Cadernos de Pós-Graduação em Direito Político e Econômico
Published by: Centro de Estudos Acadêmicos Press
ISSN: 1678-2127
Volume 26 ***Issue 2,*** **2026**
Website: https://ceapress.org

The Role of Financial Technology in Promoting Financial Inclusion

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Received: 15/04/2026 **Accepted: 01/07/2026** **Published: 25/08/2026**

Summary:

This study aims to highlight the role of financial technology in enhancing financial inclusion. It is divided into three sections: the first section discusses the nature of financial technology, while the second section focuses on the concept of financial inclusion and its dimensions. The third section is dedicated to presenting the role and challenges of financial technology in achieving financial inclusion. The study concludes that financial technology plays an important and effective role in promoting financial inclusion, due to the advantages it offers that contribute to expanding access to financial services, overcoming barriers that prevent various segments of society from benefiting, reducing transaction costs, increasing transparency, and supporting financial awareness, while emphasizing the need to address the obstacles that limit this progress.

Keywords: Financial technology; Financial inclusion; Digital transactions; Electronic payment.

Introduction:

1. Overview

Due to rapid changes and developments in the world, along with accelerating technological progress, financial technology (FinTech) has become an inevitable necessity for building and activating all economic sectors in countries worldwide. This technology acts as both a driver and a support system that makes it easier to deliver financial services to individuals and institutions, thereby directly contributing to enhancing financial inclusion. Financial inclusion, in turn, is crucial for achieving economic and social development, as it enables individuals—especially marginalized groups—to access the financial services needed to improve their standard of living and achieve their economic goals.

2. The main problem

To what extent does financial technology contribute to promoting financial inclusion?

3. Sub-questions

- What do we mean by financial technology?

- What are the characteristics of financial technology?
- What do we mean by financial inclusion?
- What are the challenges of financial technology?

4. **Importance of the Study**

The importance of the study lies in addressing a timely topic, by demonstrating the impact of financial technology development on promoting financial inclusion in order to achieve economic and social development.

Section One: What is Financial Technology ?

Firstly: Historical development of financial technology

Fintech is used to describe new technology that seeks to improve and streamline the provision and use of financial services. At its core, fintech helps companies, business owners and consumers better manage their financial operations through the use of specialized software and algorithms running on computers and, increasingly, on smartphones. When fintech emerged in the 21st century, the term was initially applied to the technology used in the back-office systems of financial institutions. It then expanded to include consumer-oriented services; today, fintech encompasses various sectors such as education, retail banking, non-profit fundraising, as well as the development and use of cryptocurrencies such as Bitcoin. (Naama, 2026, p. 471)

Second: Definition of Financial Technology

Financial technology was defined as follows: (Abdellaoui , 2025, p. 4)

- Financial technology is concerned with building systems that model, value, and process financial products such as bonds, stocks, contracts, and money.
- According to FinTech can be defined as: "any innovative ideas that improve financial service processes by proposing technology solutions according to different business situations"
- According to the Global Financial Stability Board, financial technology refers to technology-enabled financial innovations that create new business models, applications, processes or products with a tangible impact on financial markets, institutions and the delivery of financial services . (Naama, 2026, p. 471)
- According to the Digital Research Institute in the Polish capital Dublin, financial technology is the modern technological inventions and innovations in the field of the financial sector. These inventions include a set of digital programs used in the financial operations of banks, including: transactions with customers and financial services such as money transfers, currency exchange, interest rate and profit calculations, knowing the expected profits of investments, and other banking operations . (Hamdi & Ouqasim, 2019, p. 402)

Third: Characteristics of Financial Technology

The most important characteristics of financial technology can be identified as follows: (Salous & elaidi, 2023, p. 260)

- Financial technology is a set of financial and banking knowledge, skills, methods, and techniques.
- Technology, in its various forms, is not an end in itself, but rather a means used by financial and banking institutions to achieve their objectives.
- Financial and banking services are the primary field for technology application.
- The application of technology is not limited to the performance of financial and banking services but extends to administrative methods.

There are four interconnected and integrated elements that constitute the manifestations of technology in financial and banking work:

- The physical aspect is represented by the machines and equipment used.
- The application and usage aspect is represented by the methods of using this equipment.
- The scientific aspect is represented by the required financial and banking knowledge.
- The innovative aspect is represented by acquiring the skills necessary to provide financial and banking services.

