



The effect of financial technology on the promotion of financial inclusion in Arab nations

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Abstract :

Financial technology (FinTech) plays a crucial role in banking by offering a range of banking and financial services. This study aims to show how FinTech promotes financial inclusion. The development of an emergency finance mechanism has just occurred. A combination of descriptive and analytical methods was used in this paper. To understand the challenges, opportunities, and ways of overcoming them, the Arab world's experiences have been shared. As stated by the researcher and supported by their suggestions, the goal of financial inclusion is to bring the financially excluded into the formal financial system. The survey found that the general population does not have a strong financial culture, which is one of the obstacles FinTech must overcome. The Arab world, however, saw substantial progress in FinTech; therefore, this was not a barrier. There are a lot of problems with the legality, regulations, and financing of FinTech in Arab nations. The use of the mobile subscriber's index by FinTech effectively contributes to the achievement of financial inclusion, as measured by FinTech and financial inclusion indicators. Most Arab countries still have low scores on the financial inclusion index since they aren't interested in developing FinTech, which slows down the index's progress.

Key Words: Arab banking sector, Banking system, Central bank, Financial inclusion, FinTech.

JEL Classification: G21, E52, O32.

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Introduction:

The financial technology industry first showed signs of life following the 2008 financial crisis, making it one of the newer phrases to arise in the modern era. There has been a sea shift in the banking and financial services sector due to FinTech. Some may think of FinTech as a term combining technology and finance elements. It provides state-of-the-art banking services to people and organizations by tapping into innovative financial technology. Consequently, there was a FinTech movement in the banking system that centered on the dynamics of the meeting point of established banking with new forms of technology service provision. But new entrants in the



financial tech industry are revolutionizing banking and finance with innovative products and services that help more people and organizations get access to and make better use of financial services.

Financial technology (FinTech) has caused a paradigm change in the banking industry, making it more difficult for small and medium-sized firms to operate in some countries. Technologies like the most recent automated teller machines (ATMs), credit and debit cards, internet banking, and various other services have replaced human workers in many previously conducted financial operations. However, the main idea is that only a certain section of society may use this technology. According to a plethora of studies and polls, most people throughout the globe do not have the means to use regular banking services. This is known as being excluded from financial activities. Common financial services and goods, such as bank accounts for keeping money, making payments, transferring money, getting inexpensive credit, insurance, and more, are out of reach for these low-income people. Because of this, the goal of financial inclusion and ensuring that everyone can use financial services is gaining more and more attention worldwide.

Research problem: Access to banking and financial services offered by banks and emerging financial technology businesses is hindered for certain people due to a lack of cultural, technical, and financial literacy, especially among the poor. This leads us to the following question that might represent the research issue: How might technological advancements in the financial sector help expand access to banking services?

Research Importance: The study's importance lies in its subject matter, which has attracted much interest lately, especially in light of the coronavirus's progress. Financial technology company innovations have been a go-to for major international governments looking to achieve sustainable financial inclusion for small and medium-sized firms.

The importance of this study lies in the fact that it analyzes the problem of financial inclusion and finds out how financial technology might help promote financial inclusion. It also examines the relationship between the two. It also evaluates government and central bank initiatives to reduce opportunity costs and build financial technology companies that create and innovate financial services that bring people with low incomes into the banking system.

Research objectives: The aims of the research are as follows:

- Analyzing the drivers and potential stumbling blocks of financial inclusion.
- Enumerating the current state of financial technology as well as its expected benefits.
- Recognizing the challenges associated with implementing financial innovations and how they relate to financial inclusion.



- Familiarizing ourselves with specific financial experiences and finding ways to apply them to our current circumstances.

Research hypothesis: Financial technology helps expand access to banking and other financial services by making them available to more people.

Research design: A combination of descriptive and analytical methods was used in this investigation. A survey of relevant Arabic and international literature and online resources is the backbone of the research.

