



THE SHIFT TOWARDS THE PROMOTION OF THE DIGITAL ECONOMY IN THE CONTEXT OF ELECTRONIC BANKING

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Abstract:

Electronic banking is one of the areas of innovation in the banking sector, which aims to develop methods of delivering banking services and increasing their efficiency through the use of modern technologies. One of the most prominent features of electronic banking is the intensification of competition based on the use of information and communication technologies, supported by integration into the digital economy. The latter is based on information technology and digital information exchange services, which have become the basis for business performance, especially electronic banking, which is one of the results of the digital economy.

Keywords: *Electronic banking, information system, digital economy, new economy.*

Introduction:

Digital transformation is currently an urgent economic imperative, given the need to diversify Arab economies in order to reduce their vulnerability to shocks in global oil markets and to increase productivity and competitiveness. This focus on sectors of the economy that can benefit from the rapid technological advancement in Arab countries generally increases the flexibility of these economies and their ability to achieve a qualitative and rapid leap in economic performance, thereby contributing to the creation of more jobs for the growing youth population entering the labour market annually.

Amid the rapid digital developments in the global economy, countries around the world are transitioning from traditional economies to digital economies. The growth, integration and complexity of the information and communication technology sector has brought about significant changes in society and the economy, as computers and electronic tools are now able to communicate directly with each other, regardless of the distance between them. This communication is facilitated by global networks, in particular the Internet.

The widespread explosion of networking and the growing use of the Internet have led to a digital revolution that has fundamentally changed the structure of the economy, dismantling traditional systems and laying the foundations for a new system: the digital economy, the Internet economy or the new economy. This has had a tangible impact in areas as diverse as commerce, public administration, education, health and agriculture, allowing individuals and institutions to connect with each other to select the most appropriate products and services through price comparisons and purchasing decisions.

The digital economy is working to promote an information and knowledge society, encouraging the establishment of e-government, e-business, e-commerce, e-banking and e-management, and will lead to fundamental changes in the nature of work in these sectors. This economy is based on information technology, the availability of vital information and data, and digital information exchange services, which have become the basis for business performance. This is reflected in the growth of e-commerce, the growth of electronic commercial enterprises, and the conduct of banking and financial transactions.

The problem:

The research problem is: To what extent does electronic banking reflect the development of the digital economy?

Research methodology:

In order to answer this problem, we have chosen to rely on the analytical method to analyse the relevant legal texts, and the descriptive method to gain an understanding of the research topic and provide details on its main aspects.

Research plan: In order to address the problem posed, we have divided this research into a two-part plan that includes two axes. The first axis is entitled "The Conceptual Framework", while the second axis evaluates the effectiveness of electronic banking in promoting the digital economy.



Axis One: The Conceptual Framework

First: Electronic Banking

1. Definition of electronic banking:

Electronic banking can be defined as the modern approach to banking operations that uses advanced information technologies of an electronic nature to enable high-speed and highly accurate performance. It is the method by which banking services and information are distributed to customers through electronic banking platforms that can be accessed through personal computers and various electronic means¹. In other words, electronic banking is the method of providing banking information and services through an electronic network, and includes all operations and activities that banks perform, carry out or promote through electronic means, such as telephones, computers, ATMs, the Internet and digital television².

2. Characteristics of electronic banking

Electronic banking differs from traditional banking management by a number of characteristics, which can be summarised as follows:

- **Reliance on electronic management:** this is achieved by carrying out all bank management transactions - planning, execution, monitoring, evaluation and motivation - by replacing physical offices with electronic transactions. This involves the use of information technology and the adoption of an electronic management infrastructure consisting of modern technological equipment, software, information systems, specialised personnel and information awareness among employees.

- **Elimination of spatial constraints on banking services:** Previously, the distribution policy was based on the branch network, but with the increasing application of modern technologies in the distribution of banking services, new distribution methods have emerged. In recent years, we have seen the emergence of new distribution channels alongside traditional branches. These channels include ATMs, electronic point-of-sale terminals, home banking, mobile banking, telephone banking and online banking. These channels save customers the inconvenience of travelling to the bank's premises to obtain services, as they allow for electronic interaction.

