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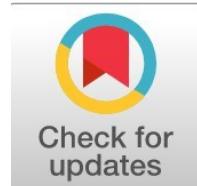
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# **The role of Financial Technology in promoting Digital Transformation in Iraq for the period (2020-2023)**

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## **Abstract**

**General Background:** Financial technology (FinTech) has become a key driver of digital transformation within contemporary financial systems worldwide. **Specific Background:** In Iraq, expanding electronic payments, mobile wallets, and digital banking tools between 2020 and 2023 reflects growing engagement with FinTech under the supervision of the Central Bank of Iraq. **Knowledge Gap:** Despite observable growth, empirical evidence remains limited regarding how FinTech indicators concretely support digital transformation within the Iraqi financial sector. **Aims:** This study aims to analyze the role of FinTech applications in promoting digital transformation in Iraq during 2020–2023. **Results:** Using a descriptive analytical approach and official data, the findings reveal significant increases in electronic payment infrastructure, mobile payment usage, and digital banking services, alongside persistent regional and competitive disparities. **Novelty:** The study provides a comprehensive indicator-based assessment linking FinTech adoption to digital transformation in Iraq. **Implications:** The results highlight the need for infrastructure expansion, regulatory support, and inclusive policies to strengthen digital financial transformation and financial inclusion..

**Keywords :** Financial Technology, Digital Transformation, Electronic Payment Systems, Digital Banking, Iraq.

## **Highlight :**

- Electronic payment infrastructure expanded markedly, reflected by rising ATM, POS, and mobile transaction indicators.
- Mobile wallet usage increased substantially, with market concentration favoring a limited number of providers.
- Service adoption remained uneven, showing lower penetration in remote areas and among specific population groups.

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## Introduction

During the past few years, the financial technology (FinTech) sector has been a revolution in global financial systems. Financial technology startups have succeeded in providing a variety of financial services, including payments, digital currencies, money transfer, lending, crowd funding, wealth management, and insurance services, which cast a shadow over the future of traditional financial services. Banks and financial institutions aim to modify their business models by increasing their use of technology, investing in infrastructure, and potentially collaborating with startups to enhance competitiveness and strengthen their reliance on advanced technologies in delivering financial services. In this context, the role of the legislative, regulatory, and supervisory framework becomes crucial, as it supports the development and implementation of FinTech and artificial intelligence-based models. Such a framework enables regulators to mitigate risks and foster growth opportunities within a competitive environment, while safeguarding financial integrity and stability [1].

Therefore, digital transformation is the cornerstone of the future of the financial and banking sector, as customers are increasingly moving towards the implementation of their banking transactions through electronic applications and smart solutions. Financial technology holds significant potential to transform the structure of traditional financial services by making them faster, more affordable, secure, transparent, and accessible—particularly for the sizable portion of the population that remains outside the formal banking system. However, the rapid advancement of FinTech services and the emergence of startups offering innovative financial solutions that replicate and simplify traditional banking functions present potential risks. These developments necessitate proactive measures and comprehensive safeguards to ensure the security, integrity, and stability of the financial and banking sector [2].

From this importance, the topic of our research dealt with the role of financial technology in promoting digital transformation in Iraq. For the purpose of giving a clear picture of the study, the research structure was divided into three sections. The first section included the research methodology, while the second dealt with the theoretical framework of the research. The third section included the practical aspect of the research and concluded with a number of conclusions and recommendations.

## A. Research Methodology:

This topic deals with the main pillars included in scientific research and as detailed below:

### 1.1. The Problem of Research:

In light of the emergence of emerging financial technology companies, which have spread widely in many countries of the world, an important question arises about the possibility of benefiting from their services in our non-banking and banking financial institutions, especially in the payments, finance and investment sector.

Therefore, the main problem of the research stems from the following question:

"Are the applications of financial technology applicable in the financial sector and the Iraqi bank?"