I. Literature review:

1. Financial inclusive:

When a large portion of society, especially those who are economically excluded, has access to affordable and accessible banking and financial services, the phrase "financial inclusion" or "financial integration" applies.

According to the World Bank, financial inclusion occurs when people and businesses are able to easily and affordably access a range of financial services and products, including payments, savings, credit, remittance, and insurance, in a way that satisfies their needs and allows them to sustainably raise their standard of living (World Bank, 2017).

Access to a variety of formal, regulated financial services and products, both in terms of price and timeliness, is what the OECD means when it talks about financial inclusion. It finds innovative methods to reach more people and increase their use of these services and products, such raising financial literacy, so that more people may better their financial situation (Arab Monetary Fund, 2015).

So, it's clear that all these words indicate the same thing: making sure that everyone has access to formal financial services, like banking, at prices that everyone can afford and in an open and honest way.

In a responsible and sustainable way, financial inclusion is described by the World Bank as the availability of affordable, practical, and useful financial products to people and enterprises. These products include transactions, payments, savings, credit, and insurance (Abbes, 2015).

All individuals have access to a wide range of international services that are of good quality, moderately priced, and client-friendly, according to the Center for Financial Inclusion in Washington (Saadan, 2018).

2. The importance of financial inclusion:

The following are aided by participation in the financial industry:

2.1. Automation of financial systems:

Regarding money transfers, everyone wins: the sender, the receiver, and the financial institutions facilitating the transfer. Not only do the payments arrive faster and



cheaper, but electronic financial services are also becoming more widely available and used more frequently, which means more clients. Improved monitoring and control skills will also benefit the financial system by reducing financial crime, money laundering, and terrorist funding.

2.2. Achieving goals for long-term sustainability:

Small and medium-sized firms may make use of its many financial offerings. The work market has expanded, creating more chances for low-income and jobless youth. It promotes gender equality by increasing the economic opportunities for women and female entrepreneurs. In addition, financial inclusion serves to reduce social class distinctions by making financial services accessible to all governorates throughout the country, including distant communities.

2.3. Making the economy more stable:

Diversifying the deposit portfolio with several banks and financial institutions lowers the risk connected with these institutions. It contributes to robust political and economic stability in countries with robust financial inclusion.

2.4. Integration in the society:

According to Al-Nama and Hassan (2018), individuals may find it easier to integrate into society if they are able to use the financial system to start their own enterprises, invest in education, and handle financial risks. Access to financial services should be easy to get.

Finally, inclusion increase the availability of savings accounts, credit, and insurance (Garg, 2014).

3. Pillars for promoting financial inclusion

To increase access to financial services, it is essential to have these which are among the most important:

- Establish a suitable legislative framework, build a financial infrastructure to enable financial inclusion, and adopt or update relevant instructions and regulations. Financial inclusion enhances geographical distribution by making financial services more accessible by developing places of sale, agents, phone banking, ATMs, and insurance, among other things.
- Making mechanisms for payments and settlements that will allow clients to conduct and resolve financial transactions quickly. Technological progress has made this a reality by expanding access to digital financial services, mobile payment, and extensive databases that include project and individual credit histories. Furthermore, a database must be established to document movable assets, and measures must be implemented to safeguard the interests of both service providers and consumers by facilitating the open and honest gathering of relevant data.



- Protecting clients' money, savings, and other assets that are part of their bank transactions against fraud that might happen during such transactions. Customer protection may be achieved by establishing rules and practices that ensure consumers have access to various financial services. These services should be provided within a framework of complete openness and disclosure in financial dealings so that customers are aware of the benefits and risks associated with them. Customers, particularly those with lower means, may feel certain that their rights and interests will be protected in this manner. Furthermore, it provides services tailored to clients' needs and capabilities and sets up effective internal control mechanisms to protect clients' financial and personal data (keeping data private and secure). (Saadan, 2018) state that this may be achieved by providing solutions for safe electronic transactions.

