

## Financial technology as a Mechanism for Improving the Quality of Digital Financial Services: Lessons from International and Arab Experiences

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### **Abstract:**

This paper primarily examines the role and contributions of financial technology applications in improving the quality and efficiency of digital financial services, reviewing pioneering international and Arab experiences in this field. It uses a descriptive and analytical approach to describe and analyze various aspects of the topic.

At the international level, the study concluded that the use of digital financial technologies is highly important and effective in providing financial and banking services, particularly for countries with strong banking systems and stricter legal and legislative frameworks for the use of financial technology, among others. These include China and India, which have made significant strides in this industry despite its recent development. At the Arab level, many Arab countries, particularly in recent years, have shown increasing interest in adopting this industry as a mechanism to enhance digital transformation in their banking sectors, such as the United Arab Emirates and Saudi Arabia. This reflects the efforts being made to expand its use in the Arab world.

**Keywords:** FinTech, Digital Financial Services, Banking Industry.

### **1. Introduction:**

In light of the significant and radical developments and changes the world is witnessing in various fields, especially technological ones, as well as the significant and rapid development of digital financial solutions and related technologies, many countries have become increasingly aware of the advantages this technology offers to economic sectors, most notably the financial and banking services sector. This sector is a fundamental pillar of any economy, providing innovative financial services and products to many individuals and companies in quick, easy, and cost-effective ways, compared to traditional methods. These include electronic payment technologies, blockchain, digital currencies, e-commerce, and others. This has contributed to an increased trend toward this type of digital service resulting from the development of this technology, thereby improving the quality and efficiency of banks and financial institutions, especially in light of the intense and increasing competitiveness of the financial and banking sector.

**1.1 Research Problem:** Based on the above, and as a starting point for covering all aspects of the study, this research paper aims to answer the following fundamental question: How have financial

technology applications contributed to improving the quality of digital financial services in Arab countries and international experiences?

**2.1 Significance of the Study:** Research on financial technology and digital financial services is an attempt to draw attention to the advantages this technology offers to the financial services sector by providing financial services and products to many individuals and companies in a fast, easy, and cost-effective manner, compared to traditional methods. This is an important factor in supporting economic and social development and increasing the competitiveness of the financial sector.

**3.1 Objectives of the Study:** Through this study, we primarily seek to understand the general concept of financial technology and digital financial services. We will also highlight developments in the use of financial technology across the world and in Arab countries, presenting pioneering international and Arab experiences in this field.

**4.1 Study Methodology:** Given the nature of the study topic, we relied on the deductive approach, using a descriptive and analytical approach to describe and analyze various aspects of the topic. We also sought to clarify the role and importance of technological innovations in improving the quality and efficiency of digital financial services, as a mechanism that allows the financial services sector the opportunity to enhance and establish the efficiency of its operations. This is based on pioneering international and Arab experiences, through analyzing the data and information contained in the study...and other examples.

**5.1 Study Axes:** In light of the above, and to achieve the desired purpose of the research, the study was divided into two main axes. The first axis deals with everything theoretical within the framework of the relationship between the study variables. The second axis includes an applied study within the framework of some of the leading international experiences in financial technology around the world and the lessons learned from them in the Arab world. The study concludes with some conclusions and recommendations.

## **2. The Theoretical Framework of Financial Technology and Digital Financial Services**

This axis deals with everything theoretical, through which we will attempt to grasp the most important theoretical concepts related to the study variables. Finally, we will highlight the opportunities that financial technology offers for developing digital financial services.

### **3.What is financial technology?**

Fintech is defined as “the provision of financial and banking services through modern technological innovations driven by computer programs and algorithms.” " (Abo, Khalj, & Qudour, 2023, p. 174) ‘The Financial Stability Board defines it as: “Technology-based financial innovation that can lead to the emergence of new business models, uses, processes, or products that fundamentally impact financial markets, financial institutions, and how financial services are delivered ”’.(Joanie & Maryamt, 2021, p. 280) ‘In another definition, it is: “Companies that use technology to make financial systems more convenient and sophisticated to provide more efficient and effective financial services. It is not limited to specific sectors such as finance or business models, but rather covers the entire range of services and products typically provided by the financial services industry ”’.(Marzouq & Ziyad, 2021, p. 637) .Financial technology provides the banking industry with several opportunities and benefits that reflect its great importance at the present time. We list some of them below :(My baby, 2022, p. 23):

- ☐ Promoting creativity and innovation in the financial sector and developing economic transactions;
- ☐ Digitizing the financial sector and achieving credibility and transparency;
- ☐ Enhancing the desire to transact, attract customers, and expand the financial sector;
- ☐ Facilitating access to financing sources for various small and medium-sized enterprises;

- Facilitating major commercial transactions and contributing to the expansion of financial activities;
- Using financial technology to ensure compliance with regulations, reduce risks, and achieve financial stability.