From this main question, the sub-questions of the research problem are divided into the following:

1. What are the main challenges and obstacles facing the work of Fintech startups in Iraq?
2. What are the motives for working with Fintech in Iraq?
3. Is the infrastructure available to work with financial technology? What are the necessary needs to be met to launch these capabilities?
4. What solutions and benefits do Fintech technologies offer to Iraqi financial and banking institutions?
5. What are the procedures of the Central Bank of Iraq in order to provide the appropriate environment for the work of financial technology to enhance the process of digital transformation in Iraq?

### 1.2. The Importance of Research:

The rapid development of financial technology in recent years has threatened the work of many companies and banks, as banks have faced a volatile, unpredictable and more advanced competitive environment in the financial field through the availability of financial technology to customers for many options and the more transparent, low-cost and globally accessible systems it provides. Therefore, companies cannot ignore the innovative capabilities offered by financial technology and the advantages it enjoys compared to traditional companies in terms of digital focus and flexibility in responding to the changes that the banking industry needs in promoting the transition towards the digital economy.

### 1.3. The Hypothesis of Research:

The research is based on the premise that (Financial technology contributes to enhancing the process of digital transformation in Iraq during the period under discussion)

### 1.4. The Objectives of Research:

The research aims to:

1. Highlighting financial technology and its applications that have created a new field in e-finance and investment.
2. Clarify the challenges facing the application of financial technology in many countries and the extent to which it can be overcome to benefit from its technologies and the services it provides in Iraqi banks.
3. Identify the most important modern financial innovations provided by financial technology and the extent of their contribution to the development of the Iraqi banking industry.

### 1.5. The Approach of Research:

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The analytical descriptive approach was adopted, which is the most appropriate to address the research problem, achieve its objectives and prove its hypotheses.

## 1.6. The Limits of Research:

1. **Spatial Limits:** Iraqi Banking and Non-Banking Financial Institutions
2. **Time Limits:** Period (2020-2023)

## 1.7. The Structure of Research:

The research was divided into an introduction and three research sections, as well as conclusions and recommendations.

## B. Theoretical framework for research (financial technology and digital transformation)

Financial technology (FinTech) is a new field that attracts startups looking for profits and economic status within a large group of financial institutions with experience in this field. Startups have developed a business plan that combines software and technology to provide a distinguished range of financial services, including payments, digital currencies, money transfer, the lending market, crowd funding, wealth management, risk management and even insurance. Therefore, we will try in this topic to shed light on the concept of financial technology, its importance and the advantages it provides to the beneficiaries of its services [1].

### 2.1. Fintech (Concept, Importance, Challenges, Indicators):

#### 2.1.1. The Concept of Financial Technology:

Fintech is a blend of the words "financial" and "technology," referring to a broad spectrum of technological applications in both personal and commercial finance. It serves a wide range of users, including banks and their clients, entrepreneurs, and small or emerging businesses. The term captures the intersection of finance and technology, giving rise to a field focused on conducting financial transactions through the use of modern technological tools such as smartphones, communication networks, and digital commerce platforms—including cryptocurrencies. Recent advancements in technology have been increasingly directed toward enhancing financial services, with specialized companies leveraging these innovations in both the financial services and payments sectors [3].

Financial technology is defined as those financial products and services that adopt modern technologies to improve the quality of traditional financial services. This technology is faster, cheaper and easier and can cover a larger number of individuals through startups that are new small companies that aim to expand by creating new markets or acquiring a large share of existing markets. Therefore, financial technology startups are small and modern companies that provide financial services to individuals and companies in cooperation or competition with traditional financial service providers [4].

According to the Financial Stability Board, financial technology is defined as financial innovations using technology that can develop new business models, applications, processes or products that have a tangible impact on financial markets and institutions and on the provision of financial services. In other words, financial technology is the introduction of technology to traditional financial and banking services with the aim of improving their quality and accessibility. It does not only mean electronic payment cards, which were the most prominent services of the first wave of this technology, but also international financial transfer, wealth management and insurance, which included the second wave [5][6].