4. Factors contributing to increasing financial inclusion in financial markets:

- Keeping an eye on the expansion of companies and banks that depend on finance over the long run.
- Establishing mechanisms to inspire pension funds and insurance-related entities to develop investment plans for the long-term
- The provision of resources and incentives to promote long-term insurance policies.
- Development of formulae that characterize the relations between event planners and market decision-makers in pursuit of a more transparent monetary system.
- Encouraging small-scale savers and investors to put more money into the financial markets by offering tax advantages (Obafemi, 2016).

5. Financial technology:

According to the Basel Committee on Banking Supervision, any technological or financial innovation that leads to a new business model, process, or product that impacts financial markets and institutions is considered financial technology (Abdul Rahim, 2018).

Another way to look at FinTech is as a tool that may assist in modernizing banking by replacing old methods. It promotes crowdsourcing as a simpler approach for investors to go to their local bank to receive financing for smarter technologies. The development of financial information technology has decreased the time and distance needed to start a firm, allowing for the rapid and cheap collection of funds worldwide. This is the underlying principle of financial technology or FinTech. It is also believed that FinTech encompasses products and services that enhance traditional financial services via technology. Superior than earlier technologies in terms of speed, affordability, simplicity, and accessibility. It is common for new companies to produce these items and services (Wamda, 2017). "any financial innovations using technology that can create new business models,



applications, processes, or products, with a material and tangible impact on financial markets and institutions, and on the provision of financial services" (Ramlall, 2018) is how the Global Financial Stability Board defines FinTech.

The creation of novel financial solutions by companies engaged in IT is also known as FinTech. So, new business models are constantly popping up, especially in the realm of online B to C services. How these startups have responded to IT investments is the main differentiator between them and more traditional banks?

Businesses that use technology to enhance the efficiency and efficacy of financial services and financial institutions are hence referred to as FinTech. Financial technology (FinTech) is not limited to just one industry but covers all of the goods and services provided by the service financial sector.

FinTech sector Among the many sub-sectors that make up FinTech, the most important ones are:

- Moving Funds: FinTech has mostly supplanted more antiquated means of moving money around.
- Crowdfunding, direct lending, and lenders.
- Personal and Institutional Finance: FinTech combines the aforementioned two areas by providing digital platforms for financial services.
- Financial marketplaces and investor services: FinTech often provides services to investment banks.
- With the help of insurance tech, insurance companies, and their clients may have faster and more accurate risk assessments.
- Wealth Management: FinTech offers its customers options for wealth management via the use of machine learning.
- Regulatory Control Technology: Financial technology products and services help companies stay in compliance with regulations (Insights, 2019).

Figure 1. FinTech categories are ranked according to the adoption percentage between 2015 and 2019. (Report, 2019).



Source: Report, G. F. (2019). *Report Index*.



5.1. The advancement of FinTech and its innovations to meet banks' financial requirements:

Several nations' economies are growing thanks to FinTech's new businesses and cutting-edge technologies. There are essentially two phases to fintech. The first phase starts when faith in the international monetary system erodes. Two, the so-called "4.0" fourth industrial revolution is about to come into play. The worldwide phases of FinTech development are presented by (Al-Shater, 2020):

- a. ***The first stage (2008-2014):*** During this stage, trust in the international monetary system gradually declines. Discussions on the need for repair and regeneration and potential alternatives to the present financial system have been in place since then. Consequently, the financial industry saw a rise in compliance expenses as organizations from all over the globe pushed for stricter regulations. Also, concerns about control and governance were becoming more prominent now. Further evidence of a desire for decentralization and autonomy from the global monetary system came in 2008 with the introduction of Bitcoin, the first cryptocurrency. Its market value was in the multi-billion-dollar range. An additional feature of this phase is the increasing use of mobile devices to conduct monetary transactions.
- b. ***The second stage (2014 - until now), and some call it 4.0.*** Although it now functions as an integral part of the FinTech sector, it was formerly its independent industry. Here, tens of thousands of trailblazing FinTech companies mostly from the tech sector, not the financial one—came into existence to invest in and develop financial services and related innovations like automated finance, regulatory technology, technical smart insurance, cryptocurrency, crowdfunding, and others.

