
The Reality of Digital Financial Inclusion in the Arab World

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Abstract:

Specialized research areas in financial inclusion and financial sector development have become key policies for achieving countries' sustainable development goals. In light of the rapid digital transformation witnessed by the economic and financial sectors, a set of initiatives have emerged aimed at increasing access to finance and financial inclusion. The pace of digital financial inclusion has also accelerated through the introduction of affordable, efficient, and secure digital financial services for all. This is what we aim to address in this study. We will attempt to diagnose the reality of digital financial inclusion in the Arab region and highlight successful experiences in its implementation internationally and in the Arab world.

Keywords: Financial inclusion, digital financial inclusion, digital financial services, financial technology.

Jel Classification Codes: G21 , F65 ,O33.

1. Introduction :

Research, studies, and specialized research in financial inclusion and financial sector development have become key policies for achieving sustainable development goals, especially in light of the rapid digital transformation that the economic and financial sectors have witnessed in recent years. A number of initiatives aimed at increasing access to finance and financial inclusion have emerged, and the pace of these initiatives has accelerated to keep pace with modern technological developments. This has led to the emergence of what is known as digital financial inclusion through the introduction of affordable, efficient, and secure digital financial services for all.

Comprehensive digital financial services include electronic money, payment cards, electronic accounts, electronic payments, electronic insurance, and lending, in addition to a range of financial technology applications that aim to reach people who were previously excluded from the development process and reintegrate them into it. These financial technologies can improve the structure of financial services and the conditions under which they are provided in terms of speed, cost, availability, and inclusiveness, reaching marginalized segments of the population who do not have bank accounts and do not formally interact with the financial sector. When provided in a responsible and sustainable manner in a well-regulated environment, the impact of digital financial inclusion goes beyond achieving continuous growth to accelerating progress in achieving many sustainable development goals. Hence, the research question is framed by the following fundamental question: "What is the reality of digital financial inclusion in the Arab world?"

Sub-questions

To answer his problem, we pose a set of questions:

- What is digital financial inclusion?
- What is the reality of digital financial inclusion in Arab countries?
- What is the role of electronic payment systems in enhancing levels of financial inclusion in countries Arabic?

For the imam, with the various elements of study and answers to the various questions raised, the following

hypotheses can be formulated

- Digital financial inclusion can reduce reliance on traditional financial services;
- Technological infrastructure is the most important element for the success of mainstreaming digital financial inclusion in the Arab world.

Importance of the research: The importance of the research lies in its addressing a vital topic that has not received its fair share of studies in academic and research institutions, nor even from decision-makers, as evidenced by the lack of studies and statistics on digital financial inclusion in the Arab world.

Research objective: Through our study, we seek to achieve a number of objectives, the most important of which are:

- Theoretical grounding of the concept of digital financial inclusion, its principles and motivations;
- Presentation of the most notable successful international experiences in the application of digital financial inclusion;
- Presentation of the reality of digital financial inclusion in the Arab world;
- Attempt to highlight the implications of digital financial inclusion on the policies of Arab countries.

Study methodology: In order to study the research problem, analyze its dimensions, and understand the various aspects of the topic, we relied on a descriptive and analytical approach in our study, as it is appropriate for the nature of the topic under study, through the description and analysis of its various axes, which are:

- The first axis: the basics of digital financial inclusion;
- The second axis: the most prominent successful international experiences in the application of digital financial inclusion;
- The third axis: the reality of digital financial inclusion in the Arab world.

previous studies

- Study by **Radif Mustafa and others "Digital transformation as a mechanism to enhance the degree of financial inclusion in Algeria"** (2021), the study aimed to Highlighting the necessary requirements to achieve financial inclusion in the Ministry, given its importance in expanding the circle of beneficiaries of Financial services, with a focus on digital transformation as one of the solutions to enhance the degree of financial inclusion and achieve its goals of achieving universal financial services Digital. The study concluded that activating digital financial transformation mechanisms affects enhancing the dimensions of financial inclusion through quality and access And use, while providing many advantages, the most important of which is reducing the financial cost for providers of financial and non-financial products and services, and providing quick financial services Safe, as well as improving the quality of services provided to customers and citizens.
- Study. **Sufyan Qaloul and Dr. Alwaleed Talha, entitled "The Digital Economy in Arab Countries: Reality and Challenges"** (2020), published by the Arab Monetary Fund. This study, which is based on the results of a questionnaire prepared by the Arab Monetary Fund to monitor digital transformations in Arab countries and completed by the relevant authorities, aims to diagnose the reality of digital transformations in Arab countries by addressing a number of essential topics that would provide an overview of this reality Such as the plans and strategies adopted by Arab countries to enhance the digital transformation process, And the legal and legislative frameworks regulating this transformation. The study also addresses the process of measuring the digital economy And the indicators used in the measurement process. It also addresses the infrastructure supporting the digital transformation process in Arab countries. Finally, the study seeks to identify the difficulties and challenges facing Arab countries in transitioning to a digital economy, in addition to anticipating future visions.

- **Fatih Meroud's study entitled "Enhancing Digital Financial Inclusion as a Mechanism to Ensure Sustainable Financing in Arab Countries in Light of the Covid-19 Pandemic (2022)"** This study aims to highlight the importance of enhancing digital financial inclusion as a mechanism to ensure sustainable financing in Arab countries in light of the spread of the Covid-19 pandemic. By shedding light on the reality of digital financial inclusion in Arab countries, in addition to the role of electronic payment systems in increasing levels of financial inclusion there, and finally reviewing the efforts of some Arab countries in the field of enhancing financial inclusion Digital to ensure sustainable financing amid the COVID-19 pandemic.

The study concluded with several results, the most important of which is the increasing interest in digital financial inclusion in Arab countries in light of the spread of the Covid-19 pandemic to ensure safe and sustainable access for all segments of the population to financial services by taking advantage of the opportunities provided by modern technologies to increase financial inclusion through expanding the provision of banking and financial services via Electronic network.

