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THE ROLE OF FINANCIAL DIGITIZATION IN THE PROFITABILITY OF THE BANKING SECTOR: THE EXPERIENCE OF IRAQ

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Abstract
The study aims to highlight the extent of the development of profitability indicators for the Iraqi banking sector in light of the rapid developments in financial digital technologies. The study problem focused on the question (Is there a role for developing financial digitalization methods that contribute to increasing the profitability of the Iraqi banking sector?). The study assumed that the use, application or development of financial digitalization methods could contribute to increasing the profitability of the Iraqi banking sector. The study relied on the theoretical (descriptive) and analytical approach to the study sample data during the period (2011-2022), as it relied on data issued by the Central Bank of Iraq. The study came out with a set of results, most notably the existence of a partial contribution of financial digitalization channels to the profitability indicators of the Iraqi banking sector. The study concluded with a set of recommendations, most notably encouraging the adoption of digital financial products and spreading the culture of electronic payment, by launching media and marketing campaigns to highlight the advantages of products and using various channels such as social media and television, organizing training and educational courses to educate the public, and creating interactive digital platforms to educate and guide users through the use of technologies such as virtual reality and simulation.

Keywords: Financial digitization, financial digitization channels, profitability.

Introduction

The banking sector plays a central role in mobilizing savings and financing investment projects, as it contributes to enhancing the efficiency and stability of the economy in general. Therefore, digital transformation is the primary goal sought by central banks and banks as a whole, due to its advantages that benefit the banking sector. One of its most prominent advantages is increasing the profitability of banking, as digitization contributes to enhancing the efficiency of financial operations, accelerating them, reducing costs, improving the customer experience, raising levels of financial inclusion, raising transparency, and managing financial risks through financial digitization means such as (the Internet, smartphones, bank cards, electronic clearing settlement systems, automated teller machines, etc.), which is positively reflected in the financial performance of banks.

Therefore, implementing digital transformation is necessary in the banking industry and other industries, whether in developed or developing countries. We note that Middle Eastern countries have sought to pay attention to and develop financial digitization technologies and their spread, and this was aided by the desire and acceptance of societies to adopt these technologies for the ease, speed, and lower cost they provide in conducting financial transactions. As for Iraq, financial digitization technologies are in their early stages, as the means still Such as ATMs, point-of-sale devices, etc., are low compared to the countries of the region for several reasons, including the weakness of the infrastructure of information and communications systems and the lack of culture and awareness among members of society regarding the use of financial technologies, which are considered modern in the country.

Enhancing profitability is a major strategic goal for banks to ensure their growth and enhance their competitive position. It works to provide the necessary resources for future investment and development and to pay their obligations. Improving shareholders' returns through distributing profits or maximizing the value of the share, thus enhancing the attractiveness of the bank for new investment and financing. Enhancing banking profitability also contributes to enhancing the gross domestic product and the development of the economy as a whole.

The research came to shed light on the financial digitization techniques represented by (ATMs, POS devices, gross settlement systems, electronic cards), and their effective role in raising the profitability indicators represented by (return on assets rate, return on equity rate) for the Iraqi banking sector.

The first section
The methodological framework of the research
1.1- The research problem

In light of the rapid development and increasing spread of financial digital technologies, the banking sector faces new challenges and potential opportunities. The bank is exposed to challenges when applying financial digitalization methods, including the need to continuously develop and update the technological infrastructure in some countries to keep pace with the rapid developments in the field of financial technology in developed countries. This requires huge investments in software and equipment in addition to continuous training. Maintaining the security of financial data and customer privacy and keeping pace with changing legislation and regulations requires special skills and a work team that follows up on continuous changes. All of this imposes large costs and financing on the bank, which constitutes a burden on the bank, especially small ones. It also constitutes resistance to change towards digital transformation, whether at the level of bank employees or customer culture, which requires continuous training and awareness.

Profitability is a crucial indicator of the financial performance and competitive strength of the banking sector. The growth of profitability indicators reflects the efficiency and effectiveness of the banking sector in managing risks and investments. The deterioration of profitability rates sometimes occurs due to intense competition from other parties such as financial technology companies that provide banking services at lower costs, which necessitates the application of financial digitization methods that may work to raise the profitability rates of the banking sector. The problem of the current research revolves around asking the following question: (Is there a role for the development of financial digitization methods that contribute to increasing the profitability of the Iraqi banking sector?)