- **Removing time constraints on banking services:** Electronic banking makes it easier for customers to access funds or transfers at any time. Electronic banking allows customers to access banking services at any time, rather than being restricted to the hours set aside for bank staff to carry out their administrative tasks. Banks' reliance on electronic administration, through internal network connections and Internet links, ensures continuous and uninterrupted service delivery³.

- **Administrative flexibility:** Electronic banking allows banks to expand the range of services they can offer their customers. This flexibility comes from electronic management, which can react quickly to events and interact across time and space, overcoming communication difficulties. This enables management to provide many services that were previously unavailable due to these barriers in traditional administrations.

- **Ease of interaction and communication:** By adopting electronic banking, banks can provide necessary information quickly and accurately, leading to simplified administrative procedures and reduced time and effort in delivering banking services. This has a positive impact on the quality of these services and facilitates interaction and communication with different customers as well as between different departments within the bank.

- **Independence from organisational structure:** Electronic management does not rely on organisational structures and does not adhere to the hierarchical job sequences typically found in traditional administrations. Instead, it is a management that operates on the basis of information held within its departments according to specific programmes, rather than on the practices and manual efforts of individual employees in managing transactions⁴.

¹- Ben Omar Khaled, Bourzama Djilali, "The Reality of Electronic Banking in Algeria," Arab Economic Research Journal, No. 80, June 2019, p. 96.

²- Abd Al-Qadir Khadawi Mustafa, Zarouki Nasrin, "The Need for Electronic Banking in the Digital Economy," Third National Conference on Consumer and Digital Economy: The Necessity of Transition and Challenges of Protection, Abdel Hafidh Boualsouf University Center, Mila, April 23-24, 2018, p. 11.

³- Ben Omar Khaled, Bourzama Djilali, Previous Reference, p. 97.

⁴- Hussein Muhammad Al-Hassan, E-Governance: Concepts - Characteristics - Requirements, Al-Waraq Publishing and Distribution House, Amman, Jordan, 2011, pp. 76-78.



2. The digital economy

The concept of the digital economy was introduced by the Canadian economist Don Tapscott in 1995, following the initial spread of the Internet as a global network. Over the past 20 years, the digital economy has evolved tremendously, as evidenced by innovations in technologies such as smartphones and their applications, interactive websites, social networks, cloud computing and the Internet of Things. These technologies embody the potential arising from the interconnectedness of the digital economy and its immense capacity to support both growth and economic development¹.

The digital economy works to promote a “knowledge and information society”, also referred to as the knowledge economy, network society or wireless society. There are several definitions of the information and knowledge society. One perspective sees it as “the introduction of a set of strategic changes in the nature and organisation of the economic environment to become more responsive and harmonious with the challenges of globalisation, information and communication technology and sustainable development in its broad and inclusive sense”. A society based on the possession of knowledge and the contribution to its creation, deepening and development is better qualified than others to keep pace with progress and to enter the world of globalisation through the widest possible doors in all economic, political, social, cultural and scientific dimensions².

Another definition of the knowledge-based economy describes it as an advanced economic model based on the extensive use of information technology and Internet networks in various economic activities, relying heavily on knowledge, creativity and technological development, especially information and communication technologies³.

The definition adopted by the World Summit on the Information Society (Geneva 2003) states: “It is a society in which everyone can create, access, use and share information and knowledge, enabling individuals, products and peoples to realise their full potential for sustainable development and improved quality of life”⁴.

1. Definition of the Digital Economy

The digital economy is defined as the type of economy that relies on the use of information and communication technologies to facilitate the flow of information, goods, services and capital to and from any point in the world at any time⁵.

It is also understood as the interaction, integration and continuous coordination between information and communication technology, on the one hand, and the national, sectoral and international economy, on the other, achieving immediate transparency and availability of all economic indicators that support all economic, commercial and financial decisions in the country during a given period⁶.