Financial technology also covers many areas that researchers and organizations have differed in defining. Therefore, we will try to limit ourselves to mentioning the most important ones, as follows\_ : (Joanie & Maryamt, 2021, p. 280 ,281):

**Banking:** The banking industry has responded to the changes brought about by fintech startups. Fintech is emerging in the banking sector through personal finance, digital payments, and transactions using cryptocurrencies and blockchains, as well as lending to various customers and businesses using big data analytics, among other things.

**Insurance:** Fintech is contributing to the rapid development of the insurance industry by offering innovative solutions and digital distribution platforms.

**Asset and wealth management,** using artificial intelligence and machine learning, provides wealth and investment management services to individuals through platforms with simple interfaces, in addition to providing advice, counsel, and portfolio management for clients, among other things.

## 2.2. The general concept of digital financial services:

Digital financial services (DFS) are defined as: “financial services that rely on digital technologies to be provided and used by consumers.”

(World Bank Group, 2020, p. 01) ‘It is also defined as: “Access to and use of formal financial products and services (remittances, payments, stored value, savings, credit, insurance, etc.) by the end consumer via digital channels, leveraging technology-centric processes ”’.(Social Performance Task Force SPTF, 2018, p. 03) ‘In another definition, it is: “Those services that include information services and services via the web, as well as providing services via electronic means and networks such as the Internet. Electronic services are broader than just being information technology services or web services, as they include all services based on information technology available via electronic networks ”’.(Husseini, 2020, p. 103) .Digital financial services are provided through multiple electronic channels, the most important of which can be explained below:

**Banking via Automated Teller Machine (ATM):** An ATM is an automated device that serves customers without human intervention, according to pre-programmed programs that meet many of the customers’ banking needs 24 hours a day, using an ATM card; a plastic card containing the customer’s information and issued by the bank. The ATM offers several services, including: withdrawing from the customer’s account and saving in cash in local currency, depositing cash into accounts, transfers from one account to another, inquiring about the balance, requesting a checkbook, requesting an account statement, and paying some bills (electricity, water, gas, etc.). (Al-Ayati & Ben Azza, No date, p. 03)

**Electronic Point of Sale (POS):** These are machines widely used in commercial and service establishments of various types and activities. Customers can use plastic cards or smart cards to make payments by electronically debiting their accounts by swiping the card through these machines, which are electronically connected to the teller computers.

**Telephone Banking or Customer Service Center:** Banks operate call and customer service centers that enable banking services to be performed over the phone using a PIN. These centers operate 24/7. (Al-Sayrafi, 2016, p. 219).

**Home Banking:** This is a personal computer located at home, at work, or anywhere else, which is connected to the bank's computer and can complete the required banking transactions using a password, a PIN, or both. This ensures high confidentiality.

**Mobile Banking:** These banking services are available via mobile phones, where the customer uses a PIN that allows them to access their account to inquire about their balances and debit it for any required services. (Al-Sayrafi, 2016, p. 218)

**Online banking:** It is defined as using the Internet as a channel to obtain banking services such as opening accounts, transferring funds, and obtaining new banking services. (Al-Ayati & Ben Azza, No date, p. 04).

**Banking Message Service:** The bank sends messages to the customer about any financial transactions in his account, and also informs him of any services such as: salary receipt, transfer receipt, check rejection, loan maturity, etc. (Joanie & Maryamt, 2021, p. 281)

Opportunities offered by financial technology for developing digital financial services:

2.3 Fintech offers tremendous opportunities, such as lowering costs for customers, facilitating access to financing for individuals and businesses, increasing bank efficiency and reducing risks, and more. Below, we review in some detail the most important opportunities offered by financial technology for developing and improving digital financial services. (Nice, 2022, p. 237-236):

- Financial inclusion: Fintech has overcome the challenge of geographic distance, making these services available to a large segment of individuals and institutions quickly, affordably, and regardless of geographic location.

