


**THE REALITY OF ALGERIAN TRADITIONAL BANKS IN LIGHT OF THE
ACCELERATION OF FINANCIAL TECHNOLOGY**

Mechroum Naouel^A, Benzaraa Hayette^B



ARTICLE INFO	ABSTRACT
<p>Article history: Received: May, 28th 2024 Accepted: July, 26th 2024</p>	<p>Objective: This research aims to understand the reality of how Algerian banks operate in light of the rapid advancement of financial technology and the extent to which they have embraced the new trend based on financial technology, or what is known as "FINTECH," in payment systems, lending, and even investment.</p>
<p>Keywords: Algerian Banks; Financial Technology; Digital Banks; Payment Services.</p>	<p>Theoretical Framework: Fintech has reached advanced stages, and traditional Algerian banks need to change the outdated conventional style they've been using due to technological changes in order to improve financial services.</p> <p>Method: In order to answer the questions asked and to take note of the various aspects of the subject, and to test the validity of the previously mentioned hypotheses, the analytical descriptive approach was relied upon to cover the theoretical aspect and to use statistical side for analyzing the data and information included in the study.</p>
	<p>Results and Discussion: The study concluded that adopting financial technology is among the most important activities in the financial and banking system in Algeria, despite the limited range of financial services and products offered through its financial channels, which are still in their early stages. It has become essential to encourage digital banks and support institutions active in payment and financial services, which will have a positive impact on financial technologies as well as the banking system.</p> <p>Research Implications: This study identified the main obstacles that have prevented financial technology in the Algerian banking system from reaching advanced levels, along with the significant efforts made by the state to enhance Algerian banking services.</p> <p>Originality/Value: This study aims to highlight the banking sector in Algeria and its ability to keep up with the developments occurring in the field of financial technology, evidenced by [explain how the results may impact the area of study or professional practice].</p> <p>Doi: https://doi.org/10.26668/businessreview/2024.v9i8.4922</p>

**A REALIDADE DOS BANCOS TRADICIONAIS DA ARGÉLIA À LUZ DA ACELERAÇÃO DA
TECNOLOGIA FINANCEIRA**

RESUMO

Objetivo: Esta pesquisa tem como objetivo compreender a realidade de como os bancos argelinos operam à luz do rápido avanço da tecnologia financeira e até que ponto eles adotaram a nova tendência baseada na tecnologia financeira, ou o que é conhecido como "FINTECH", em sistemas de pagamento, empréstimos e até mesmo investimentos.

^A Lecturer Class B. Sustainable Local Development Laboratory: Agriculture, Rural Development, and Ecotourism, University of Chadli Bendjedid El Tarf. Algeria. E-mail: mechroum-naouel@univ-eltarf.dz
 Orcid: <https://orcid.org/0009-0001-8045-4242>

^B Lecturer Class A. Sustainable Local Development Laboratory: Agriculture, Rural Development, and Ecotourism, University of Chadli Bendjedid El Tarf. Algeria. E-mail: h.benzaraa@univ-eltarf.dz
 Orcid: <https://orcid.org/0009-0003-4958-8079>

Estrutura Teórica: A Fintech atingiu estágios avançados, e os bancos tradicionais argelinos precisam mudar o estilo convencional ultrapassado que vêm usando devido às mudanças tecnológicas para melhorar os serviços financeiros.

Método: Para responder às perguntas feitas e tomar nota dos vários aspectos do assunto e testar a validade das hipóteses mencionadas anteriormente, foi utilizada a abordagem descritiva analítica para cobrir o aspecto teórico e usar o lado estatístico para analisar os dados e as informações incluídas no estudo.

Resultados e Discussão: O estudo concluiu que a adoção da tecnologia financeira está entre as atividades mais importantes do sistema financeiro e bancário da Argélia, apesar da gama limitada de serviços e produtos financeiros oferecidos por meio de seus canais financeiros, que ainda estão em seus estágios iniciais. Tornou-se essencial incentivar os bancos digitais e apoiar as instituições ativas em serviços financeiros e de pagamento, o que terá um impacto positivo sobre as tecnologias financeiras e o sistema bancário.

Implicações da Pesquisa: Este estudo identificou os principais obstáculos que impediram que a tecnologia financeira no sistema bancário argelino atingisse níveis avançados, juntamente com os esforços significativos feitos pelo Estado para aprimorar os serviços bancários da Argélia.

Originalidade/Valor: Este estudo tem como objetivo destacar o setor bancário da Argélia e sua capacidade de acompanhar os desenvolvimentos que ocorrem no campo da tecnologia financeira.

Palavras-chave: Bancos Argelinos, Tecnologia Financeira, Bancos Digitais, Serviços de Pagamento.