II. Examination of the Reality of Financial Inclusion and FinTech in Arab nations:

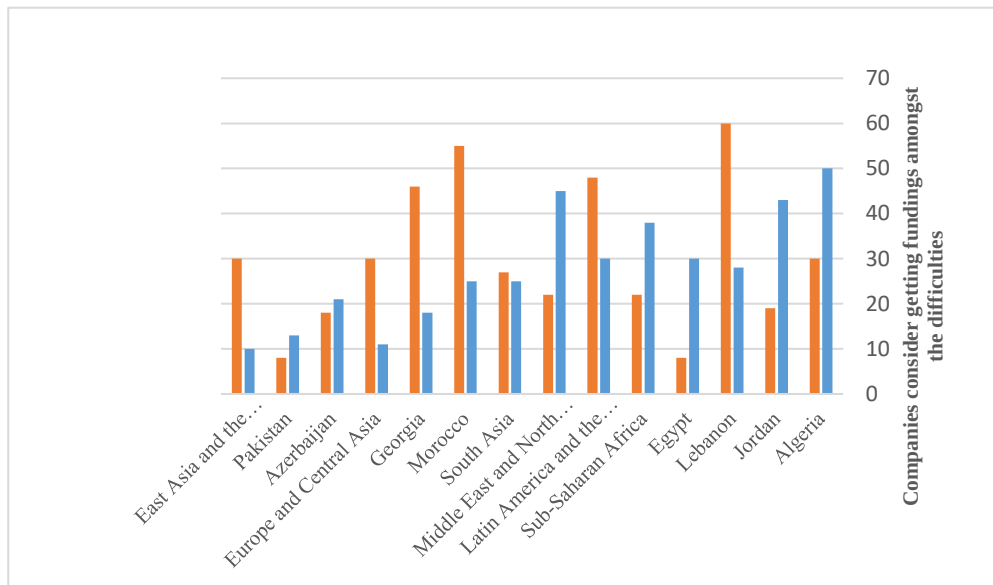
1. Motivations for advancing financial inclusion and FinTech in Arab nations:

- The rising tide of people who cannot afford to use financial services is a phenomenon known as financial exclusion. Because of this, business owners started looking for new ways to pay and transfer money using their phones, and many turned to FinTech companies for help.
- FinTech firms are experiencing a major difficulty in improving the quality of financial services they provide to clients due to the large number of individuals without bank accounts.
- The funds provided to projects are insufficient, accounting for less than 8% of the total loans made by Arab banks. Additionally, they face challenges while trying to access financial markets in order to gather the funds needed for their operations. Projects like these turned to financial technology companies for



funding because of these limitations and shortages (Baniya, 2018). Financial services offered by these firms piqued the attention of 47% of bank customers.

