

Financial Technology in Algeria: Balancing Innovation and Oversight for Economic Stability – The Role of Regulatory Bodies

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Received: 10/09/2025

Accepted: 06/10/2025

Published: 20/10/2025

Abstract:

This study focuses on the development and regulation of financial technology (FinTech) in Algeria. It aims to examine the role of regulatory and supervisory bodies in ensuring a balance between innovation and oversight, with a particular focus on laws governing FinTech, including regulations related to cryptocurrencies and other digital financial services. The study employs a descriptive and analytical methodology to assess how these regulations influence the sector while promoting sustainable growth. The study finds that while Algeria has made significant strides in establishing regulatory frameworks, challenges persist in aligning innovation with effective oversight. The study recommends enhancing regulatory clarity, strengthening institutional coordination, and promoting stakeholder awareness to support the sustainable development of FinTech in Algeria.

Keywords: Financial Technology, Regulatory Bodies, Innovation, Oversight, Algeria.



I- Introduction

Financial technology (FinTech) has emerged as one of the most significant drivers of transformation in the global financial sector, fundamentally reshaping traditional banking services, payment systems, investment mechanisms, and overall financial intermediation. By leveraging digital tools, advanced analytics, blockchain, and mobile applications, FinTech has created new opportunities for efficiency, transparency, and accessibility in financial services. Globally, these innovations have accelerated the shift toward cashless transactions, digital lending, automated wealth management, and decentralized financial solutions, thereby promoting financial inclusion and supporting economic growth.

In Algeria, the adoption of FinTech solutions has gained momentum over the last decade, reflecting both increasing public demand for accessible, convenient, and secure financial services, and the country's broader efforts to modernize its financial infrastructure. Mobile payments, online banking platforms, and emerging FinTech services such as digital wallets, payment gateways, and electronic certification are gradually transforming how individuals and businesses interact with the financial system. This digital transformation is particularly important in a context where traditional banking coverage remains limited, especially in rural and underserved regions. By reducing dependency on cash and physical bank branches, FinTech has the potential to expand financial inclusion, enhance transaction efficiency, and support economic diversification initiatives aligned with Algeria's national development strategies.

However, the integration of FinTech into Algeria's financial ecosystem is not without challenges. Regulatory compliance, consumer protection, cybersecurity, and systemic risk management are central concerns, as digital innovation can sometimes outpace the existing legal and supervisory frameworks. Weak digital literacy, limited public awareness, and varying levels of infrastructure development further complicate the widespread adoption of digital financial services. The role of regulatory and supervisory bodies is therefore critical: they must foster innovation, ensure fair competition, protect consumers, and maintain the stability and resilience of the financial system.

The rapid evolution of global financial markets, combined with technological advancements, presents both opportunities and risks for Algeria. On one hand, FinTech can catalyze economic growth, enhance operational efficiency, and promote inclusion for marginalized populations. On the other hand, inadequate oversight, insufficient regulatory clarity, and limited cybersecurity measures can expose consumers and institutions to fraud, financial loss, and operational disruptions. In this context, the study seeks to explore the intersection of financial innovation and regulatory oversight, examining how Algeria's institutional framework can balance these competing objectives.

Against this backdrop, a critical question emerges: **How can Algeria's regulatory and supervisory bodies facilitate technological innovation in the financial sector while ensuring effective oversight, risk mitigation, and long-term economic stability?** Addressing this question requires a detailed analysis of existing regulatory frameworks, institutional capacities, technological infrastructure, and the challenges associated with promoting digital financial services in a transitioning economy.

I-1- Importance of the Study

This study is significant as it addresses the critical intersection of technological innovation and regulatory oversight in Algeria's evolving financial technology sector. Analyzing the roles and functions of regulatory and supervisory bodies provides valuable insights into how legal frameworks shape the development, adoption, and sustainability of FinTech solutions. The research contributes to both academic and policy-oriented discussions by highlighting challenges, identifying gaps, and proposing strategies to strike a balance between innovation and financial stability. Its findings are relevant to policymakers, financial institutions, and technology developers, offering guidance for designing regulatory approaches that foster responsible innovation, enhance financial inclusion, and ensure the resilience and integrity of the national economic system.