LA REALIDAD DE LOS BANCOS TRADICIONALES ARGELINOS ANTE LA ACELERACIÓN DE LA TECNOLOGÍA FINANCIERA

RESUMEN

Objetivo: Esta investigación pretende comprender la realidad del funcionamiento de los bancos argelinos a la luz del rápido avance de la tecnología financiera y en qué medida han adoptado la nueva tendencia basada en la tecnología financiera, o lo que se conoce como «FINTECH», en los sistemas de pago, los préstamos e incluso la inversión.

Marco Teórico: Fintech ha alcanzado fases avanzadas, y los bancos tradicionales argelinos necesitan cambiar el anticuado estilo convencional que han estado utilizando debido a los cambios tecnológicos para mejorar los servicios financieros.

Método: Para responder a las preguntas planteadas y tomar nota de los diversos aspectos del tema, así como para probar la validez de las hipótesis anteriormente mencionadas, se recurrió al enfoque descriptivo analítico para cubrir el aspecto teórico y utilizar la parte estadística para analizar los datos y la información incluidos en el estudio.

Resultados y Discusión: El estudio concluye que la adopción de la tecnología financiera es una de las actividades más importantes del sistema financiero y bancario en Argelia, a pesar de la limitada gama de servicios y productos financieros ofrecidos a través de sus canales financieros, que aún se encuentran en sus primeras etapas. Resulta esencial fomentar los bancos digitales y apoyar a las instituciones activas en los servicios financieros y de pago, lo que tendrá un impacto positivo en las tecnologías financieras, así como en el sistema bancario.

Implicaciones de la Investigación: Este estudio identificó los principales obstáculos que han impedido que la tecnología financiera en el sistema bancario argelino alcance niveles avanzados, junto con los importantes esfuerzos realizados por el Estado para mejorar los servicios bancarios argelinos.

Originalidad/Valor: Este estudio pretende poner de relieve el sector bancario en Argelia y su capacidad para mantenerse al día de los avances que se producen en el campo de la tecnología financiera. Evidenciado por [explique cómo los resultados pueden repercutir en el área de estudio o en la práctica profesional].

Palabras clave: Bancos Argelinos, Tecnología Financiera, Bancos Digitales, Servicios de Pago.

1 INTRODUCTION

In recent years, the term financial technology (FinTech) has been adopted in order to describe a wide range of services, with the help of many financial technologies of different types of institutions, which mainly address the advancement of the quality of financial products and services. Supported by information technology (IT) applications.

It has become important because of many important factors, ranging from technical progress, enterprise innovation, the need to reduce costs, and improving the relationship with customers. The high speed with which financial technology has been adopted has caused a great challenge, due to the multidisciplinary, the advanced use of integrated platforms, and the increased demand for this service.

Because of its controversial status, fintech has garnered significant attention from governments, policymakers, regulators and analysts, with in-country fintech development attributed to its positive impact on the public and banks, as it scraps high-interest loans. In addition, it ensures safe financial management for individuals. The introduction and growth of fintech has a significant impact on traditional business models in the banking sector.

These developments in financial technology have led to a new era in the banking sector, by posing challenges, opportunities and risks. The integration of fintech into the financial system has led to the creation of global digital technology platforms through which new innovative financial products and services are introduced to customers.

Given that the banking sector in Algeria is one of the most sensitive sectors, it was necessary to shed light on the most important developments in the field of financial technology and whether the Algerian banking system is able to keep pace with the developments in the field of financial technology.

1.1 THE PROBLEM OF THE STUDY

- does the banking system in Algeria actually adopt financial technology in its transactions?
- this question is divided into the following sub-questions?
- what is meant by financial technology?
- what are the most important strategies that Algerian banks should adopt in light of the acceleration of financial technology?

1.2 HYPOTHESES OF THE STUDY

- fintech introduces new ways of working aimed at enhancing the customer experience and increasing the efficiency of operations in traditional financial institutions;
- the acceleration of the pace of financial technology obliges Algerian commercial banks to apply multiple and integrated strategies that include all aspects of banking work to keep pace with the development in this field.

1.3 METHODOLOGY OF THE STUDY

In order to answer the questions asked and to take note of the various aspects of the subject, and to test the validity of the previously mentioned hypotheses, the analytical descriptive approach was relied upon to cover the theoretical aspect and to use statistics.

1.4 OBJECTIVES OF THE STUDY

The main objective of the study is to highlight aspects of the rapid growth of the financial industry in combination with high information technology. At the same time, it aims to clarify the role of financial technology in changing the form of intermediation by focusing on the Algerian banking sector, where individuals are no longer heavily dependent on traditional banks thanks to the Internet, smart phones and advanced technology, which has led to a decrease in the requirements of physical presence to conduct financial transactions, that is, reducing the role of banks as a financial intermediary and is likely to witness a change, that is, reducing the role of banks as a financial intermediary.