From all this, it becomes clear that financial technology is the meeting of intentions and innovations that seek to compete with traditional financial methods when providing financial services, as it is an emerging industry that uses modern technologies to improve activities in the field of finance, such as the use of smart phones in banking services or what is known as cellular banking, as well as mobile investment services.

#### 2.1.2. Importance and areas of FinTech:

Financial technology contributes to rapid changes in almost all aspects of society, including the telecommunications sector, payments, business and the government sector. Although it contains many advantages, this does not mean that it is free of risks as well. For example, there is a need to determine the legal status of virtual currency or digital token. We need mechanisms to combat money laundering and terrorist financing through the principle of "know your customer" in transfers and "virtual currency" transactions. Therefore, financial technology has repercussions on the macro economy and this technology should be understood in light of the development of policies and laws that help the accurate application of it in different economies, especially developing ones that need to provide an appropriate incubator environment for the work of financial technology [6][7].

Fintech innovation has come in many forms from peer-to-peer lending to high-frequency trading to big data to robots as well as mobile banking, as well as virtual currency conversion that has allowed people to transfer money across borders at great speed [8].

The importance of financial technology also lies in developing the work of the financial sector on a large global scale by helping it to cover financial services for low-income families that did not have the ability to obtain those financial services. Hence, the financial sector began to work differently as there is a new group of actors that began to practice financing activity under electronic payment systems. The transformation provided by digital finance can increase the state of competition and then the gains generated by the effectiveness of the financial services industry (the World Bank) on the official website of the World Bank [9].

#### 2.1.3. Fintech Challenges:

The most important challenges of financial technology in our Arab world and in Iraq in particular lie in the following: [2]

1. The lack of regulatory frameworks and rules for electronic currencies except in a few countries, including Egypt, Morocco and Tunisia, and the failure to create precautionary rules in line with the work of financial technology.
2. Lack of institutional support to establish regulated incubators and laboratories that allow fintech companies and traditional financial institutions to test innovations in the physical work environment.
3. The difficulty of obtaining high-speed and accurate Internet services due to its high cost, which prevents communication between electronic payment systems with mobile devices, causing the fragmentation of markets .
4. Lack of confidence in the use of digital currencies and the conviction to deal in national or foreign currencies known and relatively stable value.
5. Low awareness and banking culture among many customers of the benefits and importance of modern technology in providing services and preferring to deal directly with bank employees to obtain the required service.

#### **2.1.4. Fintech Indicators:**

The most prominent indicators of financial technology are the applications of digital payments that take place over the Internet and mobile networks that make payments, which are: [10]

1. Automated Teller Machines (ATM): A group of specialized devices connected to the bank's computer network deployed in various places, whether on the wall or independently, that perform various banking operations for customers.
2. Electronic Points of Sale (POS): They are the devices in the various shops and services through which customers can make payments for goods and services by passing the plastic card inside the device to quickly read the data and transfer the required amount from the buyer's account to the merchant's account.
3. Electronic Cash Points (POC): This tool means withdrawing from the card, even if there is no balance, and it is used in all financial transactions as well as in payments for the purpose of shopping.
4. Electronic bank cards: They are eco-friendly plastic cards created using digital media granted by banks to their customers and are used for the purposes of purchase and then payment later while allowing the customer to postpone the payment of the debit balance for a certain period in exchange for interest.
5. E-wallets: They are electronic services that allow individuals to conduct their transactions, including online purchases and passing credentials to the merchant's terminal wirelessly through a near-field connection, through the QR encryption code, or through e-wallet applications, which are characterized by security through encryption of personal information and actual transactions, as well as their compatibility with most e-commerce websites.