The digital economy gives rise to new rules and characteristics that go beyond those of the traditional economy in general and the industrial economy in particular. It has also been described as a kind of old-new economy that is fundamentally based on information and largely relies on the use of information technology, which has removed barriers to the flow of information, goods, services and capital, regardless of location or time. This is the borderless economy⁷.

¹- Kenza Teniou, Muhammad Dahan, "The Reality of the Digital Economy in the Arab World," *Journal of Economic Sciences, Management, and Commercial Sciences*, Vol. 12, No. 1, 2019, p. 300.

²- Hashem Al-Shammari, Nadia Al-Laythi, *Knowledge Economy*, First Edition, Al-Safa Publishing and Distribution, Amman, 2008, p. 14.

³- Huda Zuwair Mukhalaf, *Knowledge Economy and Human Development: A Framework and Comparative Study in Selected Arab Countries*, PhD Dissertation in Economic Sciences, University of Kufa, 2009, p. 20.

⁴- Ibrahim Bakhti, "Course Material for Information and Communication Technology in Institutions," Faculty of Economic Sciences, Commercial Sciences and Management, University of Ouargla, 2010-2011, p. 13.

⁵- Rajem Muhammad Al-Tayeb, Rajem Khaled, Ben Amara Al-Taher, "The Reality of the Digital Economy in Algeria: An Analytical Study of the Information and Communication Technology Sector," Third National Conference on Consumer and Digital Economy: The Necessity of Transition and Challenges of Protection, Abdel Hafidh Boualsouf University Center, Mila, April 23-24, 2018, p. 2.

⁶- Jamal Houd Mouissa, "The Digital Economy and the Requirements for Banks to Respond to New Challenges," *Oases Journal for Research and Studies*, No. 10, 2010, p. 77.

⁷- Bourqiba Qouider, Hasbia Rahma Majda, Bourqiba Mustafa, "The Digital Divide in the Digital Economy and Ways to Bridge It," *Maghreb Journal of Organization Management*, Vol. 4, No. 1, p. 3.



The digital economy consists of a network of electronic institutions linked by internal and international information networks. E-mail and web sites provide the broad basis for establishing economic links between institutions to facilitate electronic commerce, which involves the electronic exchange of goods, services and money¹.

2. Characteristics of the digital economy:

- Easy access to sources: The success and growth of the digital economy depends on the ability of individuals and institutions to participate in various information networks and websites. Effective participation in these networks and the digital economy requires the availability of infrastructure, such as electricity and telephone networks, low costs and charges for these services, as well as the availability of machines, devices, equipment, skills, education, training, financial resources and the use of electronic and plastic money, such as credit and debit cards.

- Competition and market structure in the digital economy: The digital economy includes information and communication technology, e-commerce, electronic delivery services, software and information, which vary in terms of the scale of economic transactions, specialisation, resources, economic sectors and components of gross domestic product (GDP). Some economists believe that the components of the digital economy vary according to the size of the economy and the impact of information networks, standards, public goods, transaction costs and transactions. It is well known that technologies change rapidly and affect business systems in terms of alternative resources, inputs, processes, operations, outputs, products, uses and distribution.

Information technology influences the degree of competition, the methods of competition and the improvement of competitive positions. The market structure varies according to the level of application of information and communication technology in the digital economy, both locally and internationally. Information and communication technology should be integrated into different economic systems and sectors, especially in manufacturing, agriculture, education, training, financial services, banking and investment.

-The future of macroeconomics in the digital economy:

Information and communication technology plays a crucial role in increasing economic growth rates, capital investment and domestic and international e-commerce. The Internet is influencing the way business is done and the way people work.

- The digital economy provides information for decision-making: Effective control of information and its use supports economic decision-making and policy formulation. Information management skills contribute to successful long-term investment decisions with precision. The digital economy provides information by learning how to identify information needs and select appropriate sources for essential and important information. It involves managing incoming and outgoing information more efficiently. Such information can be electronic, including e-mails, Internet resources, recorded material on videotapes and data on hard disks or CD-ROMs, as well as spoken information from telephone calls and discussions, and printed materials such as reports and faxes. The digital economy provides ideal information that is modern, efficient, meaningful, accurate and verifiable².