Our study aimed to analyze the reality of financial inclusion in Arab countries, through indicators indicating its achievement and the efforts of central banks to enhance it, highlighting the experiences of some Arab countries that have undertaken it and encouraged its adoption, in addition to clarifying the most important efforts and steps taken to achieve its spread and expansion. Among the most important findings is that Arab countries have made efforts to strengthen strategies and programs for achieving financial inclusion, seeking to facilitate access to financial services for 63% of the adult population, particularly women, youth, and micro, small, and medium enterprises. However, despite these efforts, Arab countries have not yet kept pace with the level of financial inclusion witnessed by other countries in the world.

2. Fundamentals of digital financial inclusion

The significant development of modern electronic communication tools within the framework of the Fourth Industrial Revolution, such as artificial intelligence, big data, computing, and cloud computing, has enabled financial institutions to expand the reach of their financial services to financially excluded groups, whether individuals or micro, small, and medium-sized enterprises. This has helped reduce the cost of providing financial services and improve their efficiency, which has become known as digital financial inclusion.

2.1. The concept of digital financial inclusion

The term financial inclusion, which is the opposite of financial exclusion, is used to define the extent to which the population can access and enjoy financial services. Financial exclusion refers to the process by which individuals and communities face difficulties and barriers in accessing and using basic financial products and services in a manner that suits their needs. Accordingly, many definitions of financial inclusion have emerged, and the most appropriate definition is that provided by the OECD and the International Network on Financial Education (INFE), which defines financial inclusion as: the process of promoting access to a wide range of formal

and regulated financial services and products at reasonable times and prices and in an adequate manner, and expanding the use of these services and products by different segments of society through the application of innovative approaches that include awareness and education, with the aim of promoting financial well-being and economic and social integration (Countries, 2015, p. 32)

The Financial Inclusion Center in Washington defines it as: "A state in which all individuals have access to a full range of quality financial services at reasonable prices and in a manner that preserves the dignity of customers (Mahajbia, 2015, p. 20)

The term digital financial inclusion refers to the ability of the financially excluded population to digitally access and use formal financial services that are appropriate to their needs and are provided in a responsible and sustainable manner at an acceptable cost within an appropriate regulatory and legal framework. These digital financial services must also comply with applicable regulatory requirements, including anti-money laundering, cybersecurity, and privacy protection

Digital financial inclusion can reduce dependence on traditional financing methods and financial services. It also covers a wider geographical area, helping to deliver financial services faster, more efficiently, and at lower costs, thereby increasing access to finance by covering the financial needs of the unbanked.

On the other hand, digital financial inclusion helps governments ensure that social security payments reach beneficiaries, which is particularly important in exceptional circumstances such as those experienced by the world due to the COVID-19 pandemic.

Digital financial inclusion is defined as: the use and promotion of digital financial services to enhance financial inclusion. Key components of digital financial inclusion include digital transaction platforms and devices that customers use to connect electronically to these platforms to conduct their financial transactions, as well as retail agents who provide a wide range of financial products and services (Mahajbia, The reality of financial inclusion in the Maghreb., 2018)

Digital financial services should also be defined as: "A wide range of financial services such as payments, credit, savings, transfers, and insurance that are conducted through digital channels, primarily the internet, smartphones, ATMs, point-of-sale terminals, chips, and electronically enabled cards... etc. Digital financial service models typically use other agents and intermediary networks (third parties) to improve accessibility and reduce the overall cost of services.

The opportunities offered by digital financial services for achieving sustainable development goals are summarized in the following table .

Table N°1: Opportunities for digital financial services

Development Goal	Opportunities Provided by Digital Financial Services
No Poverty	Achieved through providing digital financial services to low-income households, ensuring access to affordable tools and services that help increase their economic opportunities.
Zero Hunger	Digital financial services greatly assist farmers, particularly by facilitating access to the funds needed to increase production and crop yields at lower costs — directly contributing to higher overall agricultural productivity.
Good Health	Digital payments and financing help expand healthcare services in rural areas. Digital savings and insurance, for example, enable individuals to cope with unexpected healthcare expenses.
Quality Education	Digital finance helps low-income families better manage education and school expenses, and supports national education systems in improving financial management — allowing resources to be allocated to teacher support, educational materials, and technologies that enhance learning outcomes.
Gender Equality	Digital financial services empower women to earn more, build resources and assets, and strengthen their financial capacity — a key factor in achieving gender equality and driving economic growth. They also allow women to control their financial resources, including secure access to their bank accounts.

Source: Prepared by the researchers based on the report of the Economic and Social Commission for Western Asia (ESCWA), Beirut 2019, p. 48.

2.2. Principles of digital financial inclusion

The eight principles of digital financial inclusion are divided into four main groups, which are outlined in the following points (Sufyan., 2020, p. 11)

- Ensuring a flexible and responsible digital financial infrastructure

Principle 1: Support the development of a secure and responsible digital infrastructure that is widely accessible and ensures the competitiveness of financial institutions.

Principle 2: Encourage the provision of digital financial products that are appropriate to needs and affordable, while ensuring that these services are provided in line with international requirements for combating money laundering, customer due diligence procedures, and digital identity systems.

- Promoting responsible and inclusive policymaking

Principle 3: Improve the availability and accuracy of data on access to and use of digital financial products and services.

Principle 4: Support the adoption of policies and initiatives that aim to increase levels of digital financial inclusion in promoting national strategies.

- Promoting inclusive growth through an enabling regulatory framework for digital financial services

Principle 5: Support regulatory and legal reforms that reduce inequality in access to digital financial services, which results in social and economic inequality.

Principle 6: Consider developing a regulatory framework that supports digital innovation in the public and private sectors.

- Promoting digital and financial literacy, building capacity, supporting users, and protecting data against potential risks

Principle 7: Promote digital financial and commercial literacy and build capacity through interventions that support digital financial inclusion by leveraging the spread of technology.

Principle 8: Support customer financial protection measures, including data protection, that meet the needs of young people, women, and small and medium-sized enterprises.