I-2- Study Objectives

- To examine the role of regulatory and supervisory bodies in the development of FinTech in Algeria;
- To analyze the impact of legal frameworks, including laws on cryptocurrencies and digital financial services, on innovation and economic stability;
- To identify challenges and gaps in the current regulatory environment affecting FinTech adoption;
- To provide recommendations for aligning technological innovation with effective oversight.

I-3- Methodology

The study relies on a descriptive and analytical approach. Primary sources include laws and regulations governing FinTech in Algeria, as well as the Central Bank of Algeria's guidelines. Secondary sources comprise official reports, statistical data, and relevant literature on financial technology and regulatory practices.

II- The theoretical framework of the study

II-1- The Development of the Internet as an Infrastructure Supporting Financial Technology in Algeria

The discussion of the evolution of financial technology in Algeria forms part of a broader trajectory linked to digital transformation. Its initial signs began to emerge with the introduction of the Internet in the mid-1990s; however, the absence of political and economic stability at the time hindered the practical implementation of this concept. With the onset of the second decade of the third millennium, the idea of "digital transformation" began to emerge in official discourse, albeit in a limited manner, primarily confined to the digitization of administrative and managerial systems, without a substantive shift towards fully integrated digital models. (بن يزة، 2024، ص ص 47-48).

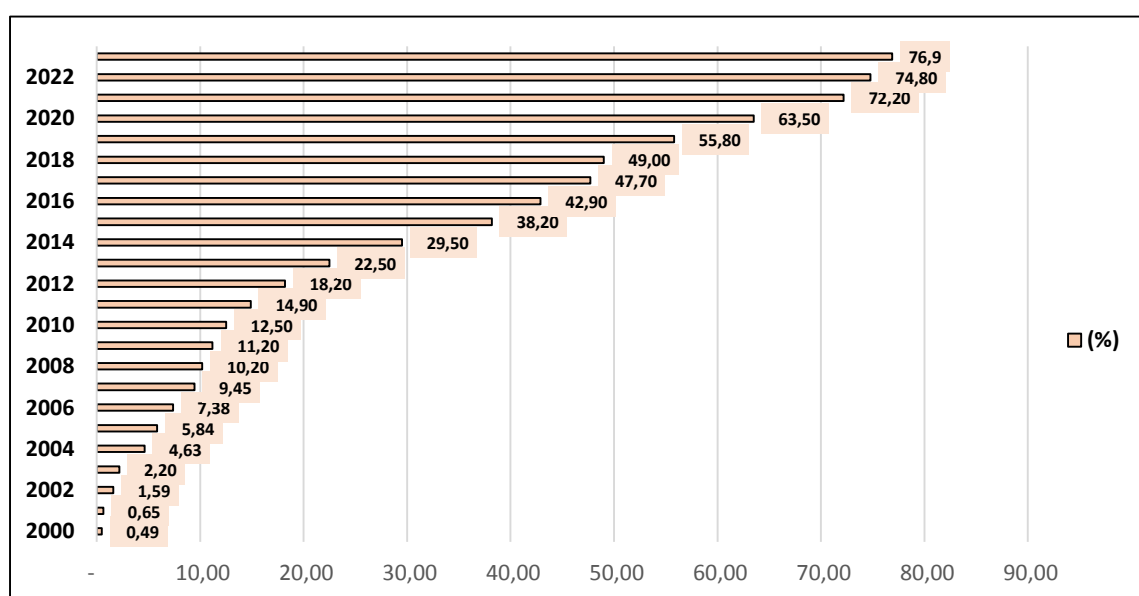
The issuance of Executive Decree No. 2000-307 on October 14, 2000, marked a critical turning point, as it established the legal framework regulating the provision and use of Internet services. This development enabled greater participation from both public and private sector operators in the market, with the number of licenses granted to private entities reaching 65 by the end of 2001. Simultaneously, the infrastructure was strengthened with a primary fiber-optic communication line operating at 34 Mbps, expandable up to 144 Mbps. Technical progress continued with the introduction of high-speed Internet (ADSL) in 2005 through a partnership with a Chinese company, providing a speed of 128 Mbps and allowing the distribution of more than 600,000 Internet lines nationwide. In 2008, the three mobile operators (Djezzy, Mobilis, and

