Al-Qadisiyah Journal for Administrative and Economic Sciences ISSN$_{Online}$: 2312-9883
QJAE, Volume 27, Special issue (2025) ISSN$_{Print}$: 1816-9171
DOI:/ /doi.org/ 10.33916/qjae.2025 . Special issue 0228233

FinTech and Financial Inclusion in Iraq: Opportunities and Challenges

Maiami Salal Sahib
maiami.alshukri@qu.edu.iq
University of Al-Qadisiyah

Gailan Ismael Abdullah
gailan.ismael@uosamarra.edu.iq
University of Samarra

Corresponding Author: Maiami Salal Sahib Gailan Ismael Abdullah

Abstract: Financial technology (FinTech) in Iraq is experiencing rapid growth, driven by the digital transformation and the increasing demand for modern banking services. These technologies contribute to financial inclusion by expanding access to e-banking, mobile payment, and digital wallets, thus reducing reliance on cash and enhancing transparency. Opportunities lie in the large, young population, the widespread use of smartphones, and the central bank's encouragement of digitalization. Challenges include weak technological infrastructure, limited financial literacy, low public trust in financial institutions, and security and regulatory issues. Addressing these obstacles will enable Iraq to harness the potential of FinTech to achieve inclusive economic growth.

Keywords: Fintech, Financial Inclusion, Digital Transformation, Technology Infrastructure

Introduction: Financial technology is a significant topic that has revolutionized the financial sector. The term gained widespread use since 2014, and it refers to the integration of financial services and information technology. It is a key component of the modern technological revolution, which has fundamentally reshaped the financial sector. Many countries have witnessed substantial transformations in their financial sectors due to the growing adoption of FinTech. FinTech represents the application of information technology and the internet to deliver and facilitate financial services, contributing to the promotion and expansion of financial inclusion. This is based on the significant advancements and continuous improvements in technology, as financial inclusion, by its economic and social nature, is closely linked to FinTech. FinTech facilitates access to financial services for individuals and addresses many challenges faced by banks in providing electronic financial services.

Therefore, financial technology (Fintech) is seen as a lifeline for the banking and financial sector in achieving financial inclusion, as it provides a suitable digital environment for accessing financial products and services, making them more accessible at lower costs and with higher quality. Like other developing countries, Iraq strives to achieve high levels of financial inclusion, but it also faces numerous challenges and obstacles that hinder the process of digital transformation and the adoption of financial technology in the financial sector. However, the central bank, as the monetary authority, has adopted several financial measures and initiatives to support and encourage financial innovation and the development of modern products that meet current needs and enhance the competitiveness of the economy.

Importance of the research: This research is Importance because of the crucial role that financial technology plays in promoting financial inclusion in Iraq. It enhances the efficiency and quality of financial transactions, reduces their costs, and facilitates access to financial services, thus enabling a wider segment of the population to benefit from them.

Research problem: Financial inclusion issues are of paramount importance, and the prominent role played by financial technology in enhancing this is pivotal and cannot be overlooked, Iraq still suffers from a low level of financial inclusion compared to global standards. Hence, the main question in this research: To what extent does financial technology contribute to enhancing and raising the level of financial inclusion in Iraq?

Research Objectives: The aim of this research includes:

- Identifying the role and significance of financial technology in the economy.
- Understanding the importance of financial inclusion and its significance in providing financial services to individuals and institutions.
- To examine the role of financial technology in promoting financial inclusion in Iraq.

Research Hypothesis: This research is based on the hypothesis that financial technology contributes to enhancing financial inclusion in Iraq by expanding the range of available financial services, reducing the geographical gap in access to these services, and ensuring that a wider segment of the population participates in the financial system.

Research Methodology: To achieve the research objectives and test the hypothesis, a descriptive approach was adopted, utilizing analytical and quantitative methods, as these are most suitable for the nature of the topic.

Section 1: Financial Technology and Financial Inclusion: Theoretical and Conceptual Framework

Subsection 1: Financial Technology – Theoretical and Conceptual Framework

A. Concept of Financial Technology

There are various opinions regarding a precise definition of fintech, depending on different perspectives and areas of expertise. Some define it as: technology-driven innovation in financial services that can create new business models, applications, processes, or products, having a tangible and significant impact on financial markets, financial institutions, and the delivery of financial services. The Basel Committee also defines it as "a financial technology or innovation that results in a new business model, process, or product with an impact on financial markets and institutions." Fintech is essentially the integration of technology and financial services, aiming to develop new ways of delivering financial services using software, artificial intelligence, and big data analytics, thus transforming the traditional structure of the financial sector. It can also be described as digital tools that enable individuals to manage their finances, invest their money, or obtain loans easily through their smartphones or the internet, without having to visit a bank..