2.1- Research Hypothesis

The research is based on the hypothesis that the use, application or development of financial digitization methods can contribute to increasing the profitability of the Iraqi banking sector.

3.1- Research Importance

The importance of the research lies in the role played by financial digitization methods in raising and enhancing the profitability of the banking sector, as the application of financial digitization technologies enhances the speed of financial operations and reduces their cost, in addition to the increasing desire of consumers to adopt the use of digital technologies, which in turn increases bank returns and raises profitability indicators for the banking sector.

4.1- Research objectives

The research aims to achieve a set of objectives, including:

1- Identify the literature on financial digitization and banking profitability.

2- Identify the opportunities and challenges that arise as a result of adopting digital technologies and their impact on the costs and revenues of banks.

3- Identify the development of financial digitization methods and indicators of profitability of the Iraqi banking sector.

5.1- Research sample

The research sample represented the Iraqi banking sector in general, using data obtained from the Central Bank of Iraq.

6.1- Research Structure

The research was divided into three sections. The first section dealt with the general framework of the research, the second section dealt with the conceptual framework of financial digitization as well as banking profitability, while the third section included the practical aspect. The research concluded with the most important conclusions and recommendations.

The second section
Theoretical Framework
1.2 - The concept of financial digitization

First, we must differentiate between digitization and digital transformation. Digital transformation represents the transformation of the traditional system into a digital system based on information and communications technology, while digitization is improving operations by taking advantage of digital data and technologies. Accordingly, financial digitization in banks can be defined as conducting transactions and exchanging information between the bank and the customer according to an operational model based on technology, through electronic devices, such as smartphones, web applications via the Internet, and electronic devices (Al-Mutawali, 2023: 1514).

Some have defined it as the innovation of services and products that are done through digital technologies such as mobile phones and the use of cryptocurrencies such as blockchain and Bitcoin. (Lee, Teo, 2015:4)

It has been defined as the use of digital technology by financial and banking institutions in processing and analyzing data, interacting with their employees, and executing their transactions electronically, based on protected databases that have been fully secured, as this is done in a digital technological environment. (Jonsson, et al, 2020:11)

It is also defined as web services and information services, as it involves providing services via digital networks and means such as the Internet. The digital service is broader than being information technology services or web services, as it includes all services based on information technology available via electronic networks and includes the following aspects (service environment, service product). It is the use of digital methods to conduct banking operations, whether related to credit, withdrawal, dealing in securities, transfer, or other bank activities. Under this type of banking, the customer can carry out some operations with his bank while in his office or home without having to move to the bank, thus shortening the dimensions of time and place. (Boujemaa, 2021: 6)

From the above, the study sees that financial digitization: is the dismantling and transformation of the traditional financial operations scene based on information and communications technology and allowing financial institutions, especially medium and small-sized or emerging ones, to enter the financial arena and achieve the main goal, which is profitability growth and increasing levels of financial inclusion, in addition to providing new or renewed business models at reasonable costs and high efficiency, thus achieving competitive advantages and expanding the scope of their local and international business quickly.

2.2- Objectives of financial digitization

(Lyons, Kass-Hanna, 2021: 1) see that financial digitization aims to address the following points:

1- On the consumer side (demand): (high costs and fees of financial services, lack of personal identity and necessary documents, distance to financial institutions, as well as emotional barriers related to financial trust and trust in the industry)

2- On the service provider side (supply): (reliance on old business models, limited geographical coverage, problems of high operating costs, lack of competition and innovation, information imbalance)

3.2- Pros and cons of financial digitization

1.3.2- Pros of financial digitization:

Financial digitization achieves the following positives: (GARGOURI,2023: 7) (Tahami,2022: 1060)

GDP growth.

Banking services provided in a secure and modern manner to companies and individuals.

Reducing trading in the black market.

Speed in completing financial transactions.

Access to a wider range of financial services.

Allows services to be provided 24 hours a day, seven days a week.

Once the password is entered and the transactions are completed, the customer can easily access the service and learn about the bank's other services permanently without moving.

Providing independence for the customer by carrying out his banking operations.

Reducing operating costs, which allows for raising interest on deposits.

Reduces environmental pollution as it does not require transportation by vehicles or the use of paper.