2.3. Pillars of digital financial inclusion

The framework for achieving digital financial inclusion and digital financial transformation emphasizes the importance of following a set of pillars that require supporting infrastructure and providing a regulatory and policy environment for the development of an advanced digital financial system that helps economies maximize the benefits of financial technology in financial inclusion. These pillars are (Asia, 2019, p. 74)

- pillar is to build a digital identity system and an electronic “know your customer” system and facilitate the opening of financial accounts for all institutions, companies, partners, customers, and individuals, providing a solid foundation not only for financial inclusion but also for promoting the digital economy more broadly. Experience shows that digital identity is essential for digital financial inclusion, and this is a particular challenge in developing countries, as noted in the 2017 Global Digital Financial Inclusion Index database. The main reason why a large number of adults do not have financial accounts is mainly due to the lack of necessary documentation. This points to the importance of digital identity, which has had such a significant and transformative impact that it has become fundamental to all digital financial inclusion strategies.

- the availability of the necessary infrastructure for electronic payments and the development of open electronic payment systems, as well as the development of a regulatory and political environment that facilitates the digital flow of funds in the local economy between all intermediaries in the traditional financial sector and opens up new markets. Inefficient systems for transferring funds and making payments, and the inability to access these systems, are major obstacles to financial inclusion and economic growth. In many developing countries, inefficient traditional payment systems are a major barrier to economic activity. Payment systems are therefore the infrastructure for the flow of money through any economy. Efforts in this area have been fruitful, and mobile financial services, including those provided by telecommunications companies, have proven to be a key part of the solution for achieving digital financial inclusion.

- relies on promoting initiatives to open and access accounts, in addition to developing and providing government services electronically, especially those related to transfers and public payments, in order to increase the use of digital finance and related services. There is no doubt that the first and second pillars are the basis for

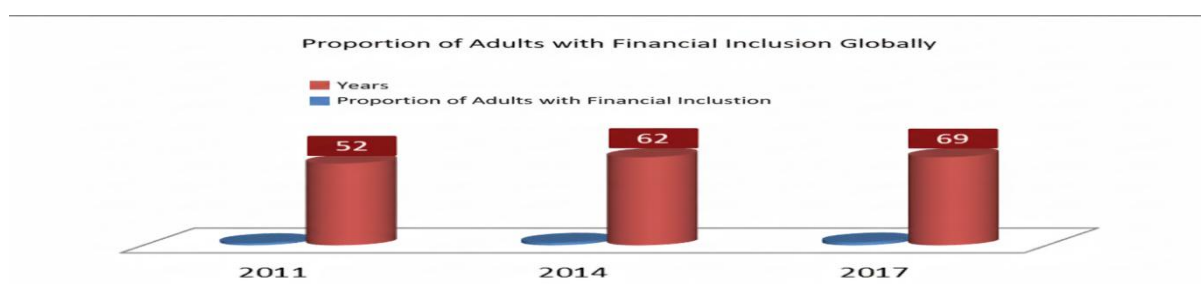
accessing financial services and financial and digital systems, especially since digital identification and facilitating account opening are fundamental to financial inclusion.

Expanding the quality and scope of services by designing financial market infrastructure and systems. This pillar builds on the previous three pillars to achieve faster access to finance and investment and support use cases including securities trading, clearing, settlement, and other more advanced financial functions. This pillar involves designing appropriate infrastructure for the digital financial market and policy and regulatory frameworks that support a wide range of value-added financial services and products, thereby supporting financial access, usage, and stability.

3. The Reality of Digital Financial Inclusion Around the World

There are approximately 1.7 billion adults worldwide who do not have bank accounts, of whom 1.1 billion have mobile phones. This represents a particular opportunity for developing countries to leverage the expansion of mobile phone use to access financial services, enabling previously financially excluded individuals to save, conduct banking transactions, and manage their informal cash flows. This acts as a buffer against economic shocks and helps them plan for the future. Numerous studies point to a positive relationship between digital financial inclusion and economic performance. For example, digital financial inclusion could help boost global GDP by 6% and generate total gains of \$3.7 trillion by 2025, providing financial services to approximately 1.7 billion people worldwide. Other studies also point to a strong correlation between the number of mobile phone users and improved per capita income, with each 1% increase in the proportion of the population using mobile phones for transactions leading to a 0.3% improvement in per capita income. The following figure shows the evolution of the proportion of financially included adults worldwide of the total adult population

Fig N° 1: Evolution of the percentage of financially included adults worldwide out of the total adult population during (2011-2014-2017)

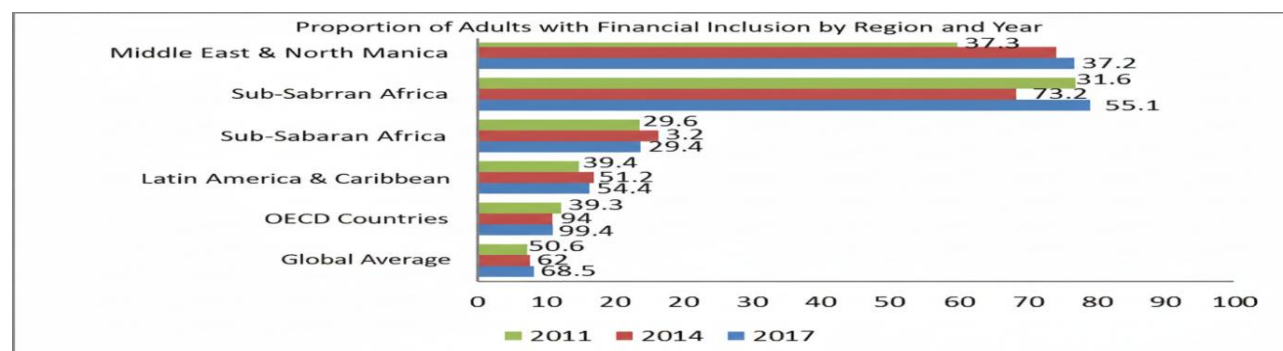


Source: World Bank report available at: <https://ufa.worldbank.org>

At the geographical level, Africa and Asia are playing a leading role in digital financial inclusion, taking into account economic, demographic, and geographical changes. In Africa, for example, Ghana, Kenya, and Uganda are leading the push for digital financial inclusion on the continent. Meanwhile, the use of digital financial inclusion in the Middle East, North Africa, and Latin America remains limited compared to other continents, as is

the case in Chile, which provides traditional financial services through commercial banks only. The following figure shows a regional comparison of the percentage of adults with financial accounts:

Fig N° 2:: Regional comparison of the percentage of adults with financial accounts



Source: prepared by the researchers, based on Al-Walid Talha, Sabri Al-Farran, Digital Financial Inclusion, Arab Monetary Fund, Issue 17, December 2020.