## **2.2. Digital transformation, the concept, importance, advantages, indicators:**

#### **2.2.1. The concept of digital transformation:**

Digital transformation signifies a fundamental shift in the way services are delivered, rather than merely a gradual or cumulative improvement. It plays a crucial role in fostering sustainability and enhancing competitiveness, while also contributing to the development of more efficient and responsive societies. By enabling faster and higher-quality service delivery, digital transformation supports organizations in moving toward a digitally driven model focused on the innovation of products and services [11]. The concept of digital transformation also refers to the employment of modern and sophisticated technology to solve problems, in other words, the shift from the traditional monotonous workflow model to a more dynamic and creative work model, by reducing the time to carry out routine tasks and investing in more creative tasks [12].

It is also defined as the transformation of the patterns of work stages in companies and institutions from based on paper style to a style based on digital technology in terms of product manufacturing, human resources management and service provision [13].

#### **2.2.2. The importance of digital transformation for companies:**

The importance of digital transformation is concentrated in many advantages, including: [14]

##### **1. Ease of decision-making:**

One of the most important and largest responsibilities of business leaders is to make decisions, and this task is one of the most difficult and sensitive tasks, as the future of business depends on these decisions, so decision-makers need data and information that enable them to see the whole picture, and with an application of the concept of digital transformation, these tasks are entrusted to applications specialized in understanding and analyzing data, and therefore businessmen will be able to measure and evaluate their business activities and sales with ease because decisions depend on real data, no intuition and prediction.

##### **2. Increase employee productivity:**

Technology plays a key role in this field. Today, we find many applications for managing work teams and human resources that allow human resources managers and work teams to focus on growth and development opportunities instead of preoccupying with monotonous tasks. Applications include:

- a. Clarity of responsibilities for all members of the organization.
- b. Ability to work remotely.
- c. Measure employee engagement rate flexibly.
- d. Know and keep the most creative employee
- e. Raising and improving the rate of institutional communication
- f. Clarity of workflow and where to track errors to solve them directly

g. Where to apply the principle of flexible management with ease

### 3. Strengthening partnerships:

Digital transformation has contributed to enhancing partnerships by providing digital tools for trade exchange, documentation, memorizing conditions and enabling the follow-up of work and the fulfillment of conditions. Today, official documents can be signed electronically, bank accounts can be established, and payments can be sent and received digitally and directly as a result of the focus of business organizations on the well-being of the customer and the provision of distinguished and quality services. Companies need to hold more strategic and practical partnerships to be able to provide services and products with high quality for the purpose of enhancing the customer experience and improving the return on investment of these partnerships. However, the most important challenges that arise in this field are the process of concluding this type of partnerships at the regional or international level, which has become a necessity for business expansion and growth, even within the sustainable development goals approved by the United Nations. International partnerships have been considered one of the most important items to be worked on, and this goal is translated by facilitating the process of concluding deals and trade exchange at the local, regional and international levels.

### 4. Increased demand for digital services:

The increase in demand for digital services is one of the most important reasons that push towards digital transformation in our world today, which has become directly linked to its technology and applications. The purchasing decisions of consumers are all consumed digitally. The Corona crisis was the largest evidence of the importance of digital transformation for small and emerging enterprises as well, training, learning, buying, and even entertainment. It was completely through digital applications, and the businesses that used to provide these services witnessed an increase in demand and growth during this period.

#### 2.2.3. Benefits and Challenges of Digital Transformation:

Digital transformation also has many benefits and advantages for the countries and companies that apply it. It is not without difficulties and challenges, including: [15]

##### 1. Benefits:

- a. Work pattern to keep up with technological developments
- b. Flexible quick review of data
- c. - Reduce the percentage of errors and enhance the efficiency of operations
- d. - Improving the service and reducing the cost
- e. - Dispensing with the paper style in the procedures
- f. - Increasing customer and employee satisfaction
- g. - Providing opportunities for creativity in companies
- h. - Enhancing the revenues achieved from investments
- i. - Maintaining the competitive advantage in the market

##### 2. The most prominent challenges are:

- a. Lack of functional skills in the labor markets, which leads to stagnation of digital transformation growth
- b. Difficulty changing the mindsets of many employees
- c. Lack of resources in companies and institutions as old devices and systems prevail