Fourth: The Importance of Financial Technology

Financial technology plays an important role, which can be summarized as follows: (Bouadla & Al-Hamlili, 2022, p. 120)

- Financial technology is currently contributing to transforming the image of financial services and their structure in general. Rapid technological advancements and customers' preference for digital channels have facilitated the adoption of new business models.
- Financial technology offers tremendous opportunities, such as reduced costs for customers and instant payment, making them easier, cheaper, safer, more transparent, and more accessible.
- It provides more options and facilitates access to services and financing for individuals and owners of small and medium-sized enterprises (SMEs) who lack adequate banking services, thus achieving higher and more inclusive growth for all segments of the population.
- It enables governments to use digital platforms and electronic payment methods to improve the efficiency of government operations in revenue collection and payment. Banks can rely on technological means to strengthen risk management, increase efficiency, and enhance compliance with regulations and rules.
- Financial technology helps improve the quality and type of financial services provided, making them available anytime and anywhere, as the focus is on providing financial services to customers and increasing the points of contact and consumption channels for these services.
- It diversifies economic activity and achieves financial stability

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Fifth: Fintech Services

Fintech has transformed the financial services market and deals with a wide range of services, which can be summarized in the following five elements: (Harfouch, 2019, pp. 729-730)

A. Payment Services:

This refers to the more active and flexible banking activities that Fintech offers to many clients, providing them with a range of payment methods, the most important of which are:

- Mobile Payments;
- International Money Transfers at the lowest cost (TransferWise, heating costs of international money exchange);
- Cost-free currency exchange (Kantox)
- Management of payment flows available for e-commerce, facilitating online payments, which include innovative payment methods
- Simplifying payments between individuals.

B. Retail Banking:

This includes simple online banking services for individuals, without any physical branch presence, at low costs. It also includes budget management solutions, as well as various tools for personal financial management.

C. Investment and Finance:

- Fintech attracts individual savings by offering simplicity in the services it provides
- Providing crowdfunding platforms for companies, whether in the form of crowdequity or crowdlending loans, or equity investments.
- Providing online advice to help individuals manage their savings; analyzing risks, and offering clients various financial investment proposals

D. Services provided to banks based on big data:

These offer solutions tailored to the banking sector, through the collection and analysis of a large database that improves customer relationship management (purchasing behavior, savings, customer career paths, financial solvency). They also work in the field of cybersecurity, through early detection of any fraudulent activity in customer behavior, such as geolocation of smartphones, or encryption of sensitive data and information. Fintech also analyzes risks, provides tools that help in making decisions about portfolio management, and facilitates regulatory reporting.

E. Services for banks and companies:

Fintech offers many solutions to improve company management. For banks, there are solutions such as Blocktech, which develops blockchain-based solutions for transaction recording. For companies, Fintech also offers solutions such as information processing software, information systems control and risk management procedures, tax management.

The second branch: Financial inclusion

First: Defining financial inclusion

- The World Bank (2022) defines it as the availability of economical financial services that cater to the requirements of individuals and enterprises sustainably. Similarly, the Reserve Bank of India (2008) defines financial inclusion as the process of giving at-risk people timely access to credit and financial services at a fair price. Sarma and Pais (2011) highlight financial inclusion as the degree to which people can utilize and access formal financial services. (Sissani & Frioua , 2025, pp. 148-149)
- The Bank of Algeria defined it as making available and using all financial services to the various segments of society, its institutions and individuals, especially those marginalized, through official channels, including bank accounts and savings, payment and transfer services, insurance services, financing and credit services, and creating more appropriate financial services at competitive prices. and fair This is in addition to working to protect the rights of consumers of financial services and encourage those groups to manage their money and savings properly to avoid some resorting to unofficial channels and means that are not subject to any of the oversight and supervision authorities that impose relatively high prices, which leads to misuse of the needs of those channels for financial services and banking. (Benyoub & boufelfel , 2023, p. 273)

Seacond: The main dimensions of financial inclusion and their measurement indicators: (Benyoub & boufelfel , 2023, p. 274)

There are many dimensions of financial inclusion according to each institution and its scope of work and objectives. the dimensions of financial inclusion are the use of bank accounts, savings, borrowing, payments, and insurance. In total, the dimensions were ease of access to financial services, use of financial services and promotion of the quality of financial services shown in the table below.