3.1. Notable successful international experiences in implementing digital financial inclusion

There are many examples of successful experiences in a number of developing countries that have recently achieved a significant increase in digital inclusion levels, especially as a number of them have realized the importance of financial inclusion in supporting sustainable growth and development. The following is a presentation of the most important successful international experiences in the application of digital financial inclusion: (Sabri, 2020, p. 14) (International Telecommunication Union)

- The Indian experience: According to many international institutions, this is one of the most successful experiences in terms of increasing levels of digital financial inclusion. During the period 2011-2018, the Indian government made progress in promoting access to banking and financial services for the majority of citizens, relying on the efforts of the government, investors, and financial service providers. In this context, India has been able to achieve near-total financial inclusion in the future, based on the widespread use of mobile phones and the development of financial technologies and electronic payment systems, with financial inclusion rising from only 35% of adults in 2018 to over 80% in 2019. (Meroud's, 2022, p. 87)

It should be noted that the success of the Indian experience is largely attributed to the government's decision in 2009 to adopt the national biometric identity system known as AADHAAR, which is the largest national identity project in the world, using biometric fingerprints to provide secure and unique proof of identity. A total of 1.2 billion citizens (99% of India's population), representing about 15% of the world's population. This system was adopted primarily to support financial inclusion and increase the number of bank accounts, which rose by about 240 million in the few months after the system was launched.

In addition to the above, many African countries have succeeded in increasing financial inclusion levels by taking advantage of the widespread use of mobile phones and modern financial technologies, especially with regard to cross-border payment and transfer systems. Kenya's experience is one of the leading and successful experiences

in this regard, with the number of people using formal financial services doubling from 27% to 75% in 2015. Digital financial services have also led to an increase in household savings, and digital financial inclusion has contributed to lifting 2% of households in Kenya above the poverty line. The volume of digital loans also increased from around 5.9% in 2019.

- **Pakistan:** Pakistan's digital financial inclusion strategy focused on using digital payments to promote financial inclusion through full access to formal bank accounts. Digital financial services are not limited to traditional savings and current accounts, but also include digital transaction accounts.

- **Tanzania:** The financial inclusion strategy focused on the need for a robust financial system, a digital payments platform, and a solid infrastructure for electronic information for individuals and companies. As part of the financial inclusion plan launched at the end of 2015, China adopted an action program to improve the availability and quality of financial products and services, with a clear focus on digital transformation.

- **Mexico:** The national financial inclusion policy aims to harness spending to increase the inclusion of low-income individuals through a regulatory framework that allows for innovation and promotes the safety and stability of the financial system. In this regard, the policy sets out a series of measures aimed at using technological innovations to promote digital financial inclusion, promoting mechanisms that reduce the use of cash and increase the use of digital financial products and services, and strengthening the interconnection between them.

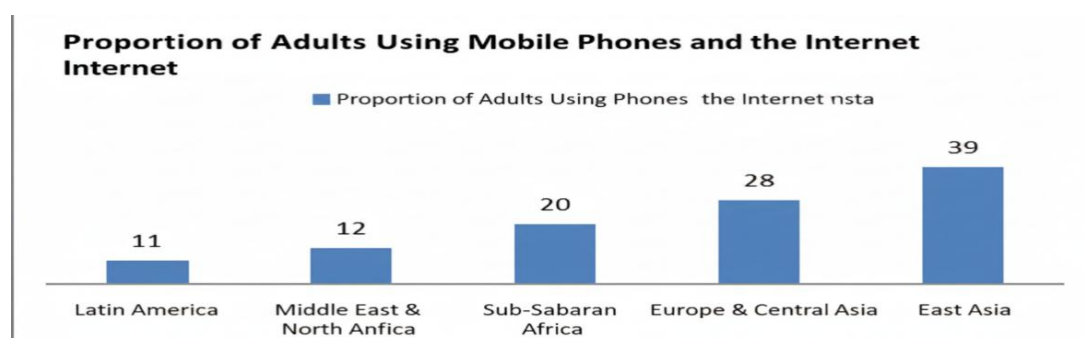
3.2. The reality of digital financial inclusion in the Arab region

Arab countries rely on digital financial inclusion to facilitate access to financial services for 63% of the adult population, especially women and micro, small, and medium-sized enterprises. Financially included women account for 26% of the total adult female population, while financially included youth account for 22%. Only about 9% of micro, small, and medium-sized enterprises have access to bank credit facilities. The volume of remittances from workers in the Arab region, which reached about \$60 billion in 2019, provides a great opportunity to leverage these transfers to enhance digital access to formal financial services.

Arab governments are focusing on leveraging the opportunities offered by modern technologies to increase financial inclusion, particularly through the expansion of online and mobile banking and financial services, in light of the growing global importance of modern financial technologies and their role in supporting financial services and increasing financial inclusion.

Figure 3 shows the percentage of adult population using the internet and mobile phones for financial access out of the total adult population. Four Arab countries achieved high rates of internet use in financial and banking transactions: the United Arab Emirates (46.6%), and Bahrain 29.0%, followed by Saudi Arabia 25.7%, while the percentage of users in other Arab countries ranged from 1.5% in Morocco to 7.9% in Libya.