Nedjma) entered the mobile Internet sector, further expanding coverage and enhancing network accessibility (بن عياش، 2016، ص 2 346).

Despite these achievements, the sector faced structural challenges, notably the re-monopolization of the fixed Internet market by Algérie Télécom after the near-total exclusion of the provider Eepad, resulting in a single operator dominating the marketing of fixed Internet services. Nevertheless, growth continued, with the number of Internet subscriptions reaching approximately 18,583,527 by the end of 2015, driven largely by the expansion of mobile Internet, especially following the introduction of third-generation (3G) technology. Between 2013 and 2017, the number of subscribers increased from 2,339,338 to over 20 million (Bouabdellah, 2018, p 36)

The following figure illustrates the evolution of Internet users in Algeria during the period 2000–2023, reflecting significant changes in digital infrastructure and the widespread adoption of Internet services across the country.

Figure (1): Evolution of Internet Users in Algeria (2000–2023)



Source: Prepared based on World Bank Group, Individuals using the Internet (% of population) – Algeria, available at: <https://data.worldbank.org/indicator/IT.NET.USER.ZS?end=2023&locations=DZ&start=1990&view=chart>, accessed on March 26, 2024, at 1:45 pm.

Figure 1 illustrates World Bank data on Internet users in Algeria from 2000 to 2023, showing a significant digital transformation. Internet penetration rose from 0.49% in 2000 to 76.9% in 2023. The early phase (2000–2005) was slow (up to 5.84%) due to limited infrastructure. Rapid growth occurred between 2006 and 2014 (7.38% to 29.5%) with regulatory improvements and expanded coverage, enabling initial e-banking services. After 2015, digital transformation accelerated (38.2% in 2015 to 55.8% in 2019) with 4G rollout and fiber-optic expansion, coinciding with electronic payment adoption. The COVID-19 period (2020–2022) saw unprecedented growth (63.5% to 76.9%) driven by social distancing and increased reliance on digital financial services.

II-2- Development of the Information and Communication Technology Sector as a Facilitator of Financial Technology in Algeria

The Information and Communication Technology (ICT) sector in Algeria has played a pivotal role in laying the groundwork for the emergence and spread of digital financial services, including fintech. Until 2000, the sector was state-monopolized under Order No. 75-89 of December 30, 1975, with the Ministry of Posts and Telecommunications performing both postal and telecommunications functions.

At the beginning of 2000, Algeria initiated structural reforms to liberalize the sector under Law No. 2000-03 of August 5, 2000, leading to the restructuring of the sector and the establishment of public operators, Algeria Post and Algérie Télécom, alongside an independent regulatory authority. These reforms focused on key measures that enhanced digital infrastructure and expanded service coverage. (سنوسي، 2009، ص 62)

A significant technical initiative in this context was the launch of the WiMAX system in May 2007, which improved high-speed wireless Internet and telephone services. The project involved substantial investments, including laying 80 Gbps fiber-optic cables connecting Algiers, Oran, and Annaba, paving the way for a multi-service network that became operational in March 2007. (عباسة، 2016، 348).

