Application fields

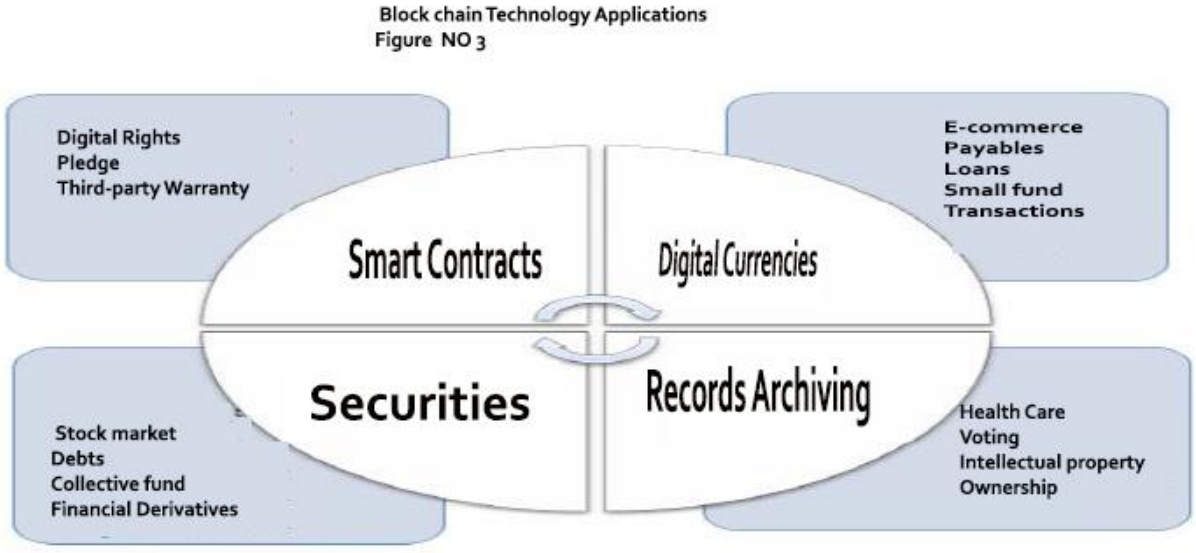
The potential for using this technique is multiple in several areas and can be divided into four main groups, such as below: (Atlam & Wills,2019)

The banking sector, cryptocurrencies and smart contracts, as banks are mainly working to improve their services, using new protocols to raise the level of security and the quality of transactions, as well as reduce costs.

1) The health sector, by storing patients' health data and statistics on dates of treatment, and stages of pathological development of various cases, enables proper diagnosis based on the accuracy of information for each case in addition to ensuring confidentiality and security.
   The government sector, with the aim of eliminating ethical practices and possible manipulations, might be raised from certain politicians such as bribery, nepotism or protecting voting and elections and ensuring transparency.

Below is a figure showing the applications of blockchain technology

Form No.(3) blockchain technology applications



Source: Kunduz, Abdul Karim(2019), "Financial technologies and their applications in the Islamic financial industry", Arab Monetary Fund, p. 20, Abu Dhabi, UAE.

2-2 Bank governance

2-2-1 Concept of banks' governance and significance:

Governance is an extension of privatization, globalization, and the market economy. It is the system through which the Organization's activities and actions are directed and monitored at the highest level in order to achieve its objectives and meet the binding standards of responsibility, transparency, and integrity (Kwachi, 2017).

There is no commonly agreed definition among all economists, lawyers, analysts, and academics of the concept of Corporate Governance, due to its overlap in many of the banks' regulatory, economic, financial, and social issues, which affects society and the economy as a whole. The Bank for International Settlements defines bank governance as; Representing the monitoring of the performance by the Board of Directors and Senior Management of the Bank, the protection of the rights of the shareholders and depositors, in addition to the attention to the relationship of these external actors, which is determined by the regulatory framework and the authority of the supervisory body and the application of governance in the banking system on public banks and private and joint banks. Regulatory and regulatory authority powers, so that governance applies to public and private banks(Al-Shukri, Al-Jahani, 2021).

Table 1 Bank governance concept according to the opinions of some writers and researchers

Sources	Bank governance concept
Hans Helmut Kotz – Reinhard H. Schmidt, 2017	Governance generally means a wise tool and determining the relationship between the bank's partners (shareholders, Depositors, creditors, clients, board of directors, government.... etc.) and attempt to avoid conflicts of interest. This is done through a tight organizational structure that is in everyone's interests and ensures the management of the bank, especially Clear and good risk management that ensures the maintenance of the banking system.
Carpenter & sanders,2009: 442	The system by which owners direct and govern banks, each bank (whether, Government, private, or nonprofit) possessing a certain form of governance, governance is concerned with distribution issues Rights and responsibilities among different stakeholders (the Board of Directors and Executive Management) Shareholder and other stakeholders) and policy forming , other special procedures for decision-making) relevant to the Bank affairs provide the Bank with the framework within which the objectives are set. And make sure they are achieved and the performance monitoring.
Al-Jahdali, Obaid, 2019	A range of relationships between the company's directors, board of directors, shareholders and other contributors.
(2011Sun et al,)	Bank governance can also be defined as "performance monitoring" methods by the Board of Directors and Management. Executive Bank that will influence the setting of targets and sponsors of shareholders' rights and protection rights of depositors, shareholders in addition to the relationship of these external shareholders which is determined through the regulatory framework and the authority of the

	regulatory body, the concept of governance also extends to the role of all shareholders who would influence the provisions of control over the bank's performance.
Brandsen & Holzer,2010	Bank governance is also defined as the system whereby banks are administered and are monitored to achieving its goals and objectives. So, it is the system whereby they deal with sources of capital Shareholders, founders investors.
National Bank of Ethiopia, 2019:6	It is the process of guiding and managing the bank's business towards bolstering and booming business to reach the ultimate goals through achieving long-term shareholder value as well as customers and owners other stakeholders.
Halbus, Kazim, 2021	Banking governance is a combination of processes and harmonized cultures with an asymmetric degree, ambiguity and complexity accompanied with banking contributes to harmonizing depositors' interests, shareholders and other stakeholders to ensure proper operation of the banking sector and economy as a whole.