2.3.2- Disadvantages of financial digitization

Financial digitization has the following disadvantages: (Tahami, 2022: 1060) and (GARGOURI, 2023: 7)

The method of providing digital financial services may exclude some companies and individuals from benefiting from the service. As (Pazarbasioglu, et al, 2018: 8) stated that exclusion is a problem resulting from the inequality in access to digital technologies, which leads to a digital gap.

The existence of laws that do not allow the full implementation of digital financial services. On the other hand, (Pazarbasioglu, et al, 2020: 8) stated that there are illegal entities that provide digital financial services such as technology companies and peer-to-peer platforms, which lead to loopholes that fall outside the legal frameworks to which traditional institutions are subject, and this leads to risks related to consumer protection and a state of instability and lack of transparency and creates an unfair competitive arena that prevents creativity within the financial sector.

Disruption of human communication, as most customers prefer to deal with bank employees. As mentioned by (Lyons, and Kass-Hanna, 2021: 10), preferences for digital financial services vary across generations, as we find that younger individuals are more in demand for digital services due to their inclinations for technology.

Digital technology is difficult for new users and those who cannot read and write. As mentioned by (Saal, et al, 2017: 3), in emerging markets, we find that banks face challenges such as inefficient Internet networks, in addition to the backwardness of payment systems, few financial services, low financial awareness and income levels, etc.

Customer fear of data hacking. As mentioned by (Ngendanganya, 2023: 5), there are security concerns related to the publication of private information about the customer as a result of organizations sharing their information, in addition to the risks of service interruption and the disappearance of information (such as deleting messages), especially if they are

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important, such as payment instructions. H- Annoyance from repeated unnecessary notifications.

High costs, as stated. (Kohtamäki, et al, 2020:8) that digital investments are large and expensive and pose challenges in terms of implementation and integration with different subsystems, and that high costs can be passed on to consumers, leading to increased fees.

4.2- Financial digitization channels:

The first channel: The automated teller machine (ATM): ATMs represent a computerized device that allows bank customers to access their accounts, conduct various financial transactions, and withdraw cash without the help of bank employees. It also represents a device that includes a computer, a record-keeping system, and a cash safe at the same time. The customer can access his bank account either through a special code in the computer terminal connected to the computerized records of the financial institution or through a plastic card containing a personal identification number. These devices provide banking services 24 hours a day. (Onyesolu, Okpala, 2017: 50)

The second channel: Points of Sale (POS): It allows the automatic transfer of the purchase price from the seller's account to the bank's systems via network systems. Point-of-sale devices provide various services, including facilitating payments, checking account balances, creating account invoices, allowing postponement of purchases, and submitting daily reports. These devices are widely used in retail or wholesale e-commerce transactions, as they represent common stations for accepting credit cards, debit cards, smart cards, and electronic bank transfers. Transactions are face-to-face, which provides an easy, convenient, and secure payment process. Points of sale are located in the exit areas of various establishments, for example, in stores, restaurants, and hotels, to handle customer payments. (Ganjikhah, et al, 2017: 836)

The third Channel: Electronic Settlement and Clearing (ESC): It is represented by the electronic transfer of funds between bank accounts, and can be used by institutions to make payments such as distributing profits. It represents one of the features of electronic banking services without the use of cash based on scanners and computers. It aims to create a comprehensive benefit for the banking sector as a whole, locally and internationally. It is an innovation that is free of the pressure and stress found in traditional payment methods. Electronic clearing also refers to the reconciliation between the purchase and sale of various securities or options and futures contracts, in addition to the direct transfer of funds between financial institutions. It provides recording the transfer, providing sufficient funds, and ensuring the delivery of securities from the seller to the buyer. (Ndangoh, 2018: 9)

The fourth Channel: Electronic cards: It is an electronic payment method. It is a plastic and magnetic card that enables its holder to purchase goods or services that he obtains in exchange for paying for them through personal cards without having to carry large amounts. (Al-Tafeeli, 2023: 21). It is a card issued by banks or other legal entities, and thus it is a secure feature for its holder. In return, the issuing entity obtains returns that include interest and commissions. (Nelly, Al-Sayes, 2020: 35)

5.2- Profitability: It represents the relationship between the profits of the institution (such as banks) and the investment operations activities that led to achieving those profits.