2 FINTECH CONCEPT

Fintech is a composite term from financial and technology, referring to the industrial changes resulting from the convergence between the concepts of financial services and information technology. Financial services mean every innovative financial service distinguished by the use of modern technologies, such as mobile phone, social media, and payment and settlement system. The term information technology refers to innovative

technology to provide services such as transfers, payments, settlement and investment without working with a financial company, such as Apple Pay and Ali Pay.

The **Financial Stability Board (FBS)** has defined **financial technology** as: financial innovations using technology that can develop new business models, applications, processes, or products that have a material and tangible impact on financial markets and institutions, and on the provision of financial services. (Bank for International Settlements, 2018, p. 8)

As for the Digital Research Institute in the Polish capital Dublin, it was defined by financial technology as the modern technological inventions and innovations in the field of the financial sector. These inventions include a set of digital programs that are used in the financial operations of banks, including transactions with customers and financial services such as the transfer of funds, currency exchange, calculations of interest rates on profits, knowledge of expected profits of investments and other bank operations (Sakhr & bin Ali, 2021, p. 405).

It is also defined as: an economic industry consisting of financial institutions that use modern and sophisticated technology to make financial services easier and more efficient (Chuang et al., 2016, p. 2).

Hence, he concludes that it is a technologically driven process in the financial industry that introduces new business methods aimed at enhancing the customer experience, increasing the efficiency of operations in traditional financial institutions, and opening the market doors to new entrants who are redesigning traditional services so that they are more personalized, transparent, and accessible through digital channels, providing potential customers with alternatives to the traditional services offered by the financial industry.

- **fintech activities: fintech** activities can be divided into: (Vasiljeva & Lukanova, 2016, p. 26) - **Service-oriented - Developing technologies related to** services provided by traditional financial institutions, such as money transfer, card payments, lending and investment, P2P lending, crowdfunding, or foreign exchange;
- **data-oriented** - customized solutions and technologies for the collection, processing and analysis of information. Although banks have not been paying much attention to the big data phenomenon, recently there have been signs that this trend is changing. Nowadays, banks are introducing so-called cost caps and are starting to work on increasing efficiency and automating processes;
- **process-oriented** - after the 2008 financial crisis, banks around the world redefined their operating models. Nowadays, banks are introducing so-called cost caps and are starting to work on increasing efficiency and automating processes.

2.1 MAIN FINTECH PRODUCTS AND SERVICES:

In addition to the FSB definition, **BCBS** also used a rating for fintech innovations. It shows three product segments, as well as market support services. The three sectors are directly linked to core banking services, while market support services are linked to new innovations and technologies that are not limited to the financial sector but also play an important role in fintech developments (Basel Committee on Banking Supervision, 2018, p. 9).

The following figure illustrates this:

Figure 1

Innovative Services Sectors

Innovation Sectors			
Investment Management Services	Payments/Settlement of Services		Loans/deposits and servicesCapital
High-frequency trading	Wholesale	Retail	Crowdfunding
Copy Trading	Value Transfer Networks	Mobile Phones	Lending ...
Electronic Trading		peer-to-peer conversion	Mobile Banks
Robot Consulting	Digital Exchange Platforms	Cryptocurrencies	Loan
Data Collector Portal			Market Support Services
Ecosystem (Infrastructure, Software Interface, Open Applications)			
Data application (big data analysis, machine learning, predictive learning)			
Distributor Register Technology (Smart Contracts - Blockchain)			
Security or Assurance (Identification - Customer Authentication)			
Artificial Intelligence (Robotics - Financial Automation - Algorithms)			

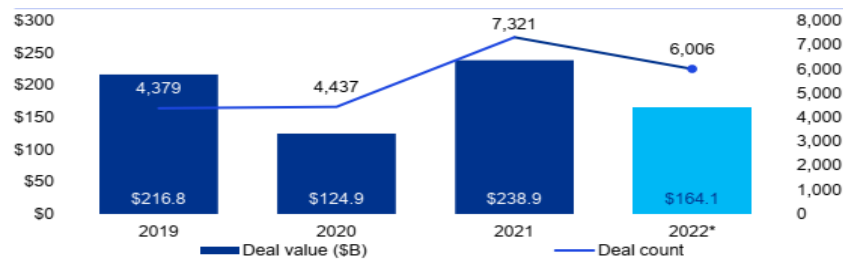
Source: Basel Committee on Banking Supervision, Implications of fintech developments for banks and bank supervisors, February 2018, p. 9.

2.2 VOLUME OF FINTECH INVESTMENTS

The first half of 2022 witnessed a shift in market dynamics across the FinTech landscape. The following figure illustrates this:

Figure 2

The volume of global fintech investments for the period 2019-2022



Source: Pulse of Fintech, Global analysis of fintech investment, February, kpmg on : site [kpmg.com/fintechpulse](https://www.kpmg.com/fintechpulse), p. 8.

