

## **The reality of the application of fintech services (comparative study between Algeria and Saudi Arabia during the period 2016 to July 2023)**

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### **Abstract :**

This study aims at analyzing the reality of digital payments as one of the areas of financial technology in Algeria, as well as identifying mechanisms for modernizing and localizing digital payments too, particularly due to the economic stagnation imposed by the Covid 19 pandemic. According to the study, financial technology has significantly contributed to the development of the digital payments sector, and the Covid-19 pandemic has had a significant impact on accelerating the pace of this development. However, the digital payments sector in Algeria is still developing at a slow pace., owing to a lack of legal and institutional coverage that regulates transactions and protects customers, as well as a lack of regulatory and institutional oversight.

On the other side, The results showed the relative superiority of Saudi Arabia in digital services indicators, as the Saudi economy is moving at a steady pace towards digital transformation in light of the kingdom's second place in the Global Cybersecurity Index for 2023. This is what serves the financial sector.

**Keywords:** Fintech,waves of fintech,The reality of igital payments,ATM, CIB Card ,vision2030

**Codes de classification Jel :** G2; O3 ; E49.

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## 1. INTRODUCTION

Innovative financial technology has become one of the most promising industries in the world, due to its ability to use modern technological mechanisms and techniques and take advantage of them in expanding the scope of providing financial and banking services and products. The tremendous development that the world is witnessing today in the field of information and Communication Technologies has led to the emergence of many innovative financial and banking applications and solutions, which greatly help to increase the efficiency of financial services and expand their spread, and the resulting positive impact on the national economy.

Digital development is one of the most important pillars of the future of the financial and banking sector, as customers are increasingly moving towards the implementation of their banking transactions through electronic applications and smart solutions. Financial technology (Fintech) has a real ability to change the structure of traditional financial services, financial technology can make financial services faster, cheaper, more secure, transparent and accessible, especially for the large segment of the population that does not deal with the banking sector.

Over the past few years, the fintech sector has revolutionized the global and Arab financial systems, as fintech startups have succeeded in providing a variety of financial services, including payments, digital currencies, money transfer, lending, crowdfunding, Wealth Management, in addition to insurance services, which casts a shadow over the future of traditional financial services. Therefore, banks and financial institutions are seeking to introduce some changes in their business models by expanding the adoption of technology, investing in their own infrastructure, and possibly entering into partnerships with startups to improve their competitiveness and increase reliance on modern technology in the provision of financial services. Here, the importance of having a legislative, regulatory and supervisory framework that allows the development and operation of fintech and financial artificial intelligence business models is highlighted, which enables regulatory and regulatory authorities to reduce risks and provide growth opportunities in a competitive environment, while maintaining financial integrity and financial stability.

### ▪ **Research problem :**

#### **What is the reality of fintech services in Algeria and Saudi Arabia ?**

##### ▪ **Research hypotheses:**

H01 : digital payments in Algeria are developing slowly due to a lack of infrastructure.

H02 : digital payments in the kingdom of Saudi Arabia are witnessing significant growth, which is considered a goal to achieve Vision 2030.

##### ▪ **Research objectives:**

This research aims to achieve several goals, the most important of which are:

- Highlighting the new financial event " fintech " and its role in activating the digital payments market.
- Identify the reality of digital payment in Algeria and Saudi Arabia .
- Setting the most important differences between the two countries in the field of financial technology services

##### ▪ **Research methodology:**

Due to the nature of the topic, we relied on both descriptive and analytical method tools in this study. The descriptive approach is used to describe the conceptual aspect of digital technology , and the analytical approach was used to study the reality of digital payments in Algeria and Saudi Arabia .