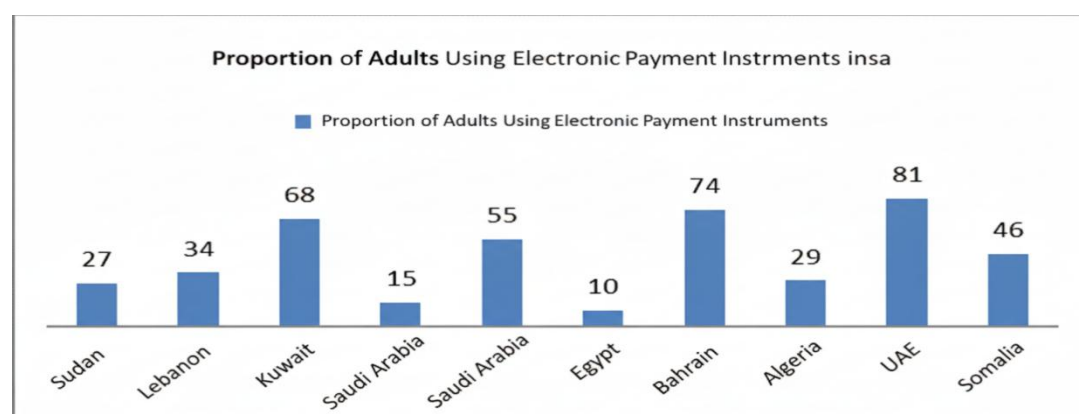
Fig N° 3: Percentage of adult population using the internet and mobile phones for financial access out of the total adult population



Source: Prepared by the researchers based on Al-Walid Talha, Sabri Al-Farran, Digital Financial Inclusion, Arab Monetary Fund, Issue 17, 2020, p14

Digital financial inclusion in the Arab region is also linked to the expansion of electronic payment systems and their various trends, such as the use of digital wallets, electronic payments in e-commerce, and the creation of new solutions to support electronic payments and achieve financial inclusion.

Fig N° 4: Percentage of adults who use electronic payment tools in their daily transactions (%)



Source: Prepared by the researchers based on Al-Walid Talha, Sabri Al-Farran, Digital Financial Inclusion, Arab Monetary Fund, Issue 17, December 2020

3.3. Notable successful Arab experiences in digital financial inclusion

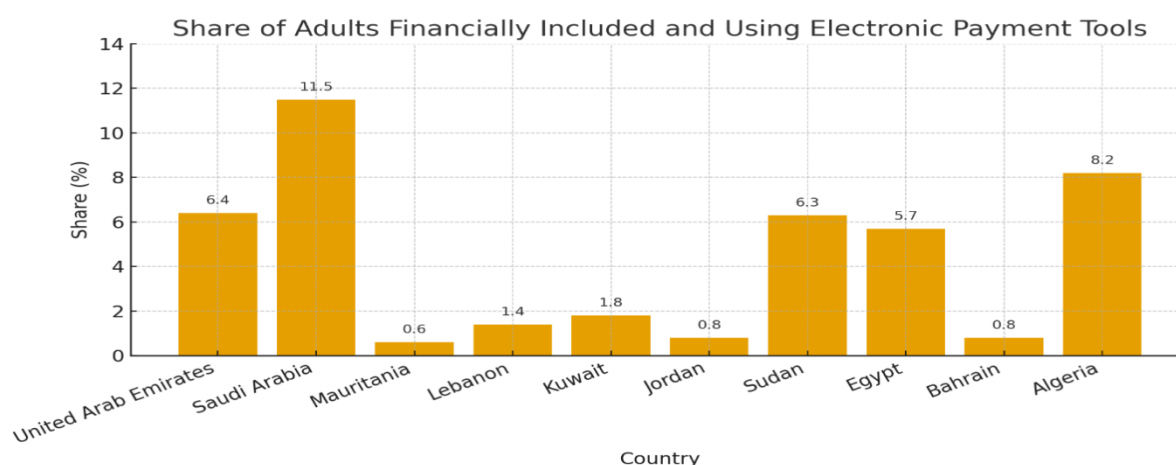
In addition to national strategic plans, Arab countries adopt sectoral and institutional plans that include visions specific to certain economic sectors or entities operating in the country at the central bank level. The priorities of digital transformation are to keep pace with developments in the field of modern financial technologies. Most Arab countries are keen to support digital financial inclusion in the context of their digital transformation strategies. The following is a presentation of the most important and prominent Arab experiences in achieving digital financial inclusion (Sabri, 2020), (The Bank) (Monitoring, tracking, and analyzing the economic developments and repercussions of the pandemic and monitoring the interventions of member states)

- **Morocco:** "Morocco Digital Strategy 2020," in which the telecommunications sector in Morocco underwent a number of reforms related to opening the door to competition for the private sector, in addition to some

legislative amendments in line with global digital changes, taking advantage of the Morocco Digital Strategy 2020, which aims to make Morocco a regional center for information and communication technology, thereby helping to increase levels of digital financial inclusion.