- The low cost of transactions and the speed of financial services have allowed a large number of individuals, small and medium-sized enterprises, and micro-enterprises who do not deal with banks to benefit from this advantage. For example, the cost of money transfers is estimated at 0.5% to 1% of the amount sent (the cost of traditional transfers is 7.4% excluding fees).

- FinTech services are characterized by speed through channels that use advanced communication technologies. For example, blockchain technology enables individuals to purchase cryptocurrency and send it around the world at a speed similar to sending an email, without having a bank account.

- Improving and enhancing the efficiency of banking operations, as financial technology innovations enable banks to conduct their activities in a more secure and reliable environment through the use of biometric encryption technology to reduce the risk of failure.

- The potential positive impact on the financial stability of banks resulting from increased competition, as the entry of new competitors to traditional institutions leads to fragmentation of the financial services market and reduced systemic risks.

### **3. Financial technology applications across the world and lessons learned in the Arab world**

Financial technology (Fintech) has become a driving force for change and innovation in the global financial sector, working to improve the quality of financial services, expand access to them, and promote financial inclusion. Countries around the world are seeking to adopt Fintech to leverage its potential for economic growth and social welfare. Below, we will present the experiences of key countries that have benefited from adopting this technology to improve the quality of their digital financial services, both internationally and in the Arab world.

#### **3.1 International Experiences in Fintech Use:**

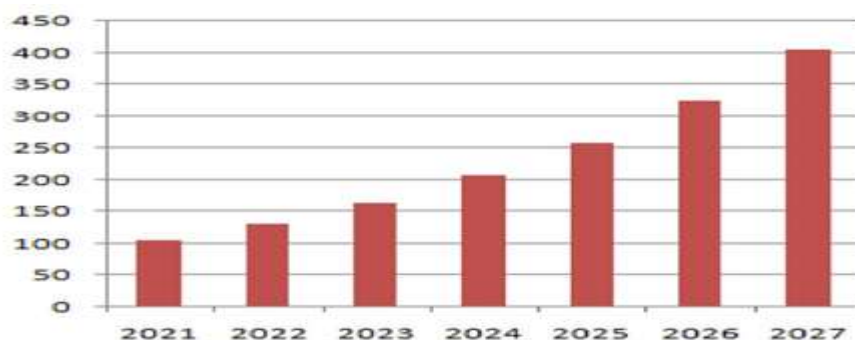
We will focus on the experiences of the People's Republic of China and India. However, before that, we will provide an analysis of developments in the use of fintech across the world:

A. Developments in the use of fintech across the world: The figure below shows the development of total global investments in the fintech sector during the period from 2014 to the first half of 2021.

It is evident that (My baby, 2022, p. 30) global investments in the fintech sector have achieved rapid growth during the period extending from 2014 to 2019, as the value of investments rose to record levels in 2019, with a total value estimated at \$215.4 million across 3,794 deals, compared to 2014, when the value of investments was estimated at \$51.2 million across 1,628 deals. This great openness to it stems from the crowding of customers in the various services it provides, especially during the pandemic period (Covid-19), as well as the increase in trust and credibility in its transactions. The value of global investments in the field of fintech then witnessed a decline during the remaining period, i.e., until 2021, recording \$98 million across 2,456 deals.

The following figure shows the expected growth of the fintech market during the period (2021-2027) in billion US dollars.

**Figure 1: FinTech Market Growth Forecast for the Period (2021-2027)**



**Source :**(Abo, Khalj, & Qudour, 2023, p. 175)

From the above figure, it is clear that the size of the fintech market reached 131.95 billion US dollars in 2022 compared to 105.41 billion US dollars in 2021, and the fintech industry is expected to grow to 405.58 billion US dollars in 2027, at a compound annual growth rate of 25.18% .(Abo, Khalj, & Qudour, 2023, p. 174).