##### ▪ **Previous studies:**

**Study 1 : Abrar Abbas, Rozina Shaheen. Role of Financial Technology in The Banking Sector of Saudi Arabia - Palarch's Journal of Archaeology of Egypt/Egyptology 18(13(2021)). (: Abrar Abbas, 2021)**

Digital transformation is simply the use of technology, talent and innovation to provoke positive change. Digital transformation provides low-cost tools and strategies that enable small and medium sized businesses to compete with major enterprises. Strategy creates competitive advantage people and culture of innovation sustains it technology and communications in the means by which it is delivered. This study has examined the role of financial technology (FinTech) in the banking sector in Saudi Arabia. The methodology of the research is quantitative due to the use of survey questionnaire. The sample populations were 62 consumers banking industry in Jeddah, Saudi Arabia. The data were analyzed in terms of basic statistic. The key findings have shown that the results showed that the financial technology played a significant role in the banking sector of Saudi Arabia. Thus, the advancement of technology and the adaptation of the financial sector towards this improvement has enhanced the overall service provided to its consumers.

**Study 2 :Dur Almulla, Abdullah A. Aljughaiman. Vassilios Papavassiliou (Reviewing editor) (2021) Does financial technology matter? Evidence from an alternative banking system, Cogent Economics & Finance. (Dur Almulla, 2021)**

The purpose of this study is to examine the impact of the financial technology (fintech) services provided by banks on their performance. We also investigate the influence of fintech firms' growth (as competitor firms) on banks' financial performance. We extend our analysis to investigate the differences between conventional banks (CBs) and Islamic banks (IBs) in this relationship and utilise a sample of 40 listed banks from Gulf Cooperation Countries, where fintech growth was impressive in the period 2014–2019. We find a negative relationship between fintech services and bank performance for both types of bank. Furthermore, we show that the growth of fintech firms in a country negatively influences CBs' financial performance but has no significant impact on IBs' performance. In addition, we test our hypotheses through multiple additional tests and robustness tests, such as the generalised method of moments. The findings could be relevant to banks, policy makers, and academic research.

**Study 3 :Ahmed T.Al Ajlouni, Monir Al-hakim. Financial Technology in Banking Industry: Challenges and Opportunities. International Conference on Economics and Administrative Sciences ICEAS2018. (Ahmed T.Al Ajlouni, 2018)**

The paper aims at first place to shed light on this wave of development in financial industry that combined with high technology, it aims also to clarify the role of FinTech in the financial industry in general and banking sector in particular. The paper obtained its goals in two main phases, firstly; background and definition of the FiTech, in addition to outlining the current FinTech market segments and landscape and some alternative financing FinTech platforms will be discussed. In the second phase, we will identify the influence of FinTech on banking industry and the required response to face it.

**Study 4:Ismail Musabegovic , Mustafa Özer , Sladjana Djukovic , Stefan Jovanovic. INFLUENCE OF FINANCIAL TECHNOLOGY (FINTECH) ON FINANCIAL INDUSTRY. Economics of Agriculture, Year 66, No. 4, 2019. (Ismail Musabegovic; Ismail Musabegovic, 2019)**

This article surveys historical development of fintech and its influence on market structure in banking industry, efficiency, strategic plans of participants, and stability of financial market. Based on World Bank database, the paper tests the fundamental premise – whether there is a relationship between country GDP and population and usage of new technology and smartphones in financial transactions and payment processing. The results of the study provide evidences of statistically significant positive relationships between per capita GDP and usage of new technology and smartphones in financial transactions and payment processing. Also, they indicate statistically significant positive relationships between per capita GDP and payment of utilities and received wages through a mobile phone. Thus, the results of study should be taken into consideration when forming the policies regarding the use of new technology and smartphones in financial transactions and payment processing.

## 2. Definition of FinTech

The most authoritative source for British English, the Oxford English Dictionary, for instance, suggests that Fintech are “Computer programs and other technology used to support or enable banking and financial services: fintech is one of the fastest-growing areas for venture capitalists” (Oxford English Dictionary, 2016). Another highly popular dictionary of our times that financial technology, also known as fintech, is an economic industry composed of companies that use technology to make financial services more efficient.