- **Somalia:** Mobile-based financial services began in February 2010 with the development of a mobile payment platform. According to a 2018 report by the Central Bank of Somalia, the number of mobile money transactions reached approximately 155 million, with an average value of approximately US\$2.7 billion per month. These transfers are mainly available in US dollars, and 73% of the population over the age of 16 use mobile financial services, with a penetration rate of 83% in urban areas and 72% in rural areas.
- **Jordan:** Jordan received a grant to finance a project to automate payments to beneficiaries of the military consumer institution, including active and retired employees, numbering (300-500) thousand beneficiaries through e-wallets, and to provide all branches of the Military Consumer Corporation with modern point-of-sale devices that enable them to pay via e-wallets using QR technology and enable the Corporation to deposit financial incentives and offer discounts through these wallets.
- **Sudan:** The Sudanese authorities are making commendable efforts to promote digital financial inclusion by expanding electronic payment services through points of sale and ATM cards. The Central Bank has set specific controls for commercial banks to acquire and launch points of sale, which are expected to increase from the current 70,000 to 100,000. A number of mobile payment applications will also be launched by 2021.
- **Algeria:** The Algerian public authorities are making considerable efforts to promote digital financial inclusion. They have adopted the necessary measures to encourage electronic payments via the Algerian Post Office's cash platform. A report issued by the Ministry of Post and Telecommunications, based on estimates by the Automatic Cash Collection Authority, recorded a significant increase in electronic payment indicators via the Algerian Post Office's cash platforms during the period from January to the end of April 2020. The report, based on statistics from the Automatic Cash Collection Authority, which is responsible for supervising and managing automatic payment operations, In 2020, online payment activity was largely dominated by the telecommunications sector, accounting for 92% of the total transactions recorded during that year. Other sectors, such as billing, insurance and transportation, together accounted for only 5.6%. This distribution has witnessed a gradual change over the past four years, as the percentage of "telecommunications" activity declined from 89% in 2021 to 45% in 2025, in favor of other activities such as administrative services and service providers, which began to gain a significant percentage of total activity. It is also worth noting that the average transaction amount increased from 1,180,000 Algerian dinars in 2020 to approximately 5,400,000 Algerian dinars in 2025.
- These factors reflect the qualitative development witnessed by online payment activity, indicating an increasing level of adoption and confidence in this type of electronic payment method.

Fig N° 5: Percentage of financially included adults who use electronic payment instruments in their daily transactions (%)



Source: Prepared by the researchers based on Al-Walid Talha, Sabri Al-Farran, Digital Financial Inclusion, Arab Monetary Fund, Issue 17, December 2020

There are currently 76 web merchants in Algeria participating in the interbank electronic payment system, resulting in approximately 5,727,556 transactions distributed as shown in the following table:

Table N°2: Number of transactions via interbank electronic payment

Year	Phone/Telecom	Transport	Insurance	Electricity/Water	Administrative Service	Services	Sale of Goods	Total Number of Transactions
2023	141,552	6,292	8,342	38,806	2,432	5,056	0	202,480
2024	4,210,284	11,350	4,845	85,676	68,395	213,175	235	4,593,960
2025	576,474	2,965	696	6,285	28,239	24,231	34	638,924

Source: Interbank Electronic Banking Group (GIE Monétique), "Internet payment activity," available at:

<https://giemonetique.dz/ar/qui-sommes-nous/activite-paiement-sur-internet/>

Table N°3: Annual ATM Cash Withdrawal Activity

Year	Total Number of Active Interbank ATMs	Total Number of Cash Withdrawal Transactions
2023	1,621	174,415,895
2024	3,030	197,323,075
July 2025	3,030	18,571,241

Source: Interbank Electronic Banking Group (GIE Monétique), "ATM withdrawal activity," available at:

<https://giemonetique.dz/ar/qui-sommes-nous/activite-paiement-sur-internet/>

- **Saudi Arabia:** The state has recently sought to facilitate the entry of innovative firms—such as FinTech companies—into the retail e-payment space, expanding cost-effective delivery channels. This has increased the availability, quality, and affordability of financial services and helped strengthen levels of **digital financial inclusion**.

- **Mauritania:** FinTech companies in Mauritania work to raise the efficiency of financial transactions by improving processes and bringing them closer to users. They also strongly support levels of financial inclusion and contribute effectively to **digital transformation** in financial services.

3.4. Initiatives to Enhance Digital Financial Inclusion in the Arab World

Below are key initiatives undertaken by Arab countries to strengthen digital financial inclusion:

- **United Arab Emirates:** The UAE government offers a novel initiative to promote digital financial inclusion (Asia, 2019, pp. 56-57)

- **e-Dirham:** The e-Dirham system uses cutting-edge technologies and provides a high, international level of security and efficiency in e-payments with wide, optimal coverage—making it an integrated system in the UAE. The new system provides citizens with convenience in completing transactions and facilitates the collection of fees for government and non-government services through an integrated payment system for prepaid and credit cards, points of sale, online collection, mobile payment, electronic kiosks, and a virtual e-wallet.

- **UAE Digital Wallet:** Created as a cash-replacement solution, the UAE Digital Wallet enables payments and money transfers via smartphones and other mobile devices, supporting the UAE Smart Government initiative. The wallet brings together **16 banks** in the UAE and **does not require a bank account**, offering an ideal solution for residents while supporting the Central Bank's goal of reducing and ultimately eliminating cash circulation and lowering financial risks and fraud.

- **Kingdom of Saudi Arabia: SAMA Digital Payments** The Saudi Arabian Monetary Authority (SAMA) launched the SAMA digital payments service on **26 August 2018**, allowing payment and purchases via smartphones through a digital wallet. This step supports the development and digital enablement of the e-commerce sector in the Kingdom, in cooperation between SAMA and the **Ministry of Communications and Information Technology**.

- **Egypt: "Meeza" Card:** On **10 January 2019**, **Bank Misr** issued the local **"Meeza"** e-payment card as the first smart payments card. It is a prepaid card issued for different customer segments, relying on the robust infrastructure of **e-Finance** and modern global systems that provide a secure environment for card issuance according to international standards. This represents one of the most important achievements in digital financial inclusion, as the "Meeza" card can be obtained through the bank's nationwide branch network.

- **Bahrain: "BenefitPay" Program:** The national **BenefitPay** e-wallet for mobile phones is a program facilitating payments in Bahrain by enabling customers and merchants alike to conduct transactions without carrying cash or cards. Once the app is downloaded on a smartphone, funds can be sent or received securely and quickly. The app uses **QR code** technology; setup is performed once when creating the account and registering the ATM card, after which card data are stored securely.

Accordingly, the fundamental reason behind Gulf countries' leadership in this field lies in their use of technology in financial operations, government policies favoring digital solutions, expansion of mobile and internet payments, and activation of many financial and e-services.