II-3- Legislation and Regulations Governing Electronic Communications Activities

The electronic communications sector in Algeria is regulated by Executive Decree No. 21-44 of January 17, 2021, which sets the legal framework for the operation of networks and related activities. Electronic communications activities can take the following forms:

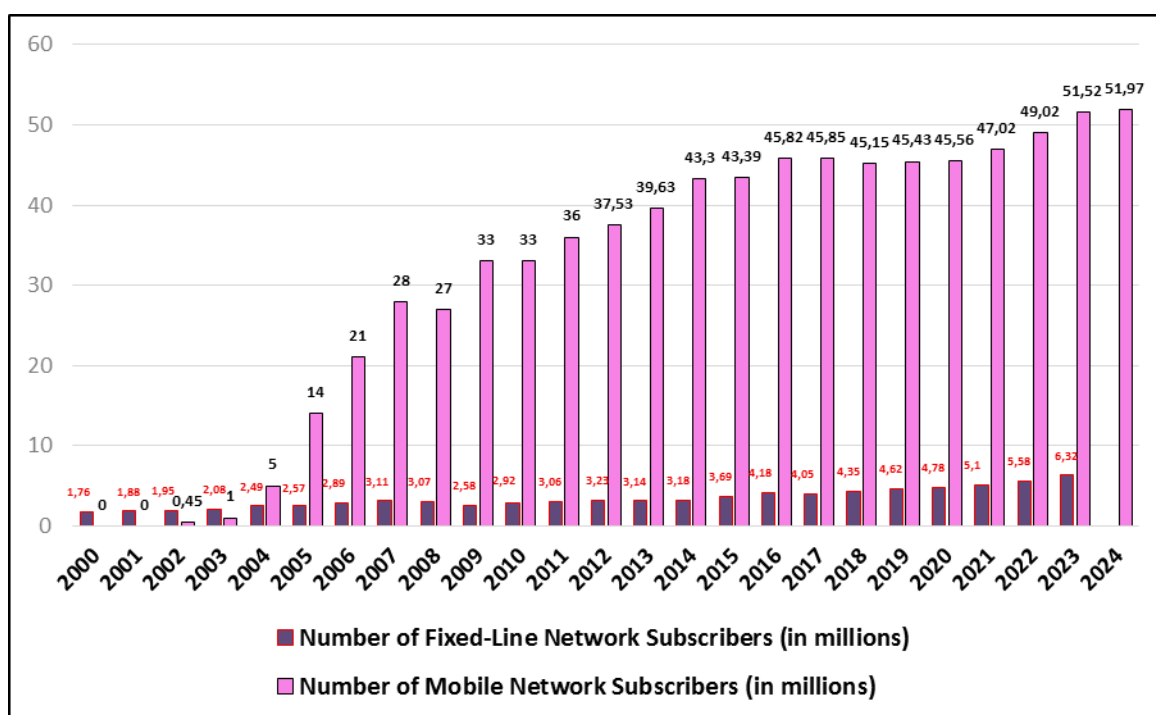
3-1- License-Based Activities

The operation of telecommunications services in Algeria is granted under a license for a predetermined period to the winning bidder following a competitive process. These services include fixed-line and mobile telephony (GSM), 3G and 4G networks, as well as VSAT and GMPCS services. Although fixed-line usage has declined relative to mobile telephony, it remains a key component of the communications infrastructure. The operation of fixed-line networks (international, intercity, and local loops) is governed by specific license conditions; Algérie Télécom was granted a license to establish and operate the fixed network starting in 2005 for 15 years, renewable under Article 29 of Law 18-04 of May 10, 2018.

Mobile telephony services are regulated under Executive Decree No. 01-124 of May 9, 2001, with licenses issued by the Minister in charge of wired and wireless communications for 15 years, renewable every five years. The mobile market comprises three main operators: Mobilis, Djezzy, and Ooredoo. (MPC, 2024,)

To illustrate the impact of these regulations and market expansion, the following figure presents the evolution of fixed and mobile subscribers in Algeria from 2000 to 2024.

Figure (2): Evolution of Fixed-Line and Mobile Network Subscribers in Algeria (2000–2024) (in millions)



Source: Prepared based on the following reports:

Regulatory Authority for Posts and Telecommunications, Annual Report 2011, Algeria, p. 36.