Profitability is not only a desirable goal, but it is an appropriate measure to evaluate its efficiency. (CHAWAN AWL, 2020: 20) Profitability can be measured by: (Sultan, 2021: 5) (Fahd et al., 2020: 426)

- Return on assets (ROA): It is an indicator to evaluate the efficiency of the bank's management in using total assets to generate profits. ROA is expressed as a percentage, and the higher the percentage, the better the return on assets and the better the overall banking performance.
- Return on equity (ROE): It is considered a measure of the bank's ability and efficiency in achieving returns from using shareholders' (owners') money. The bank's management must look at the ratios of this indicator for its financial implications. A high ratio exposes the bank to higher risks resulting from the high financial leverage in the bank's financing structure. On the other hand, when the ratio decreases, the risk is due to the financing retained by loans.

The third section

The practical aspect

1.3- Development of the number and values of transfers through the Real Time Gross Settlement System in Iraq for the period (2011-2022)

The Real Time Gross Settlement System is a mechanism that settles and processes high-value orders that take place between participants continuously during the business day. It began operating in 2006 (Central Bank of Iraq, Annual Economic Report, 2022: 54).

Table (1): Development of the number and values of transfers through the Real Time Gross Settlement System in Iraq for the period (2011-2022)

Years	Number of transfers	Growth rate (%)	Values of transfers (million dinars)	Growth rate (%)
2011	35,511		4,311,179.98	
2012	41,421	16.64	4,776,012.40	10.78
2013	49,975	20.65	8,675,501.20	81.64
2014	55,593	11.24	8,443,861.66	-2.67
2015	57,150	2.80	8,065,698.39	-4.48
2016	63,941	11.88	5,276,385.75	-34.58
2017	81,963	28.18	4,030,705.98	-23.61
2018	75,500	-7.88	5,523,305.69	37.03
2019	78,168	3.53	7,129,405.95	29.08
2020	73,974	-5.36	6,687,319.30	-6.20
2021	99,116	33.98	7,998,530.16	19.60
2022	102,668	3.58	13,724,814.73	71.59

Source: Prepared by the researcher based on the statistical reports of the Central Bank of Iraq for the period (2011-2022).

We note from Table (1) that the total value of remittances in 2011 amounted to (4,311,179.98) million dinars, then the number rose to (4,776,012.40) million dinars with a positive growth rate of (10.78)%, then it increased significantly in 2013 with a positive growth rate of (81.64)%, and the period (2014-2017) witnessed a gradual decline with negative growth rates, the highest of which was (34.58)% in 2016 so that the value of remittances reached (5,276,385.75) million dinars.

The reason for the decline in the value of remittances is due to the terrorist events that occurred in Iraq and the political and economic events that followed, so the value rose again during (2018-2019) to reach (5,523,305.69, 7,129,405.95) million dinars with positive growth rates of (37.03, 29.08) % respectively, while the year 2020 witnessed a decrease in the value of total remittances at a negative growth rate of (6.20) % to reach (6,687,319.30) million dinars.

The reason for the decline is due to the economic consequences of the coronavirus pandemic, so the value of remittances rose again during (2021, and 2022), the last of which reached 2022 (13,724,814.73) million dinars at a positive growth rate of (71.59) % and with a relative importance of (16.21) %, which is the largest throughout the study period. The reason is due to the gradual recovery from the consequences of the coronavirus pandemic, as well as the increase in banks' dealings in dollars to impose the opening of documentary credits and others, and the improvement of the trade sector, especially after the improvement in oil prices, which improved public spending, and then financial transfers for trade purposes increased.

As we can see from Table (1), the total number of transfers through the system reached (35,511) operations in 2011, then the total number of transfers rose to (41,421) operations in 2012 with a positive growth rate of (16.64)%, so the number of transfers continued to increase during the period (2013-2017) with varying growth rates, the last of which was (28.18)% in 2017, so that the number of transfers reached (81,963) operations, then the number decreased to (75,500) operations with a negative growth rate of (7.88)% in 2018, and the period (2019-2022) witnessed an increase in the number of transfers with positive growth rates except for a decrease in 2020 with a negative growth rate of (5.36)% so that the number of transfers reached (73,974) operations during the same year. The reason for the decrease is due to the economic consequences of the Corona pandemic.