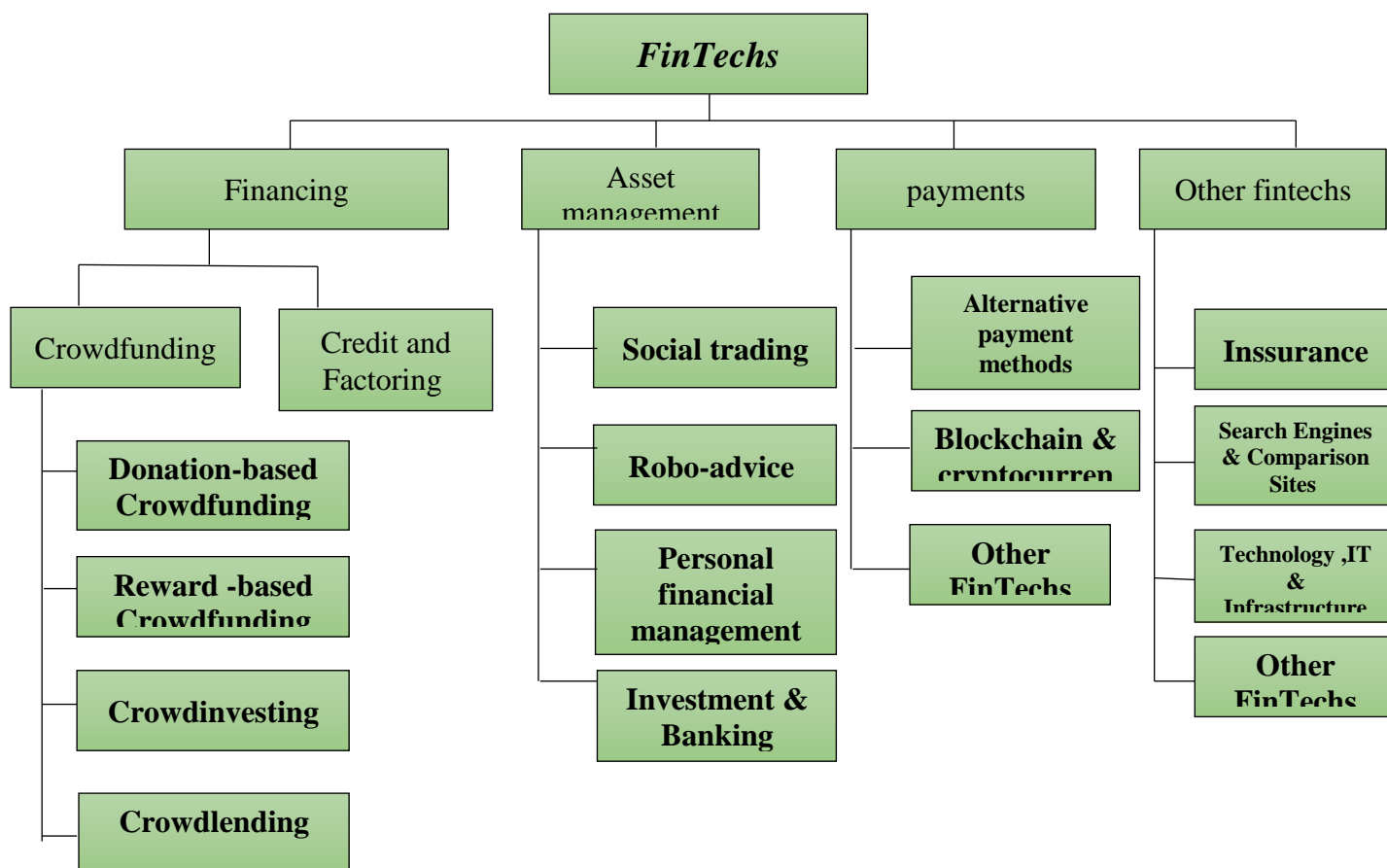
The term “fintech company” describes any business that uses technology to modify, enhance, or automate financial services for businesses or consumers. Some examples include mobile banking, peer-to-peer payment services (e.g., Venmo, CashApp), automated portfolio managers (e.g., Wealthfront, Betterment), or trading platforms such as Robinhood. It can also apply to the development and trading of cryptocurrencies (e.g., Bitcoin, Dogecoin, Ether).