Second: The Emergence of Financial Technology

Financial technology emerged from the need to improve traditional financial services. Its first signs appeared in the mid-20th century, specifically after World War II, with the invention of the first payment cards in the 1950s. However, the true evolution of FinTech actually began in the 1970s and 1980s, when banks began to use computers to process data and information. But it wasn't until the 1990s, with the rise of the internet, that companies began to emerge, leading to the digitalization of banking services with online banking soon after. Fast forward to the 2010s, with the economic crisis of 2008 damaging the trust in financial institutions, we see the birth of modern financial technologies and companies, as it is here where the need for financial alternatives arose.

During the following decade, the exponential progression of smartphones, Cloud Computing, Artificial Intelligence and Big Data paved the way for a proliferation of FinTech forms which include digital payments, Online Lending, Crowdfunding, and Robo-Advisers. This rapid growth of FinTech activity has moved beyond previous decades with classic but limited uses of low-level technologies and now is reshaping the shape of the global economy and financial service sectors globally. The range is large both the uses of product-based technological innovation, driven by the commercial and other data analytical capabilities as well as financial pressures, changed consumers' needs and behaviors, ease of access to information, and improvements based on product and/or regulatory shortcomings. The understandings of how responsible innovation is applied are rapidly changing in countries or regional blocks that are responding to the challenges raised by emerging or disruptive technologies. In a 2017 PwC report, 82% of global financial services respondents claimed that they wish to enter into new partnerships with FinTech companies; similarly, a survey from KPMG in 2021 shows how valuable the work being undertaken based on new data techniques is in changing the financial industry's shape and services.

Third: Areas of Fintech Application

Fintech technology is used in many areas of digital financial services and innovations, including:

1 .Electronic Payments and Money Transfers

This includes mobile payment apps, digital wallets (such as Apple Pay and PayPal), and instant international money transfer services like Wise and the digital version of Western Union.

2 .Digital Lending

Fintech platforms offer personal and business loans online, eliminating the need to visit a bank, and use artificial intelligence to assess creditworthiness.

4 .Automated Wealth Management and Robo-Advisors

These use sophisticated software and algorithms to automatically manage investment portfolios, such as Betterment and Wealthfront.

5 .InsurTech (Digital Insurance)

This involves developing digital solutions to provide insurance services quickly and efficiently, such as purchasing insurance online or using AI to assess risks and process claims.

6 .Digital Banking

This includes fully digital banks that operate without physical branches, such as N26 and Revolut, offering current and savings accounts through mobile apps.

7 .Blockchain and Cryptocurrency

This includes decentralized payment systems like Bitcoin and Ethereum, as well as the use of blockchain technology for smart contracts and financial security.

8 .Regulatory Technology (RegTech) and Fraud Prevention

This refers to the use of technology to help businesses comply with regulations and combat money laundering and terrorist financing.

9 .Financial Analytics and Artificial Intelligence

This uses big data analytics to predict consumer behavior and help businesses make better financial decisions.

Fourth: Fintech Indicators

There are several indicators that help measure the growth and development of the fintech sector, including:

1 .Investment and Funding Levels: This refers to the amount of investment capital received by fintech companies.

2 .Number of Startups: This is the number of fintech companies established annually.

3 .Digital Financial Services Adoption Rate: This is the percentage of individuals or institutions using fintech solutions (such as digital wallets, digital loans).

4 .Smartphone and Internet Usage Levels: This is related to the accessibility of fintech to people, especially in underserved areas.

5 .Number and Volume of Digital Transactions: This refers to the number of transactions conducted through fintech services.

6 .Digital Financial Inclusion Rate: This is the percentage of individuals with digital financial accounts compared to the total population.

7 .Regulatory Environment Readiness Index: This measures the availability of laws and regulations that support fintech innovation.

8. Innovation in Products and Services: This refers to the number of innovative products or services in the financial sector, such as BNPL, DeFi, and blockchain**.**

Section Two: Financial Inclusion – Theoretical Framework

First: The Concept of Financial Inclusion

The concept of financial inclusion has gained increasing attention in the 21st century. Financial inclusion has been the subject of numerous empirical studies, particularly in developed economies. Furthermore, the literature on financial inclusion in countries with less developed financial systems remains very limited in both theoretical and empirical research. Financial inclusion is defined as the process of enhancing access to a wide range of formal and regulated financial products and services, in a timely, affordable, and adequate manner, and expanding their use by different segments of society through innovative approaches, including financial literacy and education, with the aim of promoting financial well-being and socio-economic integration. (Financial inclusion also refers to the ease of access to low-cost financial and banking services for disadvantaged and low-income segments of society. This helps address problems related to the provision and distribution of social welfare, eradicates poverty, increases savings, and promotes the availability of credit for all segments of the population.).