2.3- Development of the number of ATMs in Iraq for the period (2011-2022)

Table (2): Development of the number of ATMs in Iraq for the period (2011-2022)

Years	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Number of ATMs	467	467	647	337	580	660	656	865	1,014	1,340	1,566	2,223
Growth rate (%)		0	38.54	-47.91	72.10	13.79	-0.60	31..86	17.22	32.15	16.86	41.95

Source: Prepared by the researcher based on the statistical reports of the Central Bank of Iraq for the period (2011-2022).

From Table (2), we find that the number of ATMs in 2011 reached (467) ATMs. In 2012, there was stability at the same number, then the number increased in 2013 until it became (647) ATMs with a positive growth rate of (38.54) %. In 2014, the number of ATMs decreased to (337) ATMs due to the war launched by terrorist groups in some governorates, so the number increased in 2015 with a growth rate of (72.10) %, and then the number increased in 2016 to reach (660) ATMs. In 2017, there was a slight decrease with a negative growth rate of (0.60) %, then it rose again from year to year with varying growth rates until the number reached (2,223) ATMs in 2022 with a positive growth rate of (41.95) %, which is the highest throughout the study period.

3.3- Development of Point of Sale (POS) devices and Cash Withdrawal (POC) devices in Iraq for the period (2017-2022)

Table (3): Development of Point of Sale (POS) devices and Cash Withdrawal (POC) devices in Iraq for the period (2017-2022)

Years	POC	Growth rate (%)	POS	Growth rate (%)
2017	5,143	-	918	-
2018	6,625	28.81	2,200	139.65
2019	11,677	76.25	2,226	1.18
2020	13,796	18.14	7,540	238.72
2021	14,704	6.58	8,329	10.46
2022	17,610	19.76	10,718	28.68

Source: Prepared by the researcher based on the statistical reports of the Central Bank of Iraq for the period (2017-2022).

We note from Table (3) that the number of POS devices in 2017 reached (918), and then the number increased from year to year until the end of the period at varying growth rates, the highest of which was (238.72) % in 2020, (7540) POS. We also note from Table (3) that the number of POC devices reached (5,143) devices in 2017, and the number increased from year to year during the period (2018-2022) at varying growth rates to reach (17,610) devices in 2022.

4.3- Development of the number of electronic cards in Iraq for the period (2017-2022)

Table (4) Development of the number of electronic cards in Iraq for the period (2017-2022)

Years	Debit cards	Credit cards	Prepaid cards	Qi	Total electronic cards	Growth rate (%)
2017	127,594	15,158	6,234,553	6,086,703	12,464,008	-
2018	872,894	22,067	7,915,069	6,639,582	15,449,612	23.95
2019	1,460,891	38,883	9,006,951	1,819,901	12,326,626	-20.21
2020	2,811,503	46,469	8,891,436	1,384,677	13,134,085	6.55
2021	5,083,997	50,927	9,771,370	-	14,906,294	13.49
2022	5,430,434	61,320	10,711,017	-	16,202,771	8.69

Source: Prepared by the researcher based on the statistical reports of the Central Bank of Iraq for the period (2017-2022).

We note from Table (4) that there are four types of cards, which are (prepaid cards, debit cards, credit cards, and Qi), and we note that the total number of electronic cards in 2011 amounted to (12,464,008), then the number increased in 2018 to reach (15,449,612) cards with a positive growth rate of (23.95)%, while in 2019 there was a decline in the total number of electronic cards with a negative growth rate of (20.21)% to reach (12,326,626) cards, then the number of cards increased until the end of the period with varying growth rates to reach the number of cards in 2022 (16,202,771) cards with a growth rate of (8.69)%.

5.3- Development of the return on assets rate for the Iraqi banking sector for the period (2011-2022)

Table (5) Development of the return on assets rate for the Iraqi banking sector for the period (2011-2022)

Years	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
(ROA) %	0.65	0.82	0.71	0.54	0.47	0.51	0.84	0.53	0.81	0.89	0.57	1.06
Growth rate (%)	-	26.15	-13.41	-23.94	-12.96	8.51	64.70	-36.90	52.83	9.87	-35.95	85.96

Source: Prepared by the researcher based on the statistical reports of the Central Bank of Iraq for the period (2011-2022)

We note from Table (5) that the rate of return on total assets reached (0.65) % in 2011, rising to (0.82) % in 2012 with a positive growth rate of (26.15) %, then the rate declined continuously during the period (2013-2015) with negative growth rates, the last of which reached (12.96) % in 2015 to reach (0.47) %.