Source: The researcher's preparation is based on the literature in the table.

Third: The role and impact of technologies in enhancing bank governance

3-1 The influence of XBRL's business reporting language on bank governance

Language of Expanded Business Reports and Governance: such language provides a basis for the effectiveness and sharing of financial information while increasing efficiency and speed in this information transmission and rapid analysis of data. The language of expanded reports can support creativity that can double the return through better communication, as it helps the accounting profession to reduce errors, and financial reporting costs, and create a computerized base that allows better analysis and provides clients with quality services beyond basic reporting. The return from moving to an expanded business report system is timely access to so-called commercial intelligence, and the ability to use a variety of Internet tools that help make operational decisions. These tools can be used for example in measuring the performance of public companies in the same market. (Essam & Belal, 379:2018).

3-2 The role of cloud accounting in enhancing bank governance

Banks in the financial services sector cannot operate in the digital age without cloud technology. Many companies adopt cloud technology due to its adaptability, reliability, and security compared to local alternatives. By avoiding the maintenance and **updating** burden, the cloud also frees up banks' time, funds, and resources to

focus on their core business objectives and exploit access to data on time. Cloud accounting services have many advantages including improved security, processing times, faster processing times, and lower costs.

However, with banks increasingly dependent on the cloud, some banks are raising concerns that cloud service outages could lead to significant long-term problems. People Active website delves into why central banks and regulators are concerned about cloud risks, the perceived threat they pose to financial stability, and multiple cloud advantages. (Bin Dahib, 98:2018)

3-2-1 Use of cloud accounting in banking services

Cloud accounting in financial services is a type of service that provides Internet access to resources, software, or assembled storage units. It allows banks to process and store data on remote servers rather than their local systems. For banks, cloud computing services have a lot of advantages including improving security processing times faster and reducing costs. Although the financial sector has been slow to adopt cloud technology due to concerns about abandoning its legacy applications, regulatory compliance, and data privacy issues, this attitude has begun to change as more banks realize how to help technology achieve their business objectives while also meeting customers' needs. (Deepak, et al. 2017).

3-2-2 How Banks Use Cloud Accounting

In banks, cloud accounting is used in several aspects, such as: (CCH, 2018)

1- Fraud detection:

Banks use cloud accounting to analyze huge amounts of data from many sources detect and prevent fraud. This helps banks identify questionable behavior before any damage occurs.

2- Customer relationships management: (CRM)

Banks use CRM systems in the cloud to handle customer interactions and data. This allows banks to follow all customer interactions regardless of location or time of day. Correct cloud methods also help banks provide individual services according to customer's needs and preferences. (Clear Books,2014)

Cloud accounting technology provides banks with a competitive advantage by reducing costs; Centralization of application management, storage of large data, no maintenance costs, scalability, automation, and a reliable backup mechanism. The financial sector is an industry that facing problems in this implementation, specifically the banking industry. The banking industry is a sensitive industry, linked to many regulations and provisions, whereas there are doubts about how cloud services are currently integrated into the traditional banking structure because banks are taking advantage of a lot of information technology and engaging in continuous digitization changes and it becomes contradictory that they adopt the cloud accounting phenomenon and follow this step in digital change at the same pace as the industry may require. (Alsharkawy, 2021)

3-3 Impact of blockchain technology (BLockchain) on bank governance

(BLockchain) technology has affected the governance of banks in terms of the difficulty of rigging transactions and limiting managers' ability to profit from non-legal trading due to increased transparency of their treatment. The voting of shareholders has become more reliable and less costly (Mark, 2018). Thus, these changes combined can make it possible for all managers, shareholders, lenders, regulators, and other technologists to disclose records and signing all decisions or procedures by the board of directors.The BLockchain technology also allows for rapid and secure registration of votes that will contribute to solving many of the problems of corporate elections, namely inaccurate voter lists, incomplete distribution of votes, and chaotic voting in collective elections, where eligible voters will be able to obtain symbols for them that can be transferred to technology (Lockchain) to register their votes and thus achieve high speed, transparency and accuracy in collective voting and motivate shareholders to participate more directly in voting processes.(Abdul Hamid, 2023).

Fourth. Summary

Digital accounting technologies provide information on all aspects of the unit's economic performance from strategic objectives, its future outlook, opportunities, and anticipated risks, and save much time and effort thereby contributing to reducing costs through the speed and accuracy of the implementation and delivery of information at any time and thereby enhancing the application of governance in banks. The adoption of digital accounting technologies provides many opportunities for all banks, whatever their size or shape. Digital accounting technologies will completely change the format of accounting information systems, as these systems will become available at the lowest cost and easy to use, with the possibility of continuous development by cloud service providers, with a high degree of security especially with the use of backups, and servers. Digital accounting has expanded the range and diversity of services provided by banks and has made it possible through several digital electronic applications to provide the best services. Digital accounting techniques have also contributed to the distribution of banks' target market size as banking services are more accessible to customers.

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