Financial technology (fintech) is a technical financial tool that has led to new innovations in business models, applications, products, and services (Schindler, 2017). According to a Klynveld Peat Marwick Goerdeler report (Horner, 2017), fintech is an evolution in financial services that has resulted in changes to customer expectations and financing methods.

### 2.2 Segments of the Fintech industry

Having in mind that this is a new field, there is no official agreement or segmentation of this industry. (Dorfleitner, 2017) “companies in the Fintech industry can be divided into four major segments in accordance with their distinctive business models :

**Figure 1: Segments of the Fintech industry**



Source: [Dorfleitner et al.](#) (2017), cited by (Ahmed T.Al Ajlouni, 2018)

**Figure 1** shows how FinTech is segmented into four fundamental sectors (Dorfleitner, 2017). Financing is the segment that provides funding for individuals or organizations through crowdfunding and credit and factoring. Crowdfunding usually involves raising small amounts of money from large numbers of people via the Internet or social media. The most important feature is the setting of the deadline. If the target amount cannot be reached within the specified period, the operation is canceled (Lee, 2015). Credit and factoring are the processes by which FinTech firms provide financing to individuals or companies cheaply and quickly by automating transactions in collaboration with banks. The second main sector, asset management, includes services such as social trading, Robo-advice, personal financial management (PFM), and investing and banking. The third sector, payment, refers to national and international payment transactions. These include virtual payment methods, such as cryptocurrencies and blockchains, which are used as alternatives to conventional monetary transactions. Finally, other FinTechs cannot be classified within the first three traditional banking functions. These include insurance, search engines, comparison sites, technology, IT, and infrastructure.

### 3.2 Characteristics of FinTech (EYs CLASSIC Model) ((FinTech), 2020)

#### a. Customer Centric (C)

- Simple, easy-to-use, high convenience product/services.
- “Need-focused” propositions designed around particular consumer use cases and pain points
- High degree of customer engagement

#### b. Legacy-free (L)

- Purpose-built systems designed around digital channels and fulfilment
- Little drag from discontinued products, prior acquisitions or regulatory liabilities

#### c Asset-Light (A)

- Low fixed asset base creating significant operating leverage
- Balance sheet frequently rented or outsourced to other parties

#### d. Scalable (S)

- Scalability built into the business model by leveraging partnerships, distribution and simplicity
- Low capital requirements

#### e. Simple (S)

- Fundamentally simple customer proposition
- Highly focused and transparent business processes

#### f. Innovative (I)

- Innovation across the spectrum, e.g., new business models, products and services and delivery models.

#### g. Compliance Light (C)

- Simple and unbundled models that are often designed as to avoid the need for authorisation.

### 4.2 The evolution of fintech services:

The products for fintech companies can be presented in two packages of first-wave and second-wave products.

- **The first wave of products and services**, namely payments and Lending Solutions, includes: (2017، حمدوش)
- ✓ Modern payment systems that rely on the internet, smartphone applications, and payment solutions of the PayPal Pay type.
- ✓ Crowdfunding platforms.
- ✓ Direct lending networks (the targets are customers who do not have bank accounts, and therefore have fallen out of the market share of banks).