- FinTech aids the growth of online shopping. Electronic commerce is being enhanced and expanded by increasing mobile and technology media utilization.
- Financial technology and innovative financial solutions facilitate international commerce and worker remittances via peer-to-peer platforms, distributed ledgers, and virtual currencies. Banks and money transfer services that depend on correspondent banking ties are inefficient, opaque, and expensive compared to FinTech. As a result, the problems brought on by the breakup of correspondent financial connections are reduced.
- More than 360 million people call one of the Arab nations home. These countries' financial technology startup scene is vibrant and full of potential. The average per capita has risen to more than \$29,000 in the Gulf states. On a global scale, this rate average is among the highest. Qatar will have 70,000 USD, the Emirates 39,800 USD, Kuwait 29,000 USD, Saudi Arabia 22,000 USD, Algeria 4,200 USD, Morocco 3,400 USD, and Jordan 3,400 USD in 2019, according to the International Monetary Fund.
- Customers have become less loyal to their banks: Numerous research have shown that client loyalty to banks has declined. Like in many other countries, customer loyalty is starting to change in Arab nations toward digital FinTech services. 83% of UAE residents are open to non-financial organizations adopting FinTech solutions, and 76% of UAE customers trust tech companies more than banks when managing their money (Report, 2019).
- Financial services in Arab nations have been improved with the arrival of FinTech businesses, which have lowered costs and increased accessibility. Financial technology (FinTech) alters and stabilizes the credit environment by assessing the demands of small borrowers and financial system inadequacies via data collection from social networking sites and other sources.
- FinTech also helps Arab nations attain financial stability by using technology to guarantee compliance with regulations and risk management. FinTech also helps with global commerce by providing easy and cheap ways to pay for things across borders. Therefore, government activities may also benefit from adopting electronic payment systems. For electronic payment systems to be widely used, additional authority is needed at all levels to address regulatory, consumer protection, information security, business environment, infrastructure, and financial awareness framework gaps.

**Figure2. Companies which get finance in the Arab countries**

Source: Blanche, N. (2019). Financial Inclusion of SMEs in Middle East and Central Asia. *The international Monetary Fund. Middle East and Central Asia Department*, pp. 5 - 39.

2. The role of FinTech in the Arab banking sector:

The degree of acceptability and eagerness to integrate FinTech into the banking industry's various channels for process automation and back-office solutions to customers remains uncertain despite the promotion of innovations in the sector and its growing gradual adoption. There has been a dramatic acceleration in the shift away from cash and toward digital currencies; by the end of 2015, 18 nations, mostly in the East and North Africa region, the Gulf Cooperation Council, and the Gulf States, have established FinTech startup enterprises. However, over three-quarters of the industry's new businesses are based in just four nations. In particular, Egypt, Jordan, Lebanon, and the United Arab Emirates.

When looking at the number and quality of FinTech startups, the United Arab Emirates ranks first since it is home to most companies. Furthermore, the second group of UAE-based FinTech companies includes Now Money and Wealth Management (Finerd), Democracy, and Bit Oasis, all of which deal with blockchain technology, international money transfers, and insurance, respectively. In 2016, the regional environment for incubation saw a flurry of activity, with the opening of two accelerators in Cairo and one in Dubai.

Also, the "Regulations Lab" in Abu Dhabi has just been launched. This is the region's first financial technology (FinTech) sandbox. Even with this supplementary funding, FinTech businesses are still unable to break through. Among these companies, 44% work with banks and other large organizations, while another 44% want to start their enterprises in the future (Wamda, 2017).



3. The reality of FinTech and financial inclusion in a number of Arab nations

Many reasons contribute to increased financial inclusion, including the adoption of FinTech and the growth in the use of mobile and Internet connections to access financial services; yet, different facts give rise to different viewpoints. Some argue that, despite widespread support for FinTech technologies and their increasing progressive acceptance, it is still not apparent how widely accepted these innovations are or how ready they are to be integrated into financial sector channels. Yet, some believe FinTech's services have greatly contributed to increasing access to banking services by facilitating cutting-edge technology. As long as certain segments of society and the economy do not have access to financial services, it is hard to imagine achieving and maintaining financial inclusion. Financial technology and financial inclusion indicators have painted a picture of the level of advancement achieved in this domain. Here are some measures that show how FinTech and financial inclusion work in Arab countries:

III. FinTech Indicators

Over the last many years, financial technology has brought about a sea change in the Arab and global financial communities. By employing cutting-edge methods that are both quick and inexpensive, FinTech is able to meet a wide range of demands related to financial procedures. Financial technology (FinTech) companies in Arab nations have been a boon to the region's economy, facilitating everything from digital currencies and money transfers to crowdfunding and insurance. After this, you'll find explanations of the key metrics (Banks, 2019).