The People's Republic of China's experience: China leads the global fintech scene, driven by its massive user base and advanced technological infrastructure. The Chinese government also plays a vital role in encouraging innovation by providing a supportive regulatory environment and adopting policies that encourage investment in the sector. Giant companies such as Ant Financial and Tencent have emerged in China, offering a variety of digital financial services .(Ben Aini & Hashim, 2022, p. 10) ;(Sa'ad, Mukhfi, & Hamdan, 2023, pp. 189-194):

- ✓ Digital Payments: Alipay and WeChat Pay dominate the digital payments market in China, as they are among the most popular digital payment applications in the world. They are used to make payments and purchases quickly, easily, and securely, facilitating daily financial transactions for millions of users.
- ✓ P2P Lending Platforms: P2P platforms provide loans to individuals and small and medium-sized enterprises (SMEs) that struggle to obtain financing from traditional banks.
- ✓ MyBank and WeBank are among the first digital banks in China, offering a variety of online banking services, facilitating access to financial services.
- ✓ The Chinese experience has proven that financial technology (FinTech) is a fundamental pillar for promoting financial inclusion and achieving sustainable development. This experience encourages other countries to leverage technological development and innovation in FinTech to enhance financial inclusion and improve the quality of financial services provided to their citizens.

**India's experience:** India has witnessed tremendous growth in the field of financial technology in recent years. It began its digital transformation journey in 2009, and the number of startups in this

field has increased significantly, reaching approximately 2,174 companies in 2020. These companies focus on various areas of financial technology, including (Belqala, Salah, & Bakhit, 2021, pp. 446-450):

- Digital Payments: Digital payments are the most heavily funded sector of fintech in India and have seen significant developments through initiatives such as the Unified Payments Interface (UPI) and QR codes.
- Lending: Fintech companies aim to bridge the gap between supply and demand for credit, especially for small and medium-sized enterprises (SMEs) and individuals who lack access to traditional credit.
- Insurance: Insurtech is contributing to the development of the insurance industry by offering innovative insurance products such as on-demand microinsurance and digital insurance platforms.
- WealthTech: Focuses on providing online wealth management and investment services, using artificial intelligence and analytics to enhance user experience.
- RegTech: Helps financial institutions manage regulatory compliance requirements efficiently and effectively.
- BankTech: Used to improve banks' efficiency and develop their digital services.

Several factors have contributed to the success of the Indian fintech experience. IndiaStack is the core digital infrastructure system that has enabled the development of fintech in India, including the Aadhaar digital identity system, the UPI digital payments system, and other innovative and dynamic technology platforms. The Indian government's support has played a significant role in encouraging the fintech industry through initiatives such as Jan DhanYojana, which aims to promote and increase financial inclusion in India, making it easier for more people to access digital financial services .

(Dr.P & Dr, 2021, p. 231) .Despite the remarkable progress, challenges still face the fintech industry in India. Cybersecurity is one of the most significant challenges. With the increase in cyber attacks on companies and users, the availability of robust information security systems has become an absolute necessity, as has the enactment of legal regulations that keep pace with the rapid developments in the field of fintech while ensuring consumer protection. The fintech sector is expected to continue to grow and develop in India, thus increasing demand for digital financial services, achieving financial inclusion, and supporting economic growth in India .(MEDICI, 2020).

### **3.2 Arab Experiences in the Use of FinTech:**

We will focus on the experiences of the United Arab Emirates and the Kingdom of Saudi Arabia, but before that, we will provide an analysis of developments in the use of financial technology at the Arab level:

A- Developments in the use of financial technology at the Arab level :(Medical, 2023, p. 544)

According to the distribution of the value of investments in financial technology in Arab countries (September 2021), it is clear to us that Egypt ranked first in terms of the value of investments, which amounted to \$162 million, surpassing the Kingdom of Saudi Arabia in second place with a value of \$132 million of the total value of investments, then the United Arab Emirates with a value of \$40 million. As for the remaining countries, the investments recorded combined low values not exceeding \$5 million, which together constitute approximately \$338 million as total investments in startups in the Middle East and North Africa region.

**The UAE experience:** The UAE is considered a regional hub for financial technology, thanks to its supportive regulatory environment and technological infrastructure. It possesses an advanced communications and information technology infrastructure, with a high internet penetration rate of up to 100%.(worldbank, 2024) ‘The country has sought to develop 5G networks, artificial intelligence

(AI), and blockchain to support the growth of Fintech through several initiatives such as the electronic KYC platform, the Dubai Blockchain Strategy initiative, and the FintechHive (Abo, Khalj, & Qudour, 2023, p. 326) To encourage innovation and support emerging companies in financial technology, which has had a positive impact on improving the quality of digital financial services, including : (Takialin & Masoudi, 2023, p. 247):

- Digital Payments: Digital payments have seen significant growth in the UAE, driven by increased smartphone usage and the availability of innovative payment solutions such as digital wallets and QR codes.

- Digital Lending: Digital lending platforms have grown in popularity, offering loans to individuals and small and medium-sized enterprises (SMEs) faster and easier than traditional banks.