The reason for the decline in the rates is the failure to employ the banks' assets correctly and efficiently, most of which increased during the same period, in addition to the economic consequences of terrorist attacks (Financial Stability Report, 2016: 42), to rise again in the years (2016-2017) as the rate of return on assets for the banking system reached (0.51, 0.84) % respectively with positive growth rates reaching (8.51, 64.70) % respectively.

The reason is due to the growth in the profits of operating banks due to the increase in their investments and financial placements. In addition to the relative improvement in the political situation and security events within the country (Financial Stability Report, 2017: 42), 2018 witnessed a decline with a negative growth rate of (36.90)% to reach the ROA ratio of (0.53)%, due to the decline in net income before and after interest for operating banks as a whole (Financial Stability Report, 2018: 42), to rise again in the years (2019, 2020) with positive growth rates of (52.83, 9.87)% respectively, due to the improvement in the profits of operating banks as a whole, to decrease in 2021 to (0.57)% due to the decline in the profitability of banks in general with the growth of their assets (Financial Stability Report, 2021: 78), to rise again in 2022 to (1.07)%, which is the highest rate throughout the study period, with a positive growth rate of (85.96)%, which is the highest in terms of relative importance (12.62)%.

The main reason for the increase in the value of foreign currency assets is the change in the exchange rate of the Iraqi dinar against the US dollar in 2020 from (1,182) to (1,450) Iraqi dinars per US dollar in 2022 (Financial Stability Report, 2022: 63).

6.3- Development of the return on equity rate for the period (2011-2022)

Table (6) Development of the return on equity rate for the period (2011-2022)

Years	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
(ROE) %	22.99	26.79	19.42	13.48	10.31	9.53	9.13	4.33	7.01	7.33	5.13	11.87
Growth rate (%)	-	16.52	-27.51	-30.58	-23.51	-7.56	-4.19	-52.57	61.89	4.56	-30.01	131.38

Source: Prepared by the researcher based on the statistical reports of the Central Bank of Iraq for the period (2011-2022)

We note from Table (6) that the return on equity rate reached (22.99) % in 2011, reaching the highest rate during the study period in 2012, amounting to (26.79) % with a positive growth rate of (16.52) % and relative importance of (18.18) %. After that, the rate decreased for the period (2013-2018) until it reached (4.33) % with a negative growth rate of (52.57) % in 2018.

The reason for the decline is due to the decrease in the value of income with the increase in the value of assets without investing them properly and the consequences of the political situation and security events in the country (Financial Stability Report, 2018: 48), while the years (2019, 2020) recorded an increase in the rates of (7.01, 7.33) % respectively and with positive growth rates of (61.89, 4.56) % respectively.

The reason for the increase is due to the growth of income at rates The capital growth rate is greater than (Financial Stability Report, 2020: 81), to decline again in 2021 by (5.13)% with a negative growth rate (30.01)%, due to the decrease in income versus a capital increase (Financial Stability Report, 2021: 78), to witness the last year of the study period a noticeable increase in the return on equity rate for banks as a whole, amounting to (11.87)% with a growth rate of (131.38)%, which is the highest throughout the study period, due to the increase in banks' profits at rates greater than the increase in assets (Financial Stability Report, 2022: 64), and it is noted that the compound growth rate of the return on equity rate for Iraqi banks amounted to (5.36-)% for the period (2011-2022), and the standard deviation amounted to (6.86), and the average return on equity rate amounted to (12.27).

7.3- Analysis of the development of growth rates of financial digitization methods and indicators of profitability of the banking sector in Iraq for the period (2011-2022)