The fintech market is dominated by the payments space, which attracted \$53.1 billion in investments in 2022.

Counting the record-high 2021 level of total global fintech investment (\$238.9 billion) and transaction volume (\$7,321), 2022 saw a decline in total investment and transaction volume - to \$164.1 billion and 6,006, respectively. Although low compared to 2021, it was the third-best year for fintech investment ever and the second-best year in terms of deal size.

Fintech investment fell by more than 50% in the second half of the year 22 compared to H1 '22. Global fintech investment in the second half of the year 22 was US \$44.9 billion compared to US \$119.2 billion in the first half of the year. A decline of more than 50% highlights the impact of a sharp drop in large trades.

2.3 ADVANTAGES OF APPLYING FINANCIAL TECHNOLOGY IN THE BANKING SECTOR: (AJLOUNI & AL HAKIM, 2018, PP. 9-10)

- providing financial and banking transactions at a lower cost and more quickly, as in financial transfers between countries, which represents one of the forms of capital flow;
- improving the services provided by the banking sector, and providing them in a more flexible way in terms of cost and speed, as well as benefiting from electronic consultations for customers;
- assisting in financial stability; managing the increasing competition within the banking sector itself (between traditional banks and digital banks), and between Fintech companies, which results in the fragmentation of banking market services and the reduction of systemic risks;

- the use of electronic platforms for lending operations helps ease access to capital in providing credit to medium-sized and small companies that do not have the ability to access bank loans in a direct way.

3 PEER TO PEER ONLINE LENDING: CHALLENGES FOR BANKS AND CONSUMER BENEFITS

After the global financial crisis that occurred in 2008, which damaged the profits of commercial banks and affected their competitiveness, it led to a great rush towards finding technological solutions to get rid of the effects of the crisis.

Traditional banks have taken a conservative position and it has become difficult for consumers to obtain loans, as well as to follow inefficient practices by layering many layers among borrowers and investors, as borrowers go through a wide application process before they obtain the loan, as well as the possibility of selling loans to investors through a variety of investment tools such as securitization. (Jagtiani & Lemieux, 34)

Due to the rapid rates of innovation and development, thanks to the continuous development of financial technology for payments technology, innovative means of remittances, and related tools and technologies, in addition to the entry of new projects into the financial and banking services sector with heavy use of computer networking technologies, which has accelerated the development of innovation areas in this sector.

Fintech companies have played an increasing role in shaping the financial and banking environment, which prompted banks to express their concern that they are not subject to the same strict control when providing loans and thus unequal opportunities between them.

3.1 THE CONCEPT OF PEER-TO-PEER LENDING

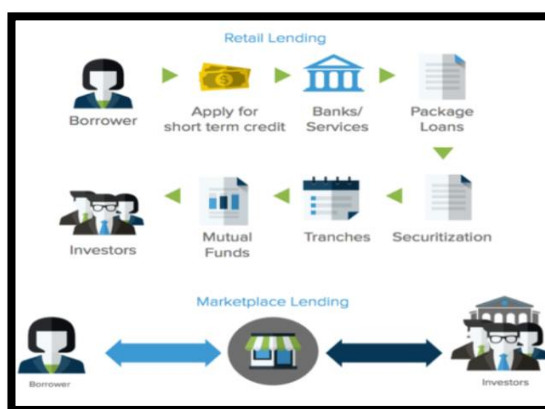
The process of peer-to-peer lending is systems that work like markets, a new trend that eliminates the role of banks, so that borrowers go directly to lenders, in a process that requires more time and effort and requires higher risk than the traditional system.

Fintech companies introduced per capita finance (P2P), also called the lending market, where lending platforms compete directly with banks by offering better rates and a simplified experience using the common market. Marketplace (Khayrallah et al, 2015, pp. 24-25). The following figure shows:

The difference between the financing services provided by banks and the financing services provided by the lending market.

Figure 3

The difference between the financing services provided by banks and the financing services provided by the lending market



Source: Khayrallah et al. (2015, p. 24).

The peer-to-peer lending process falls under the systems of lending money to individuals and companies and is based on steps under a specific program. Individuals or companies wishing to lend their money meet with borrowers and then the financing process is carried out without the mediation of commercial banks. For the lender, he retrieves his money upon payment plus the interest rate, which is supposed to be proportional to the degree of risk directly.

While fintech companies emerge across the financial services industry, digital innovators are particularly present in banks' traditional markets. Peer-to-peer online lending platforms are at the forefront of the fintech revolution. These platforms match borrowers with online investors (e.g., individuals) who fund loans rather than traditional finance providers such as banks and building societies.

Although commercial banks increasingly rely on similar technologies, they do not digitize credit processing to the same degree and typically use offline operations and staff to determine whether or not to lend to a borrower.