Regulatory Authority for Posts and Electronic Communications, Annual Report 2019, Algeria, pp. 12–13.

Regulatory Authority for Posts and Electronic Communications, Annual Report 2022, Algeria, pp. 9–10.

IndexMundi, Algeria – Telephone Lines Fixed Telephone Subscriptions, IndexMundi Research, available at:

<https://www.indexmundi.com/facts/algeria/telephone-lines>

, accessed on March 14, 2023, at 2:34 PM.

Figure 2 above illustrates that the telecommunications sector in Algeria underwent profound transformations between 2000 and 2024, reflecting structural changes in digital infrastructure and enabling the adoption of financial technology. Fixed-line telephony experienced slow and steady growth, rising from approximately 1.76 million subscribers in 2000 to 3.11 million in 2007, before declining to 2.58 million in 2009 due to a consumer shift toward mobile services. Growth resumed thereafter, reaching 6.32 million in 2023, supported by reinvestment in fiber-optic networks and fixed Internet services.

Mobile telephony officially launched in late 2001 with Mobilis, followed by Djezzy in 2002 and Nedjma in 2004, triggering rapid growth from 0.45 million subscribers in 2002 to 28 million in 2007, and reaching 51.97 million in 2024. This expansion, despite relative market saturation, was driven by wider coverage, lower prices, and the proliferation of Internet and digital banking services. During the COVID-19 pandemic (2020–2021), reliance on mobile phones for access to health, education, and financial services increased, forming a foundation for the growth of financial technology. Comparative analysis of fixed and mobile telephony highlights the significant shift toward mobile networks as a key driver of digital inclusion, explaining why financial technology adoption relies primarily on mobile platforms.

3-2- General Licensing System

Grants a legal framework for companies to offer specific services (e.g., Internet access, VoIP, geolocation, cloud hosting, call centers) upon approval by the regulatory authority (Articles 131–134, Law 18-04).. (MPC,2024,)

3-3- Simple Declaration System

Applies to services not covered by licenses, requiring providers to submit a prior declaration to the regulatory authority (Article 10, Law 18-04).. (MPC,2024,)

II-4- Regulations Governing Digital Financial Services

Regulations for digital financial services in Algeria have emerged as a legal framework aimed at governing the use of modern technological tools in financial transactions. Key measures include:

4-1- Digital Banking and Banking Modernization Law

Law No. 23-09 of June 21, 2023, marked a turning point by allowing, for the first time, the creation of fully digital banks operating exclusively through digital channels without traditional branches. The law sets conditions for their establishment and regulation, ensuring the integration of financial technology within the banking system. (MPC,2024,)

4-2- Regulation of Digital Payment Service Providers (PSPs)

Bank of Algeria Instruction No. 06-2025 of August 17, 2025, regulates electronic payment providers such as digital wallets and agent networks, requiring transactions to be conducted solely in the national currency (Algerian dinar) and enforcing consumer protection rules.

II-5- Legal Framework for Cryptocurrencies

Algeria has adopted a strict legal stance toward cryptocurrencies. Article 117 of Law No. 17-11 of 2017 prohibits their use, including purchase, sale, possession, and utilization, effective January 1, 2018, due to financial and security risks, difficulty in tracking transactions, potential illegal use, and weak digital infrastructure. Authorities are exploring a sovereign digital currency (digital dinar) issued by an official entity with legal backing and real currency coverage. (بريش، 2023) In July 2025, Algeria enacted a law criminalizing any dealings with virtual currencies, including issuance, trade, possession, promotion, and operation of exchange or mining platforms, imposing penalties of two months to one year in prison and fines from 200,000 to 1,000,000 Algerian dinars, as part of anti-money laundering and anti-terrorism financing efforts.' (Arbi, 2025).