#### 2.2.4. Indicators of Digital Transformation:

There are many indicators that have been adopted in many countries to measure the percentage of digital transformation adopted by governments in the payment of salaries and social security benefits through bank transfers, the most prominent of which are the following: [16]

1. Percentage of smart electronic transformation of government services
2. Percentage of use of digital government services
3. The percentage of commitment of government services to the standards of quality of digital services
4. Level of public awareness of government services
5. The percentage of compliance of websites with the quality standards of digital sites
6. The level of integration of digital services and the extent of customer satisfaction with those services.

## C. Analysis of financial technology indicators and their role in promoting digital transformation in Iraq:

The spread of financial technology applications has contributed significantly to the promotion of digital transformation in Iraq through several new forms of financial and banking services that can be conducted via mobile phone or the Internet. Therefore, we will try in

this section to analyze the contribution of financial technology indicators in promoting digital transformation in Iraq during the period (2020-2023) Agencies:

### 3.1. Index of the prevalence of electronic payment services:

Electronic payment services represent an efficient and convenient means of accessing financial and banking facilities, while also contributing to cost reduction. The Central Bank of Iraq has taken on the responsibility of developing these electronic payment systems and enhancing digital financial transactions. This indicator serves to assess the extent of the adoption and usage of electronic payment services across the country. Data in Table 1) reveal a noticeable rise in the growth rate of ATMs relative to Iraq's geographical area – increasing from 3.1% per 100 km<sup>2</sup> in 2020 to 9.2% per 100 km<sup>2</sup> in 2023.

As for POS devices, their penetration rate also increased from (5.1%) per 100km of Iraq area in 2020 to (52.6%) per 100 km of Iraq area in 2023 as a result of automating financial transactions for individuals to reduce the load of cash. As for electronic cash points (POC), it also increased from (31.5%) per 100 km of Iraq area in 2020 to (40.2%) per 100km of Iraq area in 2023 due to the public's tendency to use these points by over drafting their balances and then the settlement takes place after they get. It is expected that these percentages will increase in the future according to the directions of the Central Bank of Iraq in promoting the digital transformation of financial and banking services, as the increasing spread of these devices will contribute to strengthening the financial infrastructure and enhancing the use of digital financial services in Iraq.

**Table (1):** The rate of spread of electronic payment services to the area of Iraq per 1000 km<sup>2</sup>

Year	No.ATM	ATM Growth Rate	No.POS	POS Rate	Growth	No.POC	POC Growth Rate
2020	<b>1340</b>	3.1	<b>7540 (7500)</b>	17.2		<b>13796</b>	31.5
2021	<b>1566</b>	3.6	<b>8329</b>	19.0		<b>14704</b>	33.5
2022	<b>2223</b>	5.1	<b>10718</b>	24.5		<b>17610</b>	40.2
2023	<b>3627</b>	9.2	<b>12095</b>	52.6		<b>20154</b>	40.2

Source: [17].

The ratio of ATMs to Iraq's population has also shown a noticeable increase. According to the data presented in Table 2), the number of ATMs rose from (5.9) per 100,000 adults in 2020 to (12.4) per 100,000 adults in 2023. Likewise, the number of POS devices expanded significantly, reaching (71) per 100,000 adults in 2023, compared to (33.3) per 100,000 adults in 2020. The availability of electronic cash points also improved, increasing from (63.15) per 100,000 adults in 2020 to (73.8) per 100,000 adults in 2023. Although the number of these devices has grown over time, their distribution remains relatively limited in proportion to the population. For this reason, the Central Bank of Iraq continues to encourage banks and commercial institutions to expand the installation of ATMs and POS terminals, particularly in public spaces and remote regions. The Bank also promotes the use of these digital payment channels among individuals and businesses, emphasizing their advantages in terms of convenience, speed, and cost efficiency.