Unlike banks, peer-to-peer lenders do not accept deposits or use them to finance loans. Alternatively, after digitally examining borrower loan applications, these platforms list in an online marketplace the loans that individuals and institutions can decide to invest in.

While investors typically receive a higher rate of return on peer-to-peer investments than on bank deposits, they face losses in cases where the borrower defaults and is unable to

repay the loan. Peer-to-peer lending platforms do not invest in loans, rather they charge a fee for each loan they process.

3.1.1 Relationship between the traditional banking sector and financial technology companies

The following table shows: Developments in the relationship between the traditional banking sector and the financial technology sector.

Table 1

Developments in the relationship between the traditional banking sector and financial technology companies

Adversarial	Shift	Cooperative
Fintech seeks to displace traditional banks; banks view fintech as a threat to market share in the first place.	Traditional banks recognize the benefits of integrating fintech into traditional business; inability to keep pace with innovation; fintech recognizes the benefits of banking partnership ((brands, customers, delivery channels, financing, infrastructure))	A growing vision of traditional banks seeking to harness new technologies; banks and fintech startups finding ways to work with each other; partnerships and joint ventures; minority investments; other collaborative relationships;

Source: Horn and Waack (2020, p. 6).

This relationship was crystallized according to two models represented in partnership or investment as follows:

- partnership and cooperation model:
 - The contractual relationship to provide a product or service:
 - Back office or customer-facing
 - Adding to the existing or stand-alone platform; the
 - least expensive option with the lowest level of commitment to the bank partner:
 - time-limited;
 - the scope of the relationship is limited to what is covered by the contract;
 - there is no debt financing or equity financing; the bank only pays for the product / service;
 - more limited regulatory / supervisory obligations;

- the least intrusive option for a FinTech partner:
- retention of property rights and business control;
- do not give up access to trade secrets;
- a long business relationship, usually non-exclusive.

The benefits of cooperation between giant technology companies and banks are highlighted in:

- obtaining a wider customer base;
- access to superior knowledge in how to deal with financial regulations, and improving their own digital services; Some fintech companies;
- participate in an alliance with a bank to obtain a banking license, which in many cases will be very cumbersome and expensive for fintech startups;
- banks can secure a competitive advantage by cooperating with fintech in development or have already developed a better way to provide financial services, this investment allows the bank to exercise control and influence straightforwardly over the process of product development and fintech strategies.

2. investment model:

- strategic equity investment;
- often, parties will also have a contractual relationship to provide a product or service.

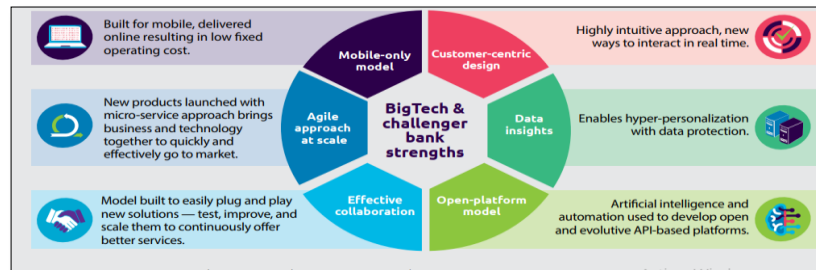
Higher cost option with greater level of commitment to bank partner:

- equity investment/uptrend;
- often accompanied by other business relationships (e.g. debt financing, relationship with seller);
- board or controller rights;
- access to financial technology and expertise;
- increased regulatory and supervisory obligations;
- a more intrusive option for the FinTech partner:
- give up some shares;
- a bank partner gets access to trade secrets and can provide this to the bank over time;
- the relationship is likely to contain exclusive provisions / restrictions on dealing with other banks;
- increases the risk that fintech itself will be directly subject to state or central bank/financial regulation obligations.

In this field, it is possible to benefit from the capabilities of giant technology companies in the aspect of technological technology and benefit from banks in the aspect of financial expertise as shown in the following figure:

Figure 4

Big tech companies and rival banks benefit from high-impact capabilities



Source: Anirban Bose, Vincent Bastid, world fintech report 2020, Efma and Capgemini, p07, online: https://fintechworldreport.com/wpcontent/uploads/sites/9/2020/04/World-FinTechReport-WFTR-2020_Web.pdf

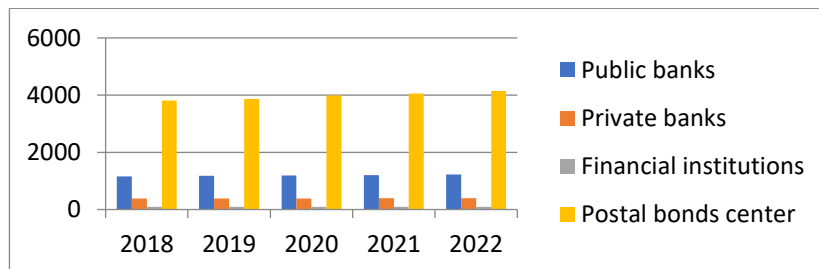
3. an overview of the banking and financial system in Algeria:

The Algerian banking sector consists of three main institutions, which are banks and financial institutions, headed by the Bank of Algeria. The number of licensed banks and financial institutions in Algeria has reached 28, with 12 out of 20 offering Islamic finance services (Bank of Algeria, 2022).