- Digital Wealth Management: Digital wealth management solutions such as robo-advisors and online trading platforms have emerged, allowing individuals to access wealth management services at a lower cost.

- Digital Insurance (Insurtech): The insurance sector has witnessed growth in the use of technology to simplify insurance processes and offer specialized insurance products.

Therefore, the UAE's experience in adopting financial technology can be considered an inspiring success story, as it has contributed to improving the quality of digital financial services, enhancing financial inclusion, and supporting the growth of the digital economy. With the development of technology and the growing awareness of the importance of Fintech, the UAE is expected to witness further innovation and growth in this vital sector. (Marzouq & Ziyad, 2021, p. 432)

**Saudi Arabia's experience:** The Kingdom of Saudi Arabia has witnessed remarkable development in the financial sector, driven by the ambitious Vision 2030, in which financial technology is a fundamental pillar. The Kingdom has adopted financial technology as a fundamental driver of growth and innovation, and its investment journey began in 2018 with the establishment of several initiatives and programs to support emerging companies and entrepreneurs in this field, such as "Saudi Fintech" and the "Fintech Accelerator", the electronic payments platform (SADAD) to enhance the efficiency and speed of payments, and the national payments system (MADA), bringing the number of fintech companies to more than 100 by 2023 .(Medical, 2023).

This has led to the emergence of many innovative services, such as electronic payment platforms, digital wallets, crowdfunding, and digital lending. These services have contributed to facilitating access to financial services, reducing reliance on cash, and enhancing transparency and efficiency in the financial sector. The adoption of financial technology has also provided new opportunities for financial inclusion, as individuals and businesses can access financial services easily and conveniently, regardless of their geographical location or socio-economic status .(Medical, 2023, p. 545) .Despite the progress made, there are still some challenges facing the financial technology sector in the Kingdom, such as the need to enhance digital financial awareness among the public, develop technological infrastructure, and provide qualified human resources. However, the Saudi government's commitment to developing the financial sector and supporting innovation in the field of financial technology provides a solid foundation for further progress and growth in the future . (Touat, 2021, p. 427).

## **Conclusion:**

After examining the various theoretical and practical aspects of the study, through which we sought to demonstrate the role and contributions of financial technology applications in improving the quality

and efficiency of digital financial services, while reviewing leading international and Arab experiences in this field, we reached the following conclusions:

□ The financial technology industry has witnessed widespread global expansion in recent years, and is expected to grow to \$405.58 billion by 2027, representing a compound annual growth rate of 25.18%.

□ At the international level, the study concluded that the use of digital financial technologies is of great importance and effectiveness in providing financial and banking services, particularly for a group of countries with strong banking systems, stricter legal and legislative frameworks for the use of financial technology, and others, such as China and India, which have made great strides in this industry despite its recent development.

□ At the Arab level, the study concluded that there is a disparity in the degree of financial technology use from one country to another, particularly in terms of: The value of investments, as we noted that the level of use of the latter is somewhat limited and confined to the United Arab Emirates, Saudi Arabia, and Egypt. In some other Arab countries, however, its use is almost nonexistent, due to several factors: legal, regulatory, financial, and others.

□ The study also found that many Arab countries, especially in recent years, have given increasing attention to adopting this industry as a mechanism to enhance digital transformation in their banking sectors, such as the United Arab Emirates and Saudi Arabia. This reflects the efforts made to expand its use across the Arab world.

Based on the findings, we must make the following recommendations:

□ Arab countries must benefit from successful international experiences in the field of financial technology as a modern approach to improving the quality of digital financial services and, consequently, the efficiency of banks and financial institutions, which are a fundamental pillar of any economy.

□ Arab countries must pay greater attention to developing and supporting innovation in the field of financial technology, given its significant role in development and providing a solid foundation for further progress and growth in the future.

□ Calling on Arab banks and financial institutions to enhance the efficiency of their human resources to adapt to modern financial technology technologies, given their significant role in developing electronic banking.

□ Enacting legal and legislative regulations that keep pace with the rapid developments in the field of financial technology, in order to mitigate some of the obstacles that may hinder the dissemination and promotion of this field in the Arab world.

□ Conducting further academic research and studies on the topic of innovation in financial technology as one of the emerging mechanisms to support and develop digital financial services, and the key requirements necessary to facilitate its implementation in the Arab world.

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