4. The Role of Electronic Payment Systems in Raising Levels of Digital Financial Inclusion in the Arab World

There are many indicators that can be used to measure how successfully FinTech firms in e-payments increase access to financial services for individuals and businesses, in addition to their role in boosting digital transformation in financial services (i.e., **increasing the share of electronic payments in total payments**). This section is divided into two parts: the first defines electronic payment systems and their types, while the second examines the role of these systems in raising financial inclusion levels in selected Arab countries.

4.1. The Concept of Electronic Payment Systems

Payments used to be carried out using traditional, tangible means such as cash and paper checks. As a result of technological developments, modern means of payment and settlement emerged—commonly referred to as **electronic payment systems**. These systems evolved from traditional payment systems. The idea is not as recent as electronic money; they have been used since **the 1960s**. An electronic payment system refers to any service conducted over networks (such as the internet) that involves an exchange of money for goods or services. Participation requires that both buyer and seller hold accounts at banks connected to a clearing network and that both are online. This is done by registering with a **payment service provider** that sets up an electronic payment gateway accessible via the network—this gateway mediating between the infrastructures of traditional and electronic payment (Al-Sayed, Hala Publishing, 2001, p. 84)

They are systems that allow transfers or financial settlements through electronic media—whether between companies or individuals—via the **banking system** (banks), which moves and transfers funds and all types of payments either by checks or by other electronic methods (Shahat Al-Bahiti, 2008, p. 65)

4.2. Types of electronic payment systems

In this section, we will discuss the electronic funds transfer system, the electronic clearing system, the Society for Worldwide Interbank Financial Telecommunication (SWIFT) system, and the Real-Time Gross Settlement (RTGS) system. RTGS is a system used by central banks that allows for the near-instantaneous settlement of high-value transactions. It is mainly used for same-day payments and securities settlement. This system fulfills two main roles: first, banks quickly deposit funds with the central bank for balance sheet management purposes; second, during the day, banks use their balances for payments and receipts to and from other banks.

- **Electronic Funds Transfer (EFT) System:** The Electronic Funds Transfer (EFT) system is a critical part of the infrastructure for online banking. This system enables the secure electronic transfer of funds or payments from

one bank account to another, in addition to transferring information related to these transfers. In other words, the transfer process is carried out electronically via telephones, computers, and modems instead of using paper. Financial transfers are carried out through the Automated Clearing House (ACH), which is a network owned and operated by banks participating in the electronic funds transfer system (Al-Juhani, 2006 ,p 58) .

- **Electronic clearing system:** The electronic clearing system is a system that allows checks to be cleared between banks through the central bank using electronic images of the checks, without the actual exchange of checks between banks. The system works by scanning the paper check as soon as it is received by the receiving bank employee, and sending the electronic image of the check to the central bank and from there to the paying bank for technical and financial approval of the check's payment. This process is carried out via high-speed communication lines, and the electronic response of approval or rejection of payment is sent from the paying bank to the central bank and from there to the other bank, either approving or rejecting the check. As for the time it takes to collect checks through this system, it is immediate, starting from a few minutes and extending to a maximum of one or two hours (Al-Juhani, Electronic Money. Alexandria, 2006).

4.3. The Society for Worldwide Interbank Financial Telecommunication (SWIFT) system

The services provided by SWIFT are secure and reliable, as the association has a regional processor in each host country through which messages for that country are routed. Every user in that country is required to install a computer-based terminal located in their own building. This terminal is the means of communication with SWIFT via telephone, and all computers connected to this network have a processor or backup operator that provides adequate insurance against computer failure. The service for this system has been expanded to include non-financial institutions such as currency traders, brokers, depository institutions, and credit service companies (SOVIT Association).

4.4. Real-time gross settlement (RTGS) system

The Real-Time Gross Settlement (RTGS) system is the only clear example of real-time gross settlement, which settles payments immediately and definitively as soon as the payment order arrives, provided that sufficient funds are available in the sending bank's account

Telegraphic transfer system: This system allows for the settlement of payments and remittances during the day in an immediate manner between companies and consumers, as it is a system for quickly and reliably transferring funds. However, it does not contain any information or explanations, as it only contains the destination of the payment and is used for large remittances.

- **Multilateral settlement system:** In this system, settlement does not occur immediately when payment orders are sent to the system, but under standard conditions, when the system receives payment orders, it immediately selects the recipient if the payment order complies with the criteria set by the system.

- **Interbank payment clearing system:** This is a major payment system in the United States of America and is the largest payment system for processing large-value payments. This system is an instant electronic transfer

system used for large-value transfers that are paid once or several times but do not contain payment information and explanations.

- Electronic payment systems and their role in increasing levels of digital financial inclusion in Arab countries

Financial technology companies in the field of electronic payments in Jordan have contributed to supporting levels of financial inclusion by granting special approvals to exchange companies to act as agents for mobile payment service providers and agents for electronic bill presentation and collection providers. Digital financial inclusion levels have also improved significantly in Bahrain as part of the Central Bank of Bahrain's ongoing initiatives towards financial digital transformation and developments in digital financial services, working with financial technology companies in the field of electronic payments, with the number of bank accounts reaching approximately 1.9 million in a country with a population of 1.5 million. Indicators of the success of financial technologies in the field of electronic payments in Algeria include the increase in the number of bank cards and online payment mechanisms, in addition to the number of ATMs and electronic payment terminals. The following table shows payment activity via electronic payment terminals and ATMs (<https://giemonetique.dz/ar/qui-sommes-nous/activite-paiement-sur-internet/>).