The following figure shows the number of bank branches for public and private banks, financial institutions, and the postal bonds center:

Figure 5

Number of bank branches for public and private banks, financial institutions, and the postal bonds center.



Source: Prepared by the researcher based on the annual report of the Bank of Algeria for 2022.

From the previous figure, it is clearly evident that there is a continuous increase in the number of bank branches in the public sector compared to the private sector and financial

institutions. As for the number of postal agency branches, they are in the lead due to their different way of providing services and not being subject to the currency and loan law, as is the case with banks.

3.2 THE REALITY OF ADOPTING ONLINE PAYMENT SERVICES IN ALGERIA UNTIL 2023

The reality of adopting online payment services in Algeria as of 2023: The volume of online financial transactions has shown a positive trend from 2016 to 2023, with the value of these transactions in the same year estimated at 32 billion DZD for approximately 15 million transactions. The following table illustrates online payment activity.

Table 2

Online Payment Activity for 2016-2023 (Unit D)

	2016	2017	2018	2019	2020*	2021	2022	2023
Total number of transactions	7 366	107 844	176 982	202 480	4 593 960	7 821 346	9 048 125	15 351 354
Total Amount	15 009 842,02	267 993 423,40	332 592 583,28	503 870 361,61	5 423 727 074,80	11 176 475 535,68	18 151 104 423,96	32 196 672 024,03

Source: Prepared by the researcher based on the website giemonetique.dz/ar/qui-sommes-nous/activite-paiement-sur-internet/, accessed on 18-07-2024.

Electronic payment services are limited to activities of a service nature, mainly telephone and telecommunications, insurance transportation, source of invoices, administrative service, services, sale of goods, sports and entertainment.

Electronic payments recorded a significant increase starting from 2020 to 459396, after 202480. The reason for this was due to the Corona pandemic, where it was necessary not to have direct contact with individuals.

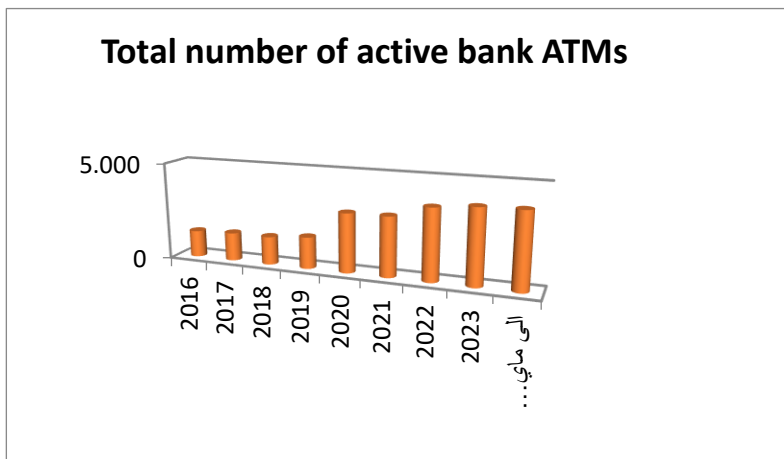
After Algeria Post joined the automated cash pool and achieved the exchange of transactions between the bank /gold card, which became valid since January 05, 2020. Published statistics include electronic payment activity by bank card and gold card.

As for the **ATM withdrawal activity**, the following figure shows the number of ACTIVE BANK ATMS FROM 2016 TO MAY 2024.

Figure 6

Number of Bank ATMs operating from 2016 to May Forest 2024

Year	Total number of active bank ATMs
2016	1 370
2017	1 443
2018	1 441
2019	1 621
2020	3 030
2021	3 053
2022	3 658
2023	3 848
To May 2024	3 884



Source: Prepared by the researcher based on giemonetique.dz/ar/qui-sommes-nous/activite-paiement-sur-internet/. Accessed 18-07-2024. The number of ATMs reached 3,848 in 2023, up from 3,658 in 2022.