Second axis: Evaluating the effectiveness of electronic banking in promoting the digital economy

1. Conditions for the success of electronic banking in Algeria

Despite the advantages that characterise electronic banking, these advantages are not sufficient for its successful adoption by banks operating in the Algerian banking system. Success depends on the existence of a number of conditions, which include:

- Providing the infrastructure: To establish the infrastructure for electronic banking in the Algerian banking system, the following actions should be taken:

- Define objectives and priorities for the integration of electronic banking into the Algerian banking system.
- Establish a regulatory framework for electronic banking that clarifies all the obligations to be respected by Algerian banks and their customers, and determines the scope of government intervention in its practice.

¹- Jamal Houd Mouissa, Previous Reference, p. 78.

²- Farid Al-Najjar, Digital Economy, First Edition, University Press, Egypt, 2007, pp. 26-29.



- The use of expert systems in decision-making, through the creation of a specialised unit for what is known as economic intelligence for business, with the aim of keeping Algerian banks constantly innovative and competitive.

- Establish an information system within the Algerian banking system by setting clear objectives for the development of an information system in the short to medium term, designing a specific information system for each bank, composed of sub-systems, including credit information systems, marketing information systems and human resources management information systems. This should facilitate the link between bank departments and provide accurate, detailed and comprehensive quantitative and qualitative information.

- Training bank staff and promoting an electronic banking culture among customers.

- Issue regulatory laws and regulations.

- Security of banking information: To ensure that electronic banking information within the Algerian banking system remains safe from unauthorised access or manipulation, it is essential to base the security process on confidentiality, documentation and electronic authentication¹.

2. The need for electronic banking in the digital economy

1. Applications of the digital economy

The digital economy consists of a set of electronic devices that represent applications of information and communication technology (ICT) that provide benefits in different aspects of life, supporting sustainable development in various fields such as business, public administration, education, health, agriculture and others.

- E-commerce: E-commerce is defined as any commercial transaction between a seller and a buyer that is facilitated in whole or in part by the Internet. This includes obtaining information about a specific product or service for future purchase, with payment made electronically, either by paper cheque on delivery or by other means.

- E-marketing: The use of information and communication technology to achieve marketing objectives through direct communication networks, computer communications and interactive digital media².

- E-investment: This refers to investments that rely on information and communication technology for the instant trading and exchange of financial and investment information, thereby reducing investment risks, increasing transparency, and reducing transaction costs and time³.

2. The reality of the new economy in Algeria

Algerian banks have embraced the digital economy by adopting the concept of electronic money systems in order to respond to the emerging changes in the banking landscape and to overcome the delays in the banking sector. As a result, a number of necessary measures were taken, the most important of which was the creation of the Joint Company for Banking and Monetary Transactions (SATIM), which in turn created the Interbank Monetary Network (RMI) for the settlement of transactions between banks. In addition, the common bank card (CIB) project and international bank cards were launched. Algerian banks also set up the Automated Payment Settlement System (ARTS) and activated an interbank net settlement system (ATCI). Below are the main digital systems used in the banking sector through the adoption of information and communication technology.

- Weak digital readiness in Algeria:

Algeria lags behind even other Arab countries in integrating modern information and communication technologies into the economy. This integration is essential for the creation of an information infrastructure that enables rapid and balanced economic growth in line with the demands of the modern world. The decline in Algeria's performance in 2004 compared with 2003 is almost unimaginable for a country with excellent economic potential, especially when compared with Tunisia, which has successfully steered its economy

¹- Ben Omar Khaled, Bourzama Djilali, Previous Reference, pp. 109-112.

²- Muhammad Samir Ahmad, E-Marketing, First Edition, Al-Maysara Publishing and Distribution, 2009, Amman, p. 13.

³- Farid Al-Najjar, "Investing in Electronic Systems and the Digital Economy," Youth University Publishing and Distribution Foundation, Alexandria, 2004, p. 300.



towards development through bold, rapid and intelligent steps. This will undoubtedly bear fruit in the coming years.