Table 04: Payment Activity via POS Terminals and ATMs

Year	Total Number of Active POS Terminals	Total Number of Payment Transactions
2023	23,762	3,997,165
2024	33,945	5,579,708
July 2025	34,816	857,990

Source: Interbank Electronic Banking Group (GIE Monétique), "Internet payment activity," available at:

<https://giemonetique.dz/ar/qui-sommes-nous/activite-paiement-sur-internet/>

In **Saudi Arabia**, the government has recently sought to facilitate the entry of innovative institutions such as financial technology companies in the field of electronic payments to expand affordable delivery channels, thereby increasing the quality and affordability of financial services and contributing to the promotion of digital financial inclusion. Studies show that electronic payment companies in Lebanon have contributed to reducing the cost of financial transactions compared to traditional payments and have also helped to save a lot of time. In this context, World Bank figures show that about 47% of Lebanese have an individual or joint account with a financial institution, due to the spread of Lebanese banks throughout the country with a network of 1,063 branches in Lebanon and websites that provide banking services via the Internet.

Financial technologies in Morocco are expected to contribute to supporting levels of digital financial inclusion due to their ease of use and simplicity. The spread of such technologies is also expected to contribute to an increase in the proportion of Moroccan consumers resorting to electronic transactions in the field of financial services.

5. The impact of digital financial inclusion on Arab countries' policies

The above highlights the significant role that digital financial inclusion is expected to play in the Arab world in supporting universal access to opportunities and enabling governments to move towards inclusive growth and achieve sustainable development goals. In this context, Arab countries are making continuous efforts to take advantage of the opportunities offered by the digital transformation in the field of financial services. In this regard, there are some policy implications that need to be focused on to ensure greater levels of responsible and sustainable digital financial inclusion, as follows:

5.1. Supporting digital and financial infrastructure: This requires further efforts to develop the entire digital and financial infrastructure in Arab countries by continuing to upgrade and develop communications networks and upgrading national payment systems by shifting to real-time settlement systems, thereby helping to complete financial transactions faster and at lower cost. In this context, regulatory authorities should focus on ensuring the interoperability of digital financial systems in order to guarantee broader levels of digital financial inclusion.

5.2. Integrating digital financial inclusion into national strategies and visions: Arab countries share a common desire among policymakers to support levels of digital financial inclusion, with the aim of including excluded and underserved populations. This requires working to integrate digital financial inclusion initiatives into the strategic visions and future plans of Arab countries. These initiatives must be based on a thorough analysis of the demand for financial services from all segments of society, followed by an inventory of excluded and underserved groups and an identification of the nature of the challenges they face.

5.3. Adopting a regulatory and supervisory framework that supports digital financial inclusion: This requires a focus in the coming phase on adopting regulatory and supervisory frameworks that stimulate digital financial inclusion, with the aim of ensuring the efficient regulation of digital financial service providers and ensuring that these financial institutions and their services comply with international standards.

5.4. Balancing innovation and risk to achieve digital financial inclusion: Since digital financial services are largely based on financial innovation and hedging against the risks that may result from these digital financial services, it is necessary for these services to comply with international requirements for combating money laundering and protecting customer data confidentiality, with a focus on developing responsible digital financial practices to protect consumers.

5.5. Creating an encouraging environment for digital financial service providers: Achieving a qualitative shift in financial inclusion requires ensuring a favorable and encouraging environment for digital financial service providers, which can be achieved through a number of mechanisms, including the tangible role of

regulatory sandboxes adopted by many supervisory authorities in Arab countries to encourage and support modern financial technology companies.

5.6. Focus on increasing levels of financial literacy: Low levels of financial literacy are one of the most significant challenges facing many Arab countries in terms of achieving responsible and sustainable financial inclusion. In this context, the use of digital financial services requires efforts by supervisory authorities to promote financial awareness and literacy in general, and financial literacy in particular, among all segments of society. This requires the formulation of programs to support financial education in coordination with all relevant parties, targeting the aforementioned parties through a number of visual and audio communication channels.

5.7. Monitoring progress in digital financial inclusion: Achieving further progress in digital financial inclusion requires accurate statistics on what has been achieved to meet the population's needs for digital financial services. Among the gaps that remain in terms of demand for financial services and their development over time, which contributes to monitoring challenges and identifying progress in this context, this requires more attention from the relevant authorities, primarily central banks and national statistics offices, to statistics on digital financial inclusion in general and digital inclusion in particular, with the aim of supporting policymakers in this area with accurate statistics, whether at the national level or by type or age group, covering all geographical areas.

6. Conclusion :

This study analyzed the reality of digital financial inclusion in the Arab world. Despite the significant progress made in digital financial transformation, particularly in the fintech environment in the Arab region, with the support of governments aiming to improve financial solutions and enhance their accessibility at affordable prices, the region still suffers from several problems in the field of digital financial inclusion.

- Digital financial inclusion can reduce dependence on financing methods and financial services Traditional, broader, and helps provide financial services faster and more Efficiently and at low cost, thus increasing access to financial services for groups not covered by Mali , This confirms the validity of the first hypothesis, because the mechanism of digital financial inclusion works in financial institutions launching platforms for transactions Digital, through which a wide range of financial services are provided in a modern electronic manner.

- The principles of successful digital financial inclusion are achieved in: ensuring a strong, flexible and responsible digital infrastructure, and promoting ,Making responsible and comprehensive policies, promoting inclusive growth through a feasible regulatory framework for financial services, enhancing digital and financial literacy, building capacity, supporting clients, and protecting data against risks.

This confirms the validity of the second hypothesis because the dimensions of good digital infrastructure, represented by electronic devices and networks, especially the Internet and databases, are an important necessity for the success of achieving digital financial inclusion, and their weakness is among the challenges.

The following are some recommendations that policymakers in Arab countries can consider to promote digital financial inclusion:

- Develop a clear vision and strategic direction and achieve policy coherence to ensure progress in this area and keep pace with global developments.
- Build on the digital financial transformation framework developed by the Alliance for Financial Inclusion to adopt a similar framework tailored to the needs of the Arab region.
- Develop comprehensive strategies based on digital payments and financial technology tools to support and promote digital financial inclusion in the Arab region.
- Invest in and upgrade communications infrastructure to keep pace with developments in financial technology and meet the needs of innovative applications and solutions in this field.
- Update the necessary laws, legislative decrees, and regulatory frameworks to support the digital financial transformation process and protect users in order to promote financial inclusion and achieve sustainable development goals.

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