As for the volume of transactions through electronic payment terminals (TPE), there has been an increase in the number from 65,501 in 2016 to 3,997,165 in 2023, as shown in the following table:

Table 3

Payment service through the electronic payment station:

Year	Total number of payment transactions	Total Amount of Payment Transactions
2016	65 501	444 508 902,40
2017	122 694	861 775 368,90
2018	190 898	1 335 334 130,76
2019	274 624	1 916 994 721,11
2020	711 777	4 733 820 043,01
2021	2 150 529	15 113 249 499,92
2022	2 712 848	19 343 056 538,17
2023	3 997 165	31 518 739 249,37

Source: Prepared by the researcher based on giemonetique.dz/ar/qui-sommes-nous/activite-paiement-sur-internet/. Access Date 18- 07-2024

3.3 FINANCIAL TECHNOLOGY AND ITS REGULATION IN ALGERIA

Financial technology has been considered an independent industry since 2014 (the second stage), which operates in financial and technical services such as payments, insurance technology, crowdfunding, and other sectors. Most of these companies in Algeria are active in the field of electronic payments.

The responsibility for overseeing electronic transaction management and modernizing the banking sector in Algeria has been assigned to **SATIM** and **GIE MONETIQUE**. The first initiative to establish a supportive structure for banks in managing electronic transactions dates back to 1995, represented by SATIM, which launched an interbank electronic network.

Between banks for managing electronic cards and ATMs. This network includes both public and private banks in addition to Algeria Post.

As for the Automated Currency Group, it was established in June 2014, consisting of 19 member banks, 18 of which are active. Its mission is to organize currency exchange between banks, and it is responsible for ensuring the relationship between banks in the monetary system and its compatibility with local or international financial networks. The Bank of Algeria participates as an unregistered member to ensure the conformity of systems, payment methods, and the applicable standards in this field in accordance with current regulations. The Automated Currency Group oversees leading the automated currency system in: (Lamia et al., p. 11).

3.3.1 The most important fintech companies in Algeria

There are 31 startup companies in the fintech sector in Algeria, among which we mention the most significant ones.

Digital banks:

- **Al Salam Bank Algeria:** has signed a commercial partnership agreement with EKICLICK. This partnership is part of its strategy to actively contribute to the digital transformation policy of the banking system. EKICLICK is a fintech company under the Wessal Group, specialized in digital transformation and a leader in selling and marketing locally produced goods through its online platform;
- **Banxy:** Founded in 2018, BANXY is a mobile banking platform. It allows users to open a bank account via their smartphones. Users can check their balance and account history, transfer money, and manage their CIB card and checkbooks. They can also make

payments, pay bills, lend money, and receive funds through the app. The application is available on iOS and Android platforms;

- **Zero Cach:** established in 2023, offers integrated electronic payment solutions for startups and e-commerce. It provides online payment acceptance solutions for businesses through integration on websites or mobile apps using payment APIs. It enables card payments and online marketing of products and services;
- **Monadim:** founded in 2017, it offers solutions for automating employee payroll management, bonuses, and deductions;
- **crypto recharge:** established in 2019, companies provide bill payment solutions for individuals using digital currencies;

In addition to these companies, we find:

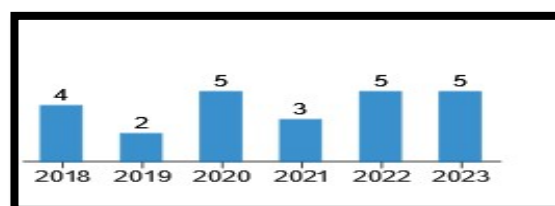
- **slick-pay:** a payment processing solution for individuals and businesses;
- **DFA:** works on providing innovative financial solutions for institutions and individual users;
- **IFUGO:** offers a variety of digital financial services aimed at enhancing user experience;
- these companies play a vital role in leading the fintech revolution in Algeria by offering innovative solutions that help improve financial inclusion and ease of access to digital financial services for citizens. The following figure illustrates the active fintech companies in Algeria up to 2023.

These companies play a vital role in leading the fintech revolution in Algeria, by offering innovative solutions that contribute to improving financial inclusion and facilitating digital financial services for citizens.

The following figure illustrates the active fintech companies in Algeria up to 2023.

Figure 7

Financial technology companies active in Algeria until 2023



Source: platform.tracxn.com/a/s/practicearea/5409cf05e4b0831de3527d64/t/companiescovered?h=

Obstacles to the implementation of financial technology in Algeria:

Studies indicate that the main obstacles and challenges preventing the seizing of technological development opportunities are as follows:

- **weak or absent legislative framework:** Algeria has issued several laws and regulations in the field of electronic payments, but with the rapid technological advancement and arrival of the third wave, progress has been slow. The legal texts do not cover all the new developments in the realm of electronic transactions;
- **lack of electronic infrastructure:** the lack of electronic infrastructure ranks just after the weak or absent legislative framework in terms of importance;
- **lack of necessary competencies:** the shortage or absence of necessary competencies is one of the significant reasons hindering the seizing of technological development opportunities;
- **lack of necessary funding:** financial technology companies in Algeria are limited to designing solutions and programs for the benefit of banking institutions and Algeria Post in order to provide digital services to their customers, while these companies are not allowed, according to the legal and regulatory framework currently in force, to work in the field of electronic payment.