Table (01): The main dimensions of financial inclusion and their measurement indicators

Indicators	Dimensions
The number of access points to services, Electronic money accounts, The extent of interdependence between service delivery points.	arrive to Financial services
Adults who have a bank deal, Adults with a regular credit account Adult policyholders, The number of non-cash payment transactions The number of payment transactions over the phone, High frequency of use of bank accounts, holders of a bank account Transfers, Companies that have official financial accounts, Companies that have existing loans or lines of credit with formal institutions	Utilisation Financial services
Financial knowledge, financial behaviour, Transparency requirements, Conflict Resolution, Costs of using financial services crédit impediments	Qualité of services Finance

Source: (Benyoub & boufelfel , 2023, p. 274)

Obstacles to Expanding the Base of Financial Inclusion:

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There are many common factors that hinder the spread or expansion of financial inclusion in many countries of the world. The most important of these factors are as follows: (Mahyout , 2023, p. 156)

- Insufficient funds to open an account at a bank or any financial institution: This is one of the most important reasons for not using financial services. Overcoming this type of barrier is linked to a set of factors, including the nature of income distribution and poverty levels within poor societies. However, it is also linked to the policies followed by financial and banking institutions when determining the conditions that must be met or the minimum required to own an account;
- Not needing an account: Many segments of society, especially those with low incomes, see no need to have an account with a financial or banking institution. They believe that easing restrictions on owning these accounts and reducing the associated costs will lead to expanding the base of financial inclusion among this segment of users who consider that they do not need it;
- Reasons related to cost and procedures: Many segments of society do not deal with the formal financial system due to the distance of banks and financial institutions, and their lack of the documents required to own an account, and all of this increases the costs of opening an account with a financial or banking institution;
- Religious and Trust-Related Considerations: Trust plays a fundamental role in promoting financial inclusion.
- Thus, a lack of trust in financial and banking transactions is one reason for their not having a financial account. Religious reasons that prohibit dealing with certain banking services also prevent them from obtaining an account at a formal financial institution, in addition to the crucial role of education.

Third branch: The Role of Financial Technology in Achieving Financial Inclusion

This section will address the role and methods of activating financial technology in promoting financial inclusion.

First: The Role of Financial Technology in Achieving Financial Inclusion

Financial technology plays an important role in promoting financial inclusion around the world, through the following: (belhadje ben zian, 2025, p. 325)

- Scope of Coverage: The difficulty of accessing a wide range of similar products was considered one of the most significant obstacles to financial inclusion. Digital channels deployed by banks and telecommunications companies have helped millions of mobile phone users access digital financial services in recent years, linking them to numerous services.
- Customer Information: Digital simplification and the permanent data partitioning have enabled the use of digital services to access the necessary customer information for opening accounts, thus facilitating access to a range of financial services and products
- Commercial safety involves the availability of a large number of payment, transaction, insurance, and low-cost lending products tailored to customer needs. Doing so requires

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achieving total cost coverage without setting unattainable prices, which requires a low-cost solution than traditional services. This can be achieved through financial technology.

- Financial technology (FinTech) plays a vital role in promoting financial inclusion by providing innovative solutions that enable diverse segments of society to access financial services. This is achieved through enabling digital transactions such as electronic payments and online transfers, facilitating access for individuals in remote areas or those without bank accounts. Furthermore, FinTech reduces transaction costs through more affordable applications, making financial services more accessible to those with limited incomes. It also enhances transparency in financial transactions, increasing public trust and encouraging the use of available services. Additionally, it supports increased financial literacy through educational tools that empower individuals to better manage their finances and make informed financial decisions. Moreover, FinTech provides innovative financing solutions for small and medium-sized enterprises (SMEs), helping them to grow and expand, thereby strengthening the local economy . (himar, 2024, p. 282)
- The digital transformation witnessed by the financial sector has contributed to providing financial services classified as having a higher return, greater convenience, and lower costs. This has made it easier for small and medium-sized enterprises (SMEs) to access digital financing. It has also helped improve the performance and visibility of these institutions by providing direct services to customers without the need for high-level intermediaries. This is evident in the liberating role played by fintech companies in their pursuit of providing innovative financial services, as well as the necessary shift from the traditional banking system to a modern, data-driven banking model. This shift contributes to expanding financial inclusion by facilitating access to financial services, which leads to improved living standards and reduced poverty rates as a result of lower transaction costs and the provision of credit to a larger segment of society.