III- Regulatory and Supervisory Authorities in the Field of Financial Technology in Algeria

The financial technology ecosystem in Algeria is a multi-dimensional system, comprising a range of public and private actors who play strategic roles in driving the digital transformation of the financial sector. The Roadmap 2020 highlights the nature of these institutional interactions through the following figure, which illustrates the governance structure and coordination mechanisms within this system.

Figure (): Key Actors in Algeria's Financial Technology Ecosystem Based on the RoadMap 2020

- Establishment of the Interbank Electronic Clearing System (ATCI) in 2005 to enable electronic check clearing and later expand to other payment methods.
- Launch of the Real-Time Gross Settlement (RTGS) system in 2006 for large-value transactions, enhancing speed and efficiency
- Creation of the Finlab DZ in 2020, in coordination with COSOB, to explore financial innovation and develop a national roadmap for FinTech, including governance frameworks, technical infrastructure, startup support, and human capital training; (جلال، 2024، 542)
- Strengthening the legal framework through Law No. 22-09 of June 21, 2022, granting new regulatory powers, authorizing the issuance of the central bank digital currency (CBDC “Digital Dinar”), and setting minimum capital requirements for digital banks (10 Billion DZD), traditional banks (20 Billion DZD), and financial institutions (6.5 Billion DZD), effective 2026

1-3- Regulatory Authority for Posts and Electronic Communications (ARPCE)

ARPCE is an independent authority overseeing postal and electronic communications. It ensures fair competition, regulates network access and resource allocation, and supports digital infrastructure development. ARPCE also regulates electronic certification services, granting licenses, approving policies, and ensuring the security and continuity of digital transactions, thus underpinning trust in electronic payment and certification solutions.

1-3-1- Economic Authority for Electronic Certification

Under Law No. 15-04, ARPCE appointed the Economic Authority for Electronic Certification, responsible for providing secure digital certificates and services to safeguard electronic transactions.

Table (): Services and Products of the Economic Authority for Electronic Certification in Algeria

Certificate / Service	Target Group	Main Function	Validity	Key Benefits
THI9A-ID	Individuals	Digital ID card for electronic signing, ensuring integrity and non-repudiation	2 years	- User identity verification- Secure signing- Protected electronic transactions
THI9A-SIGN	Natural Persons	Descriptive electronic signature for documents and transactions	2 years	- Unlimited signatures- Secure device (FIPS 140-2)
THI9A-ENTREPRISE	Legal Entities	Official digital seal to authenticate the link between entity and digital documents	2 years	- Unlimited seals

Source: Prepared based on the information from the Economic Authority for Electronic Certification, Products and / Services, available at: <https://aece.dz/ar/services>, accessed on December 12, 2024, at 04:58 PM.

1-3-2- Arab Regulators Network for Telecommunications and Information Technology

The Arab Regulators Network for Telecommunications and Information Technology was established following an initiative by the heads of Arab regulatory authorities. Its founding meeting took place in Algeria from April 19–21, 2003, attended by representatives from 15 Arab countries and the International Telecommunication Union. Algeria was selected as the headquarters for the network’s permanent secretariat.

1-4- National Commission for the Regulation and Oversight of the Stock Exchange (COSOB)

Under the supervision of the Bank of Algeria, COSOB regulates and supervises FinTech activities in the country. It issues and enforces relevant regulations and oversees the Finlab, a platform dedicated to supporting financial and technological innovation.

According to Article 5 of the amended legislative decree of May 23, 1993, governing the stock exchange, intermediaries are granted exclusive authority to trade securities listed on the financial market. COSOB has authorized ten official intermediaries, including key commercial and development banks operating in Algeria..(بريش، 2023، ص 223)

1-5- Banking Committee

Established under Executive Decree 03-11 of August 26, 2003, concerning banking and credit, the Banking Committee performs the following function:

- Supervision of regulatory compliance: Monitoring banks and financial institutions to ensure adherence to laws and regulations, including digital transaction rules, to maintain sector stability;
- Enhancing financial sector governance amid digital transformation: Strengthening governance frameworks to adapt to technological and digital developments in banking;
- Regulation of new actors in the digital financial landscape: Setting regulatory frameworks for new products and services, such as digital banks and electronic payment providers, ensuring legal compliance and consumer protection

IV- Challenges of Adopting Financial Technology in Algeria

Despite advances in digital infrastructure and modern financial services, Algeria faces several obstacles that hinder the widespread adoption of financial technology (FinTech), primarily related to structural, cultural, and trust-related factors.