The products and services of the first wave were based on the following media, social networks, e-commerce, and the concepts of the participatory economy

- **The second wave of products and services**, fintech is oriented towards:
  - ✓ Specializes in international financial transfer, wealth management, and insurance services.
  - ✓ Using the possibilities of blockchain that is a digital database containing information (such as records of financial transactions) that can be simultaneously used and shared within a large decentralized, publicly accessible network. (merriam-webster, 2023)

So it greatly affects the financial services industry.

### 3. Reality of the application of fintech services in Algeria and Saudi Arabia :

The modernization of digital payments increases access to finance and financial services, while also encouraging greater transparency and efficiency. To determine the requirements for the modernization and development of the digital payment system in Algeria, it is necessary to get acquainted with the reality of the latter through an overview of the electronic payment activity in Algeria and Saudi Arabia.

#### a. ALGERIA case study during 2016 until july2023

##### a.a Online payment activity in Algeria:

Fintech services are mainly limited to the beginning of the first wave of fintech, represented mainly by "payment solutions" services related to facilitating and speeding up purchases, bill payment services, online and mobile purchases, which at the same time constitute the largest aspect of the work of fintech companies in Algeria, where this sector ( payment solutions ) in Algeria can be divided into three main types of services , which are discussed in the statistical study.

**Table N01: The number and volume of online payment transactions in Algeria(2016-2023)**

Years	Total number of transactions	Total Amount of Transactions (DZD)
2016	7 366	15 009 842,02
2017	107 844	267 993 423,40
2018	176 982	332 592 583,28
2019	202 480	503 870 361,61
2020	4 593 960	5 423 727 074,80
2021	7 821 346	11 176 475 535,68
2022	9 048 125	18 151 104 423,96
Until 2023 july	5996246	15038261041,11

Source: <https://giemonetique.dz/qui-sommes-nous/activite-paiement-sur-internet>, at the date: 10/09/2023 /08.43. <https://giemonetique.dz>.

In general, it shows the positive and continuous growth of the volume of online transactions in Algeria during the study period, which witnessed a semi-stable growth characterized by a decrease during the first years of launching this service in Algeria during the period( 2016-2019) compared with the rest of the study years to record a qualitative leap in the volume of online transactions, both in terms of value or number during the last years of study. As the volume of transactions amounted to more than 5.4 billion Algerian dinars for about 6.4 million transactions per year in 2020, then the growth rate exceeded 1000% in terms of value compared to 2019, offset by a growth rate of more than 2168% in terms of the total number of online transactions for the same period, we also note the continuation of the volume of this service in Algeria during the period 2020-2023.

"This qualitative increase in the volume of online transactions is due to several reasons, most notably the global health crisis covid-19, as it had a positive impact on the growth of the fintech sector in Algeria through the payment gateways service".

**Table N02 : Number of online payment transactions by sector in Algeria (2016-2023)**

Years	2016	2017	2018	2019	2020	2021	2022	Until july 2023
<b>Phone/Communi cations</b>	<b>6536</b>	<b>8728 6</b>	<b>13849 5</b>	<b>14155 2</b>	<b>42102 84</b>	<b>699315 3</b>	<b>749062 6</b>	<b>4807016</b>
<b>Transfer</b>	<b>388</b>	<b>5677</b>	<b>871</b>	<b>6292</b>	<b>11350</b>	<b>72164</b>	<b>195490</b>	<b>177392</b>
<b>Insurance</b>	<b>51</b>	<b>2467</b>	<b>6439</b>	<b>8342</b>	<b>4845</b>	<b>8372</b>	<b>23571</b>	<b>22425</b>
<b>Electricity/water</b>	<b>391</b>	<b>1241 4</b>	<b>29722</b>	<b>38806</b>	<b>85676</b>	<b>120841</b>	<b>302273</b>	<b>329650</b>
<b>Admin/ service</b>	<b>0</b>	<b>0</b>	<b>1455</b>	<b>2 432</b>	<b>68395</b>	<b>155640</b>	<b>153957</b>	<b>15665</b>
<b>Other Service</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5056</b>	<b>21317 5</b>	<b>457726</b>	<b>705 114</b>	<b>437178</b>
<b>Sale of goods</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>235</b>	<b>13468</b>	<b>24169</b>	<b>27092</b>
<b>Sport</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>152925</b>	<b>465419</b>

Source: <https://giemonetique.dz/qui-sommes-nous/activite-paiement-sur-internet>, at the date: 10/09/2023 /08.43.: <https://giemonetique.dz>.