The state of information and communication technology in Algeria, which is considered the foundation of a digital environment, is relatively weak compared to other Arab countries. Given Algeria's capabilities and potential, the reality is that modern information and communication technologies are limited to a few sectors and a few individuals, which is insufficient to create an effective knowledge economy. Failure to achieve this integration could have dire consequences if the role of modern information and communication technologies is not quickly recognised as an effective means of overcoming economic backwardness. This is a wake-up call for Algeria, where decision-makers and researchers seem to be in a deep slumber that could be fatal for the future of the Algerian economy.

It is also worth noting some important initiatives in this field that reflect a kind of awakening, albeit limited and scattered, which could be a serious step towards improvement. Among the most notable initiatives are the launch of the electronic payments project and Algeria's active participation in the Euro-Mediterranean virtual hospital project. With regard to the first issue, electronic banking refers to the provision of traditional or innovative banking services through electronic communication networks, access to which is restricted to participants on the basis of membership conditions set by the banks. Among the most important electronic banking services are debit cards, credit cards and electronic money¹.

Conclusion:

The digital economy has introduced new concepts, principles and systems resulting from the use of information and communication technology, including e-commerce and e-business. This has necessitated the development of the financial sector, particularly the banking system, and the application of information technology in banks, commonly referred to as electronic banking. This development has given a strong boost to the economy and contributed significantly to its growth and dynamism.

The digital economy has become a hallmark of the economies of developed countries, where the progress of nations is often measured by their shift towards the digitalisation of their economies. However, developing countries, including many Arab countries, remain far from this new reality. There is a digital divide between developed and developing countries, which is also evident among Arab nations. In the case of Algeria, the country is lagging behind its Arab counterparts in integrating modern information and communication technologies.

With the increasing growth of the digital economy and the widespread impact of the Internet on banking and its activities, new electronic payment systems and modern methods have emerged to meet the needs of this new economy.

As for the state of electronic banking within the Algerian banking system, it is still in its infancy, mainly through the introduction of debit cards and some modern technologies in the banking sector. Nevertheless, the country is making continuous efforts to develop its national economy by adopting projects aimed at developing the infrastructure of the information and communication technology sector and moving towards a digital economy.

The introduction of electronic banking, together with the necessary enabling environment, is helping to build a digital economy in Algeria and to combat the informal economy by integrating cash in circulation into the banking system.

Results:

- The revolution in information and communication technology has led to the emergence of a new economy known as the "digital economy".
- Electronic banking, e-investment, e-commerce and e-marketing are modern concepts introduced by the digital economy.
- The digital economy requires the use of the Internet.
- The introduction of electronic banking requires an electronic environment based on information and communication technology.

¹- Boucheul Faiza, Qataf Leila, Amari Ammar, "The Reality of the New Economy in the Arab World and Algeria," Researcher Journal, No. 5, 2007, pp. 143-144.



- Arab countries are lagging behind in the information society.
- Electronic banking is the use or provision of financial services by electronic means.
- Knowledge and information technologies are fundamental to the establishment of the digital economy.
- Electronic banking offers many benefits to the economy, including speed, security and development.
- Electronic banking contributes to the establishment and development of the digital economy.
- The adoption of electronic banking projects will help modernise and develop the Algerian banking system, enabling it to keep pace with global developments.
- The digital economy is the result of advances in information and communication technology, based primarily on digital information technology, which uses information and knowledge in its management.
- Electronic banking plays an important role in the construction of the digital economy and the development of the Algerian banking system, enabling it to keep pace with global developments.

Proposals:

- Work on developing the legal and regulatory framework for electronic banking by enacting specific laws and regulations for banking operations and adapting existing laws to the development of electronic banking transactions.
- Promote financial and banking literacy through various media in society.
- To modernise and update the Algerian banking system by introducing advanced technologies and encouraging their use by users to save time, reduce costs and provide quality services.
- In order to create a knowledge-based and commercial economy, it is essential to pay due attention to modern information and communication technologies, through comprehensive programmes to improve the digital environment, as well as the use of available technologies in economic practices.

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