**Table (2):** The rate of spread of electronic payment services to the area of Iraq per 100 thousand adults

Year	ATM Automated Teller Machines	POS	POC Electronic Cash Points
2020	<b>5.9</b>	<b>33.3</b>	<b>62.5</b>
2021	<b>6.7</b>	<b>35.8</b>	<b>64.9</b>
2022	<b>9.3</b>	<b>44.9</b>	<b>75.7</b>
2023	<b>12.4</b>	<b>71</b>	<b>73.8</b>

Source: [17].

### 3.2. Uses of financial services:

#### 3.2.1. Mobile Checkout:

**Table (3):** Percentage of amounts transferred from mobile payment companies

Year	Ratio of amounts transferred from Asia to total transfer amounts	The ratio of the amounts transferred from Zain Cash to the total transfer amounts	Percentage of amounts transferred from NasPay wallet to total transfer amounts

2020	32.6	67.4	-
2021	18.0	78.7	3.2
2022	8.3	84.5	7.3
2023	0.3	98.8%	0.8

Source: [17][18].

This indicator reflects the extent of the adoption and utilization of mobile payment technologies, which include digital payment applications and electronic wallets that enable users to carry out financial transactions and transfer or receive money through their mobile phones. Based on the data presented in Table 3), there has been a noticeable increase in the share of funds transferred via these wallets compared to the total transfers executed by mobile payment companies. Specifically, the amount transferred through Zain Cash rose significantly from 67.4 % in 2020 to 98.8 % in 2023. In contrast, Asia Company's share of remittances declined sharply over the same period, dropping from 32.6 % in 2020 to only 0.3 % in 2023. Regarding Nasipay Wallet, which began operations in 2020, its share of transferred amounts showed fluctuating trends — increasing from 3.2 % in 2021 to 7.3 % in 2022 before falling again to 0.8 % in 2023. These trends suggest that both Asia Company and Nasipay need to enhance their services and expand their digital payment programs to remain competitive within the rapidly evolving mobile payment sector in the coming years.

### 3.2.2. Contribution of electronic payment companies in providing basic financial services to the public

These services encompass the provision of bank accounts for individuals and businesses, the facilitation of financial transfers, the offering of electronic payment solutions, credit cards, loans, and insurance products. According to the data illustrated in Table 4), we note that the contribution of Al-Arab Company increased by the percentage of financial movements provided, whether in the form of outgoing, processing or collection financial services, as it amounted to (70.6) of the total movements of financial service providers in 2023. It was followed by Iraq Gate Company, which contributed 12.1 % , while Ishtar Gate Company recorded a share of 9.8 % for the same period. The lowest contribution rate was for Amwal Company, where it recorded 5.5% for the same year, after it was 3.8% for the previous year 2022 , which indicates the development of these companies' contribution to enhancing the process of digital transformation and financial inclusion in Iraq .

**Table (4):** Percentage of financial movements provided to the public for the four best electronic payment companies to the total movements of financial service providers in Iraq for the period 2022-2023

Year	Percentage of the number of movements of Al-Arab Company	Ishtar Gate Company Transactions Percentage	Percentage of the number of transactions of Iraq Gate Company	Ratio of the number of transactions of Amwal Company
2022	75.2	13.5	6.6	3.8
2023	70.6	9.8	12.1	5.5

Source: [17]

### 3.3. The growth rate of electronic cards, bank accounts and electronic wallets:

Electronic cards, bank accounts, and digital wallets play a vital role in advancing digital financial transformation by offering secure and convenient means for managing money. These tools simplify financial interactions and enhance accessibility to banking services. Electronic cards, in particular, enable users to make payments and withdraw cash easily and safely, whether through ATMs or the Internet, which provides a safe and easy way to deal with and control money. Bank accounts also enable individuals to deposit their money, make transfers and other financial transactions such as receiving salaries and payments, and provide funds and access to them in a safe and effective manner. Electronic wallets offer an additional layer of security and protection for users' funds. They employ advanced encryption and multi-factor authentication technologies to safeguard sensitive financial data and ensure its protection against unauthorized access, breaches, and fraud attempts. We note from the table data 5) that the growth rate of electronic wallets decreased from (203.7) in 2020 to (67.7 %) in 2023. The growth rate of the size of bank accounts decreased from( 101.6 % ) in 2020 to 51.1 % in 2023. As for electronic cards, their growth rate increased from 1.8 % in 2020 to 21.9 % in 2023 , we note that this increase in electronic cards enhances digital transformation and contributes effectively to achieving monetary and financial stability.