3.4 EFFORTS MADE IN THE FIELD OF FINANCIAL TECHNOLOGY TO ENHANCE FINANCIAL SERVICES IN THE BANKING SECTOR

Among the efforts to encourage the adoption of fintech in Algeria are:

- **establishment of a Finlap laboratory:** established on September 29, 2021 in the financial center of Algiers, it is an initiative involving the Ministry of Small and Medium Enterprises, the Exchange Control Committee, insurance companies and the Bank of Algeria, with the aim of bringing startups closer to the companies of the financial arena. With the aim of enabling startups in the financial technology sector to develop their solutions to modernize banking and insurance services while moving towards financial inclusion.

Where the owner of the project that bears the label of a start-up company, or an innovative project and the service is in one of the sectors Blockchain, Insurtech, Fintech and Regtech is contacted.

- **Algerian Startup Fund:** it is a public venture capital firm that finances startup companies with its own funds and semi-autonomous funds that originated from the cooperation of the Ministry of Startups with 6 public banks.
- **FinTech Startup Challenge:** a program that aims to address emerging issues in the financial, banking and insurance industry. Assign to startups that use operational and technological models or innovative and disruptive economic solutions.

The establishment of the Ministry of Small Enterprises, Emerging Enterprises and the Knowledge Economy.

As for the laws encouraging the modernization of the banking and financial sector:

- **Complementary Finance Act 2020:** crowdfunding *crwdfUNDING* was introduced under the Complementary Finance Act 2020, in partnership with COSOB to develop a regulatory framework around intermediaries in crowdfunding;
- crowdfunding is the financing of projects by raising small amounts from the public. These funds can be in the form of donations, loans or investments, which are an easier and more flexible alternative to traditional funding methods for startups (such as banks and venture capital)~;
- the Complementary Finance Law 2020 repealed a set of prudential rules to encourage the private sector to invest more in venture capital;
- in order to reactivate the Algiers Stock Exchange and also provide new opportunities for startups to find funding, the Algiers Stock Exchange Startup Division was created;
- Article 14 of Law No. 2020-01 dated March 15, 2020, which provides for free banking services by banks and financial institutions;
- Instruction No. 01-2018 dated 14 February 2018 addressed to banks on the development of financial inclusion;
- the issuance of the law on electronic commerce in May 2018, which allowed the intensive emergence of electronic commerce sites for goods and services, which contributed to the widespread use of online payment.

4 CONCLUSION

Financial technology is a very advanced stage in the financial transactions of the banking system, as the extent of its adoption in any economy cannot be measured by the increase in the number of bank cards or the increase in the network of electronic distributors, despite the efforts

made by traditional banks in the field of developing the infrastructure for digital payments, but it has not yet reached advanced stages of the application of financial technology.

5 FINDINGS OF THE STUDY

- **the banking system must pass to a new stage** and adopt the new approach in the banking industry based on financial technology, which will increase its capabilities in banking and financial inclusion;
- despite significant progress, there are challenges related to the regulatory and legal framework that need to be further developed to suit the rapid development of financial technology;
- in the future, **Algerian banks will have to invest in fintech and improve digital transformation** to meet changing customer needs. These crucial steps can be to stay competitive and ensure the sustainability of commercial banking operations;
- **the dominance of the public sector over the private sector**, which reduces opportunities for innovation in the financial sector in Algeria, and the development of new applications and innovative services that meet the needs of the local and international market;
- the Internet will radically change the nature of traditional banking services. It thus changes the way in which those services are provided. As a result, in order to compete in the changing digital landscape, Algerian banks must adapt to this.
- thanks to security improvements and increased innovation orientation, we can expect the future of Algerian commercial banks to be bright and exciting in the world of fintech;
- in an increasingly digital world, trust will remain at the heart of banking. However, the transfer of liquidity will still play an important role. However, the nature of banking and financial services will change dramatically.

6 STUDY SUGGESTIONS

- great importance must be given to digital transformation and significant investments must be made in this field;
- traditional banks and fintech companies must address the barriers to their relationships in order to manufacture innovation and get a positive return on investment;

- algerian banks must make a great effort to face the challenges and work to overcome the difficulties they face;
- although financial inclusion technology in the banking sector is still in its nascent stage, it is expected to significantly change the way financial products and services are provided in the future;
- integrating technical solutions with existing financial systems to enhance efficiency and speed in service delivery;
- build a strong technical infrastructure based on the use of tools such as cloud computing, blockchain technology, and artificial intelligence;
- relying on encryption technologies and advanced protection tools to ensure the security of financial transactions and data protection, which enhances confidence in electronic banking services;
- traditional algerian banks should build websites and applications with attractive design and multiple functions to attract and maintain customers.

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