Second: Financial Inclusion Indicators

Financial inclusion can be measured using a set of indicators that aim to assess the extent to which all segments of society, including low-income groups or those in rural areas, have access to and can utilize financial services. These indicators are as follows (Mohammed, 2025):

1. Percentage of adult individuals who own bank accounts: Owning a bank account at a formal financial institution is a key indicator of financial inclusion. The closer this indicator is to 100% (The percentage of individuals with bank accounts), the better this country would be performing in financial inclusion.

2. Percentage of individuals using digital financial services: Account ownership rates of using mobile or online systems to pay bills. This typically generates a second indicator for understand the digital level in the performance of a country.

3. Access to credit: It refers to all the formal credit lines you can use in a country, including credit cards, personal loans, salary loans, and credit facilities from banks and financial institutions.

4. Percentage of individuals with insurance: Banks and institutions that provide an amount of capital that will be paid to a beneficiary if the individual dies, it reflects the level of financial inclusion.

5. Geographical distribution of financial products: It demonstrates coverage in rural and distant areas where bank branches or financial services centers are established.

6. Number of available financial products: This measures the diversity and availability of financial products such as loans, insurance, savings, and investment options for individuals and small businesses.

7. Percentage of citizens with electronic payment cards: This measures the extent to which individuals use bank cards, such as credit cards.

8. Cost of accessing financial services: This measures the cost of accessing financial services, such as bank fees and commissions, which affects individuals' ability to use them.

Third: The Role of Financial Technology in Achieving Financial Inclusion

Financial technology facilitates the transition to digital transactions, reduces the cost of financial services offered by traditional financial institutions, and empowers many startups to compete globally in the digital economy by adopting new technologies in the financial sector. Rapid technological advancements and the growing preference for digital channels by consumers also contribute to the emergence of new business models and the entry of non-financial companies into the financial services sector, offering services related to banking in key areas such as retail and wholesale payments, credit provision, capital raising, and digital payment infrastructure.

Section Two: Analysis of the Current State of Financial Technology and Financial Inclusion in Iraq

First: The Development of Financial Technology in Iraq

Iraq has faced significant challenges in recent years, but it has witnessed notable growth in the fintech sector, driven by the need for flexible and rapid financial alternatives to keep pace with technological advancements and the digital transformation. To embrace and capitalize on this transformation, the government and the monetary authority, represented by the Central Bank of Iraq, have taken steps to regulate the sector, such as issuing directives for licensing electronic payment companies and updating the banking law.

Fintech in Iraq is a relatively new phenomenon that began to take off in 2014, with the introduction of electronic payment services by telecom companies, including ZainCash and AsiaCell, as well as digital lending firms such as Nasibak and Blink. With a significant portion of the Iraqi population either unbanked or underbanked, these companies served as an entry point to financial services for individuals and small businesses in areas with limited access to brick-and-mortar banking institutions. New startups began to emerge as well, expanding the offerings within the fintech ecosystem, including e-wallets, mobile payments, peer-to-peer lending, remittances, and crowdfunding. As part of Iraq's wider initiatives for economic reform and modernization, the Central Bank of Iraq has made several moves to pave the way for a fintech-friendly environment, including launching initiatives aimed at expanding digital banking solutions, promoting financial inclusion, updating the core banking architecture, launching the national payment platform "Comprehensive Payment System," and introducing guidelines for licensing and regulating electronic payment services. In addition, extensive mobile phone penetration, smartphone adoption, and improved internet access have spurred the growth of digital financial services, particularly among youth (Abdullah, 2012, 262-263).

Research indicates that FinTech significantly boosts financial inclusion in Iraq through four main channels.