1. Digital payments

Advancements in digital solutions and the widespread use of mobile and online payment methods are responsible for the rise in global financial volume. The government also disburses payroll and social security benefits through electronic funds transfers. Union of Arab Banks (2019) reports that the percentage of adults making or receiving digital payments increased from 20% in 2014 to about 26% in 2017, which is still the lowest globally.

Regarding online payment processing, the Gulf Cooperation Council member states are unrivaled. Men make up around 84% of the adult population. Among the Middle Eastern countries, 75.2% of people in the UAE, 74.8% in Kuwait, and 61.2% in Saudi Arabia used the Internet to send or receive money.

The use of digital payment methods had a meteoric rise in Iraq and Jordan from 2014 to 2017. The percentage of Iraqi and Jordanian individuals who have used digital payment methods or got digital receipts has increased by a factor of four and three, respectively, since 2014.



This is a direct result of mobile consumers' increasing popularity of digital payment methods and financial services. Table 1 shows the increasing subscriber count and averages of the sample nations in comparison to the Arab World index.

Table 1. Number of subscribers who made digital payments

Year	2014	2015	2016	2017	2018	average
country						
Emirates	16819024	17942560	19905093	19826224	20081015	18914783,2
Saudi Arabia	52735000	52966066	47932521	40210965	41310584	46997027
Iraq	33000000	33559000	33447000	33415690	36527353	33989808,6
Algeria	3098787	4158518	4100982	3404709	3267592	3606117,6
Kuwait	7600000	7664743	7659365	7138833	7099848	7432557,8
Jordan	11092404	13797968	9818446	9703287	8731760	10628773
Lebanon	4387275	4657651	4277043	4399085	4424185	4429047,8

Source: According to the world Bank Data to the years (2014-2018)

2. Using mobile banking to pay bills or make purchases:

The World Bank found that among adults, just 9% made online purchases or bill payments, while 15.2% accessed their accounts using mobile devices. According to the data compiled by the bank, these rates are among the lowest globally. On the other hand, with 65.5% and 69.8%, respectively, the OECD member states had the world's highest percentages. Among Arab nations, just over half of individuals in the UAE have accessed their bank accounts via mobile device, with Saudi Arabia coming in second at 35.9%. Iraq makes up 25% and Kuwait 29.8%. The United Arab Emirates topped the Arab globe for online bill payment and shopping with 38.5% of the market, followed by Saudi Arabia with 35.9%, Kuwait with 35.9%, and Lebanon with 16.7% (Table 2). As stated by the Union of Arab Banks in 2019. In Table 2 you can see how many bank accounts may be accessed by a mobile phone or online. Table 2 compares the number of accounts held by the (sample) states under consideration with the Arab global index across the research period using data from Global Bank (World Bank, 2017).

Of all the countries considered, the United Arab Emirates scored the best average score. A high number indicates that people rely on and use technology to a large degree. The United Arab Emirates (UAE) has long been the technology front-runner in its area.

When compared to other countries, Iraq has the worst average. In addition to a lack of familiarity with banking and financial matters, this result shows that people have



lost faith in the new FinTech instruments. The Saudi Arabian Kingdom is another. The results for Saudi Arabia and Kuwait were very similar, as seen in Table 2 below.