Second: Ways to activate financial technology in promoting financial inclusion

The ways to activate financial technology in promoting financial inclusion lie in the following: (Abd el Hamid & mesdaa, 2022, pp. 19-20-21)

- To support the development of financial technology and ensure risk management, changes must be made to the legal frameworks and regulatory and supervisory practices related to licensing; to ensure the clarity of existing laws in addressing digital financial products; and to adequately address the risks arising from innovative products and business models;
- Supporting reforms aimed at achieving compliance with international regulatory standards and coupled with enhanced supervision, since, although existing regulatory standards address the risks associated with fintech innovations, the evolving nature of this technology requires continuous monitoring to identify emerging risks to financial stability Addressing these risks, and with the increasing use of financial technology,

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regulators and central banks should prioritize monitoring macroeconomic risks and ensuring that modern technologies do not become tools for fraud, money laundering, and terrorist financing. They should also maintain the health of financial institutions and the safety and efficiency of payment systems, given the expanding role of non-financial corporations. Supervisory capabilities should be strengthened to remain relevant and effective.

- The increased connectivity through digital solutions has led to more entry points for cybercriminals, increasing the likelihood of successful cyberattacks. Comprehensive information security frameworks must be established to provide plans for preventing, detecting, sharing, tracking, and recovering from attacks
- The ICT infrastructure needs to be improved to enable businesses to adopt innovative fintech applications. In many countries, there is a need to increase internet penetration and mobile communication facilities, increase their speed, reduce their costs, and ensure interoperability between mobile payment systems. In this context, BitOasis was founded in 2015 in Dubai. It is a fintech startup that lays the foundations and infrastructure for new digital payment products using blockchain technology. Since then, it has contributed to the Global Blockchain Council in Dubai, a public-private partnership initiative that promotes the adoption of blockchain. Later, in early 2016, the Dubai government launched its Blockchain Strategy and announced that by By 2020, all its documents will be through digital transactions, and 1,000 companies will use technologies based on digital transactions.
- Every country must pay attention to the issue of financial education and awareness by preparing a national strategy aimed at promoting financial education and awareness, which would increase the financial awareness and knowledge of citizens, allowing for greater utilization and use of digital financial services.

Conclusion:

Financial technology has emerged as one of the most significant transformations in the contemporary financial sector, reshaping the way financial services are designed, delivered, and accessed. Its growing integration into banking and financial activities reflects the broader transition toward a digital economy in which technology, innovation, and data increasingly shape financial practices. In this context, financial technology represents more than a set of digital tools; it constitutes a structural transformation capable of changing the relationship between financial institutions and users and creating new forms of interaction with financial services.

The growing reliance on digital financial solutions also highlights the importance of establishing an appropriate environment that combines technological innovation with institutional, regulatory, and security requirements. The effectiveness of this transformation depends on the ability of financial institutions and relevant stakeholders to adapt to technological developments while maintaining reliability, transparency, and confidence in digital financial services.

Ultimately, the continued development of financial technology reflects the broader evolution of financial systems toward greater digitalization and innovation. Its future role will depend on achieving a balanced relationship between technological progress and the economic, institutional, and social requirements necessary to ensure a sustainable and inclusive digital financial environment.

Based on the foregoing, a number of findings can be identified, as follows:

1. The study concludes that filial piety and obedience to parents constitute fundamental ethical principles in the Qur'anic and Prophetic tradition, combining spiritual responsibility with moral conduct in family life.
2. It also finds that honoring parents is associated with significant worldly and social benefits, including family stability, strengthened kinship ties, mutual support, and social cohesion.
3. Furthermore, the study demonstrates that filial piety contributes to intergenerational transmission of moral values, as respectful treatment of parents provides a practical model for children and reinforces reciprocal respect within the family.
4. Finally, the study establishes that Islamic filial piety is not an absolute form of obedience; rather, obedience to parents is conditioned by righteousness and must not involve disobedience to Allah, thereby balancing parental rights with religious and ethical obligations.

In light of the findings reached, a number of recommendations can be put forward, as follows:

1. The study recommends strengthening the teaching of filial piety and parental rights within Islamic education and family guidance programs, with particular emphasis on their ethical and social dimensions.
2. It also recommends promoting family practices based on respect, dialogue, compassion, and mutual responsibility in order to strengthen intergenerational relationships and reduce family conflict.
3. Furthermore, educational institutions and religious organizations should raise awareness of the Qur'anic and Prophetic principles governing obedience to parents, while clarifying its limits and conditions.
4. Finally, further academic studies should examine filial piety from interdisciplinary perspectives, particularly in relation to contemporary family transformations, intergenerational relationships, and the preservation of ethical values in Muslim societies.

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