Years	Growth rates of financial digitization channels (%)							Growth rates of profitability indicators (%)		
	Real-time gross settlement system		ATM	POS	POC	Cards	The general average of growth rates	ROA	ROE	The general average of growth rates
	Number of transfers	Transfer values								
2012	16.64	10.78	0	-	-	-	9.14	26.15	16.52	21.33
2013	20.65	81.64	38.54	-	-	-	46.94	-13.41	-27.51	-20.46
2014	11.24	-2.67	-47.91	-	-	-	-13.11	-23.94	-30.58	-27.26
2015	2.80	-4.48	72.10	-	-	-	23.47	-12.96	-23.51	-18.23
2016	11.88	-34.58	13.79	-	-	-	-2.97	8.51	-7.56	0.47
2017	28.18	-23.61	-0.60	-	-	-	1.32	64.70	-4.19	30.25
2018	-7.88	37.03	31.86	139.65	28.81	23.95	42.23	-36.90	-52.57	-44.73
2019	3.53	29.08	17.22	1.18	76.25	-20.21	17.84	52.83	61.89	57.36
2020	-5.36	-6.20	32.15	238.72	18.14	6.55	47.33	9.87	4.56	7.21
2021	33.98	19.60	16.86	10.46	6.58	13.49	16.82	-35.95	-30.01	-32.98
2022	3.58	71.59	41.95	28.68	19.76	8.69	29.04	85.96	131.38	108.67

Source prepared by the researcher based on Table (1, 2, 3, 4, 5, 6).

We note from Table (7) the development of annual growth rates for both financial digitization channels and profitability indicators for Iraqi banks as a whole, and from it we note that in 2012, financial digitization means represented by the total settlement system took positive growth rates, with the overall average growth rates reaching (9.14)%, and it is expected that it contributed to raising profitability indicators with positive growth rates to reach (26.15, 16.52)% for each of (ROA, ROE)% respectively.

In 2013, the overall average growth rate of financial digitization channels reached (46.94)%, while profitability indicators decreased to reach an overall average growth rate of (-20.46)%, in 2014, the growth rates of financial digitization channels reached a negative overall average of (-13.11)%, which is believed to have contributed to reducing profitability with an overall average growth rates of (-27.26)%, and it is believed that the decrease in transfer values in 2015 with a negative growth rate of (-4.48)% contributed to reducing profitability to a negative average of (-18.23)%,

The period (2016-2018) witnessed varying fluctuations in the growth rates of financial digital channels and profitability indicators, and during the period (2019-2020) most digital means increased with varying positive growth rates, the general average of growth rates reached (17.84, 47.33)% respectively, and it is expected that the development of digital means contributed to raising profitability with varying positive growth rates, the average of the general growth rate reached (57.36, 7.21)% respectively.

With the continued development of most digital means in 2021, as the general average of growth rates reached (16.82)%, profitability decreased with negative growth rates (of 35.95, and 30.01)% for each of (ROA, and ROE)% respectively, so that the percentage decreased in 2021 to (0.57)% due to the decrease in the profitability of banks in general with the growth of their assets and capital (Financial Stability Report, 2021: 78), and with the development of all means of financial digitization in 2022 at varying rates to reach an average positive general growth rate of (29.04)%.

It is expected that the development in means of financial digitization contributed to the rise in profitability indicators with positive growth rates of (85.96, and 131.38) % respectively.

Fourth Section: Conclusions and Recommendations

1.4- Conclusions

1- Digital technologies play an important role in improving decision-making at the operational and strategic levels, in addition to facilitating communication between managers, employees and customers, which positively reflects on the competitiveness and profitability of banks.

2- Iraq has witnessed a slow development in financial digitization methods compared to the countries of the region and compared to its population, as financial digitization methods were not addressed until after 2017, and the use of ATMs is still low, as the maximum reached (2,223) ATMs in 2022, which is the lowest compared to neighbouring countries, and the decline in point-of-sale devices and other financial digitization methods.

3- The lack of laws that outline the trends of modern financial digitization methods and the weakness of the technological infrastructure, in addition to the fact that most markets and shops still deal in cash due to the lack of spread of the culture of electronic payment among the segments of society.

4- The analysis results showed a partial contribution of financial digital channels to the profitability indicators of the Iraqi banking sector.

2.4- Recommendations

1- The necessity of developing and modernizing the technological infrastructure, including what is related to the communications sector and investing in modern digital technologies in the banking sector, such as artificial intelligence, with training cadres working in the banking sector and consumers on how to deal with digital technologies.

2- Encouraging the adoption of digital financial products and spreading the culture of electronic payment, by launching media and marketing campaigns to highlight the advantages of products and using various channels such as social media and television, organizing training and educational courses to educate the public, and creating interactive digital platforms to educate and guide users through the use of technologies such as virtual reality and simulation.

3- The Central Bank encourages banks and other financial institutions to increase ATMs and point-of-sale devices in various places.

4- Expanding the provision of various banking, financing and investment services based on digital technologies to meet customer desires.

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