1. Reaching underserved segments: FinTech allows consumers to connect with groups that have been notoriously difficult to access, such as the unbanked or underbanked, living in remote and rural areas. By digitizing payments and other financial transactions, FinTech companies are able to extend their reach without the need for extensive branch networks.
2. Low-cost transactions: Digital finance services significantly decrease the cost of traditional banking transactions, making these services feasible for poorer consumers and low-income earners who may otherwise be excluded from the financial system.
3. Gender disparities and youth: FinTech provides data on spending, which can help women gain access to savings, lending, insurance, and other financial products, and supports youth savings and lending.
4. Promoting transparency: It reduces corruption and improves financial tracking mechanisms, thereby enhancing trust in the financial system

Table)1) 2023-Some indicators of financial technology in Iraq for the period) 2016)

Year	Number of prepaid cards	Number of debit cards	Number of electronic transactions or value of electronic transactions	points of salePOS	ATMsof
2016	Not available accurately	*unavailable*	*unavailable*	*unavailable*	531
2017	6.2 million cards	127 A thousand cards	Transaction value: 2.4 billion dinars	unavailable	656
2018	--	--	1 One million transactions	--	865
2019	--	--	transactions, increase in bank accounts Expansion in (POS, ATMs) and number of devices	Gradually increasing POS the spread of points of sale	1,014
2020	--	--	--	--	1,340
2021	--	--	--	--	1,566
2022	million cards10.7	million cards5.4	trillion dinars Transaction value: 9.6	points10,700	2,223
2023	--	--	million electronic transactions 11 trillion dinars 11 Transaction value	24,000	4,021

Financial Stability Report, various years -Source: International Monetary Fund

We observe from the discussion (1) the number of electronic transactions processed by platforms such as AsiaPay and ZainCash: from over one million transactions in 2018 to approximately 11 million by 2023.
•The value of transactions using local cards: approximately 2.4 billion Iraqi dinars in 2017, increasing to approximately 9.6 trillion dinars by 2023.
•The number of prepaid cards: from 6.2 million cards in 2017 to 10.7 million by 2022.
•The number of point-of-sale (POS) terminals: in 2023, the number of POS terminals increased from approximately 10,700 to approximately 24,000.
We note that the period from 2021 to 2023 saw a greater acceleration than previous years, particularly regarding the number of ATMs, the number of electronic payment transactions, and the number of POS terminals. This indicates that Iraq has begun entering a more active phase in financial technology.

Fintech Challenges in Iraq

Despite the significant potential of financial technology in Iraq, it faces several challenges that hinder its ability to achieve full financial inclusion:
1 .Weak digital infrastructure, particularly in rural areas.
2 .Lack of financial literacy and awareness among a large segment of the population.
3 .Limited and outdated legislation specifically addressing financial innovations.
4. Security concerns related to data protection and online privacy.

Second: Analysis of the development of some financial inclusion indicators in Iraq during the period (2015-2023)Table (2) illustrates the available financial inclusion indicators. The banking density indicator showed very low values, below the international standard of 1 bank branch per 100,000 population. The branch coverage rate reached approximately 42.62% in 2015, meaning that for every 42,620 people, there was one bank branch. This low coverage rate is likely due to the limited number of bank branches. This trend continued in subsequent years. In 2018, despite an increase in the number of bank branches to 865, the banking density remained low. This decline in banking density means that a large segment of the population is still unable to access financial services. The distribution of bank branches remained relatively stable throughout the study period, with the number of branches per 100,000 population not falling below 2. Although the Central Bank encouraged banks to increase the number of operating branches, the desired level of geographical coverage and access to banking services was not achieved, as most branches are concentrated in certain provinces, particularly Baghdad. (Al-Iragi, Neema, 2019)
Data on the growth of bank accounts and bank cards were only available starting in 2017. We observe a general upward trend in the use of bank accounts and cards. Individual bank accounts grew by approximately 10% in 2017, reaching 20% in 2019, then 83% and 110% in 2022 and 2023, respectively. This indicates increased interest among individuals in opening bank accounts, likely due to the ease of account opening and growing confidence in the banking system. Conversely, the growth rate of bank cards was low and fluctuating during the study period. It grew by 38.5% in 2018, then declined to 19% in 2019 and 12% in 2020, reaching its lowest growth rate of 9% in 2022, before rising to 22% in 2023. This decline is attributed to the perceived shortcomings of the services offered by these cards, as well as concerns about security and the potential for loss of deposited funds. The banking depth index increased from 9.63 in 2015 to 13.28 in 2020, but these figures remain low, indicating a weak contribution of the banking sector to the GDP. The ratio of private sector credit to GDP also declined, reaching 8.18% in 2022. This is attributed to GDP growth exceeding the growth rate of private sector credit. This demonstrates that financial inclusion in Iraq is still below the desired level when compared to the global banking system.