Table 2. Mobile phone access to financial institution account ownership

Year	2014	2015	2016	2017	2018	Average
country						
Emirates	89981987	776929626	89981987	89981987	829903717	86125859
Saudi Arabia	7793143463	648242569	7793143463	7793143463	6456370544	72636453
Iraq	1457006359	842860985	1457006359	1457006359	1869329071	14166418
Algeria	2355486454	438466473	4336725278	3366474635	4336445376	5464748
Kuwait	8130286789	636726456	8130286789	8130286789	7080115509	75676481
Jordan	3331449509	163352547	3331449509	3331449509	3288019943	29831788
Lebanon	5955028534	283534222	5955028534	5955028534	298943615	47379728

Source: Depending on the World Bank data and reports the years (2014-2018)

IV. Rank the Arab nations according to the indicators of financial inclusion/

Based on 2017 World Bank data on financial inclusion, Table 3 shows the ranking of Arab nations among 176 countries globally. Several indicators were used to calculate the data:

- How many ATMs there are for per 100,000 people.
- The density of commercial bank branches relative to the total adult population.
- The number of people in debt for every 100,000 adults.
- The ratio of adults who deposit money into a bank for every 1,000 people.

(Sabbagh, 2020)calculated the ratio of loans to gross domestic product/



Table 3: Global ranking of Arab nations based on 2017 financial inclusion indicators.

Country	Indicator of Financial inclusion (%)	Rank
Lebanon	51.70	37
Amman	46.90	42
Kuwait	42.90	56
Diameter	38.58	57
Jordan	33.9	68
UAE	31.25	76
Morocco	30.95	83
Tunisia	25.68	87
Saudi Arabia	51.70	37
Lebanon	46.90	42
Libya	20.58	109
Palestine	21.36	121
Egypt	20.98	123
Algeria	9.85	137
Sudan	5.92	143
Yemen	3	170

Source: Sabbagh, R. (2020). Financial Inclusion In Arab Countries: Reality and Prospects. *Economic Dimensions Journal*, pp. 510 - 527.

For the financial inclusion in Arab countries in comparison to the rest of the world, the Table (4) below, shows how the adult account holder percentages of Arab world states' official financial institutions compare to the global average. The most important metric for measuring financial inclusion is the percentage of the population with bank, post office, or financial service provider accounts. This is because account holders reflect the institutions' capacity to promote saving among their customers.



Table 4. Proportion of adults holding accounts at official financial institutions in Arab and international nations.

Year	In Arabic countries	In the World
2011	22.3%	51%
2014	29%	62%
2017	37.2%	69%

Source: Depending on the World Bank Data for the years (2011, 2014, 2017)

There a significant increase in Arab adults holding accounts at official financial institutions from 2011 to 2017. Although it is still below the minimal criterion compared to other nations, the proportion rose from 22.3% in 2011 to 37.2% in 2017. In 2017, 69% of people had mobile-accessible accounts with banks or financial service providers, up from 51% in 2011, as shown in Table 4. Finally, 515 million individuals throughout the globe opened bank accounts or used mobile banking services between 2014 and 2017, according to the Global Indicators of Financial Inclusion database. When comparing Arab countries, it's important to note that their levels of financial inclusion vary greatly.

Conclusions

- FinTech is a framework for managing technology innovation that tries to improve the quality of traditional services. Nevertheless, some services stand out due to their speed, affordability, and user-friendliness.
- FinTech has advanced significantly in the Arab world. Arab countries like the UAE own the majority of it.
- Financial technology aims to raise people's living standards by facilitating the availability of low-interest loans and ensuring that all sectors, particularly SMEs, have access to financial data.
- FinTech provides the cheapest and fastest finance, regardless of whether it comes from non-financial businesses, people, banks, or other financial institutions.
- Implementing FinTech in Arab nations is fraught with challenges, such as those pertaining to legislation, organizations, and capital.
- Financial technology is crucial in achieving financial inclusion through the signals of mobile customers.
- Most Arab nations retain the lowest levels for the financial inclusion index, which hinders the increase of the indicator because of a lack of interest in or expansion of FinTech.



Recommendations

The present study reached at the following conclusions:

- FinTech is a framework for managing technology innovation that tries to improve the quality of traditional services. Nevertheless, some services stand out due to their speed, affordability, and user-friendliness.
- FinTech has advanced significantly in the Arab world. Arab countries like the UAE own the majority of it.
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