**Table (5):** The growth rate of electronic cards, bank accounts and electronic portfolios in Iraq for the period 2020-2023

Year	Growth rate of bank accounts	Growth rate of electronic cards	Growth rate of e-wallets
2020	101.6	1,8	203.7
2021	0.3	26.9	71.8
2022	31.3	0.7	41.0

2023	51.1	21.9	67.7
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Source: [17]

### 3.4. E-Government Index:

The level of digital transformation in the Iraqi economy is measured by several indicators as mentioned earlier, but the most prominent of which is the e-government index, which is an average of the values of six sub-indices, namely (telecommunications infrastructure, Internet services, human capital, e-participation , a local index of online service as well as the open government data index. Through the data of Table (6), which shows the rate of development of these indicators for 2022, we note that the telecommunications infrastructure index scored (0.520), which is a relatively high value index as a result of the improvement of telecommunications infrastructure in Iraq, while the Internet services index It reached (0.206), which is a low indicator compared to the rest of the world , while the rate of development of the human capital index was (0.588), which confirms the importance of the human element in the process of digital transformation, while the e-participation index was (0.215) , while the local index of the online service was (0.162) , and the open government data index was (0.126 ) , that the growth rates of these six indicators indicate the development of the e-government development index in Iraq during this year compared to previous years, according to a survey conducted by the United Nations for 193 countries Iraq achieved a sequence of 162 among those countries for 2022 [19].

**Table (6):** E-Government Development Index in Iraq for 2022

Infrastructure	Growth rate of Internet services	Human Capital	E-participation	Local Online Service Index	OGD data
520	0.206	.588	.215	0.162	0.126

Source: [18].

## Conclusions and Recommendations

### First: Conclusions

1. Digital financial services such as payment and remittance systems are an essential component of financial infrastructure
2. Fintech helps people access financial services safely, easily, and quickly, and it also supports job creation and boosts economic growth.
3. Providing secure payment systems such as mobile payment and electronic bill collection contributes to reducing costs and reducing risks and can create equal development opportunities for financial service providers
4. Financial technology applications contribute to the provision of low-cost electronic banking services available to the customer around the clock, enabling banks and non-bank financial institutions to expand their customer base and achieve profitability in a highly competitive business environment
5. There is an entirely new set of actors that have begun to practice financial activity under electronic payment systems. The transformation provided by digital finance can increase the state of competition and thus the gains generated by the effectiveness of the financial services industry.

### Second: recommendations

1. The Central Bank shall coordinate with non-bank financial institutions to use technology in their financial transactions to promote digital transformation, especially in the areas of automation and electronic collection.
2. Developing the digital and financial infrastructure and means of communication, enhancing the means of owning them easily and at low cost, working to increase the number of ATMs and points of sale, as well as training bank employees to use this advanced technology, and conducting educational seminars for the bank's customers on how to deal with this type of technology and urging them to use modern electronic payment methods.
3. Linking bank branches with the head office for the purpose of facilitating the exchange of information and data that contribute to the expansion of work and its completion with high speed and accuracy, with the need to provide a database that enables individuals and researchers to access and use it for various purposes such as e-government, e-commerce and e-education.
4. Taking into account the needs of the target customers when providing financial services, reducing commissions and expanding options for the bank's customers in a highly competitive environment.

Working to expand the area of electronic payment through electronic cards, especially via mobile phone. Despite the increases during the period (2020-2023), they are still weak.

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