1- Structural Challenges

These include weak digital infrastructure, high internet costs, limited connectivity, and the absence of a clear plan for banking sector reform and digitization. Public investment in IT remains low, regulatory frameworks for new FinTech players are lacking, and Algeria ranked low in the 2019 Ease of Doing Business index. (حمدوش، 2021، ص 552) .

Additionally, limited private sector engagement, weak international technology transfer, bureaucratic practices, and a fragile cybersecurity ecosystem further constrain development. The dominance of public banks and high banking concentration exacerbate financial exclusion and limit competition and innovation (بن يزة، 2024، ص55) .

2- Cultural and Behavioral Challenges

Low English proficiency and inadequate financial literacy only 32% of adults reducing engagement with digital financial tools. In 2017, only 43% of adults held a bank account (29% of women), with digital payment usage at 16% for adults and 11% for women . (حمدوش، 2021، ص 553). Resistance to change, lack of professional digital preparedness, and widespread digital illiteracy among traditional staff contribute to slower adoption and intergenerational gaps in digital skills. .

3- Weak Digital Trust and Cybersecurity

Consumer confidence in digital financial services remains limited due to fears of online fraud and insufficient protection mechanisms. Algeria continues to register medium levels in the Global Cybersecurity Index, highlighting persistent challenges in ensuring secure and trustworthy digital transactions.

V- Conclusion

This study underscores the transformative potential of financial technology (FinTech) in Algeria and the essential role played by regulatory and supervisory bodies in fostering a balanced ecosystem. Over

the past two decades, Algeria has witnessed significant strides in digital infrastructure, legal frameworks, and institutional arrangements that facilitate innovation in financial services. Initiatives such as the establishment of digital banks, regulation of payment service providers, and plans for a central bank digital currency (CBDC) reflect a clear commitment to modernizing the financial sector.

However, despite these advancements, the successful adoption and integration of FinTech solutions remain constrained by multiple challenges. Structural limitations, cultural and behavioral barriers, and persistent concerns over digital trust and cybersecurity slow the pace of digital transformation. These factors indicate that while regulatory frameworks are necessary, they are not sufficient alone to guarantee effective innovation and widespread financial inclusion. A coordinated effort involving legal clarity, institutional support, capacity building, and public awareness is crucial to overcome these obstacles and ensure a resilient FinTech ecosystem that supports both economic growth and social development.

Based on the study's analysis, the key results can be summarized as follows:

- Algeria has created a robust institutional framework for FinTech, involving the Ministry of Finance, Bank of Algeria, COSOB, and ARPCE, which collectively oversee regulation, supervision, and innovation;
- Legal reforms, including laws governing digital banking and electronic payment services, as well as the introduction of the digital dinar, have established the foundation for technological innovation within the financial sector;
- Structural challenges persist, such as limited and uneven digital infrastructure, high internet costs, low public investment in IT, and the dominance of state-owned banks, which restrict competition and innovation;
- Cultural and behavioral obstacles, including low levels of financial literacy, limited digital skills among adults, resistance to change, and language barriers, reduce adoption and engagement with digital financial services;
- Consumer trust in digital financial services is hindered by concerns over cybersecurity, online fraud, and inadequate protection mechanisms, highlighting the need for stronger security frameworks and public confidence-building measures;
- A successful FinTech ecosystem in Algeria will require enhanced coordination among regulatory bodies, increased stakeholder awareness, comprehensive training and capacity-building programs, and policies that support both innovation and financial stability.

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