Table)2)2022-Some indicators of financial inclusion in Iraq for the period 2015

Banking Depth ***Index	growth of bank cards	Bank account growth	** spread Banking	* Banking density	Number of bank branches	Year
39.6	---	---	2.31	42.62	854	**2015**
9.73	---	---	2.29	43.74	866	**2016**
9.38	24	10.27	2.27	44.06	843	**2017**
9.19	38	16	2.26	44.07	865	**2018**
8.81	19	20.2	2.25	44.25	888	**2019**
13.28	12	28	2.21	45.06	891	**2020**
9.67	27	55	2.2	45.51	5 90	**2021**

8.18	9	83	2.07	48.23	876	**2022**
10.24	22	110	2.6	47.03	890	**2023**

.Source: Central Bank of Iraq, Financial Stability Reports for various years, Financial Inclusion
people) / number of bank branches Banking density = population (1000 *
(Banking penetration = number of bank branches / number of population (10,000**
Banking Depth of Deposits = Total Private Sector Deposits / GDP * 10 ***

Conclusions

1. Financial technology (FinTech) helps promote financial inclusion by improving the quality of banking services and expanding their reach.
2 .FinTech reduces the cost of accessing financial services and products, including transactions, payments, insurance, and other financial services.
3 .FinTech in Iraq has not made significant progress compared to its counterparts in international rankings, despite initiatives to support and encourage the digital transformation of financial and banking services.
4 .A major challenge limiting the effectiveness of FinTech is the regulatory and legislative environment, as well as the low level of financial and digital literacy among large segments of the population.
5 .Financial inclusion indicators did not show significant improvement during the research period, except for the bank account ownership indicator, which grew noticeably due to the facilitation of opening bank accounts and the strengthening of public trust in the banking system.

Recommendations:

1. The synergy of FinTech and financial inclusion gives Iraq a unique chance to overcome the pitfalls of traditional banking systems, not only to power economic empowerment for individuals across the spectrum, but also to achieve economic growth that is more inclusive, equitable, and sustainable overall. However, to make this risk and growth potential a reality, we will require vision and political will, and real investment in the hard and soft infrastructure needed – education, regulation, and the like – to support such activity effectively.
2. FinTech adoption is a necessity, not an option, for creating a fairer, more inclusive financial system in Iraq.
3. Strengthen cooperation between public and private institutions to support FinTech innovation.
4. Invest in developing digital infrastructure.
5. Update legal and regulatory frameworks to encourage more startups to enter the market.

References:

1. Abdel-Rahim, Waheba, and Qudour, Ashwaq (2018) "Trends in Financial Technology in Light of Successful Company Experiences," Al-Ijtehad Journal of Legal and Economic Studies, Vol. 7, Issue 3.
2. Abdullah, G. I. (2022). FinTech in Iraq and the risks of using it in money laundering operations. World Economics and Finance Bulletin, Vol. 17.
3. Anwar Lafta Mohammed, Mohammed Kadhin Shamkhi, The Development of Banking Services and Their Role In Enhancing the Volume of Credit Granted to The Private Sector in Iraq for the Period (2017-2022), Journal of Economics and Administrative Sciences (JEAS), Available online at http://jeasiq.uobaghdad.edu.iq .
4. Arab Monetary Fund, Regional Task Force for Promoting Financial Inclusion in Arab Countries, Requirements for Adopting a .Comprehensive National Strategy to Promote Financial Inclusion in Arab Countries, 2015
5. Bashar A. AL-Iragi, Sameer F. Neema, The Main Determinants of Financial Inclusion in Arab Countries, Iraqi Journal for Administrative Sciences Vol. 15No. 60 (2019) , DOI: https://doi.org/10.71207/ijas.v15i60.2287 .
6. FSB (2017): Financial Stability Implications from FinTech, Supervisory and Regulatory Issues that Merit Authorities' Attention, Financial Stability Board, https://www.fsb.org/wp-content/uploads/R270617.pdf .
7. International Monetary Fund, Global Financial Stability Report, various years.
8. K. Ellis, A. Lemma, and J. Rud, "Financial inclusion, household investment and growth in Kenya and Tanzania". Project Briefing, No. 43, September 2010.
9. Malik Abdul Raheem Mohammed, THE ROLE OF FINANCIAL DIGITIZATION IN ENHANCING DIGITAL FINANCIAL INCLUSION IN IRAQ (REALITY AND CHALLENGES), World Economics & Finance Bulletin (WEFB), Vol. 42, January, 2025.
10. PwC, "Global FinTech Report 2017" – pwc.com/gx/en/industries/financial-services/assets/pwc-global-fintech-report.
11. The bank Central Iraqi, Reports Stability Financial For years different, Inclusiveness Financial.