There is a continuous growth in the online payment service in Algeria, through the positive indicators shown on the table, especially if these seven months are compared with the rest of the other years, we note that the volume of transactions has increased, and this is due to the contribution of covid-19 in directing citizens towards shopping and requesting their various needs online. This is evidenced by the percentage of individuals connected to the internet, which exceeded 65% with an increase rate of 7.3% in 2022 compared to the same period of 2021, which exceeds the average internet penetration rate in the leading African countries in this field.

#### **b.a Withdrawal activity on the cash machine:**

withdrawing funds through payment Windows, any ATM where the customer or another beneficiary can withdraw an amount of money after entering it either to an electronic payment card or by entering the transaction number with a special secret number.

**Table N03: Evolution of the number of operating interbank ATMs in Algeria(2016 july2023)**

Year	Total number of operating interbank automated teller machines
<b>2016</b>	<b>1370</b>
<b>2017</b>	<b>1443</b>
<b>2018</b>	<b>1441</b>
<b>2019</b>	<b>1621</b>
<b>2020</b>	<b>3030</b>
<b>2021</b>	<b>3053</b>
<b>2022</b>	<b>3 658</b>
<b>Until july 2023</b>	<b>3 783</b>

Source: <https://giemonetique.dz/qui-sommes-nous/activite-paiement-sur-internet>, at the date: 10/09/2023 /08.43.: <https://giemonetique.dz>.



The table shows the total number of interbank ATMs in Algeria during the period 2016 to July 2023, where the National Bank of interbank ATMs operating in Algeria includes more than 3783 ATMs, an increase of 176% compared to 2016. The beginning of the study period was marked by a positive and continuous growth until the end of 2019, where the increase was recorded by 12%, but weak in the number of ATMs operating in Algeria.

Then, the year 2020 recorded a growth spurt of about 87% compared to 2019, which is the highest growth rate supported by ATMs during the entire study period, and then an increase between 2022 to the end of July 2023 by 5%.

"Because of the growing trend toward an automated cash system, particularly through electronic withdrawals, it was necessary to strengthen the infrastructure in this field by increasing the necessary mechanisms, particularly interbank ATMs, which more than doubled in number compared to 2016."

**Table N04 :Number of bank payment cards in Algeria (CIB)**

Years	Number of cards CIB	Number of cards
<b>2016</b>	796,077	<b>28,559,828</b>
<b>2017</b>	877,708	<b>31,540,067</b>
<b>2018</b>	7,809,694	<b>34,336,693</b>
<b>2019</b>	8,692,630	<b>39,373,810</b>
<b>2020</b>	9,621,017	<b>42,563,445</b>
<b>2021</b>	11,692,298	<b>45,375,600 july</b>

Source:<https://giemonetique.dz/qui-sommes-nous/activite-paiement-sur-internet>, at the date:10/09/2023 /08.43.: <https://giemonetique.dz>.

We note the increase in the number of cards from 2020 to 2021 by 22 percent, this is due to the culture of consumers to use electronic payment cards, especially after the corona pandemic . According to the report issued by giemonetique, the number of Cards will increase by 2024 to 16 million bank cards, while the statistics for 2022 and 2023 did not appear.

These cards are distributed among banks amounting to 2,768,285 cards, which is 24 % of the total number of cards in circulation, compared to 8,841,339 gold cards issued by the post of Algeria at a rate of 76 percent of the existing fold. According to <https://giemonetique.dz>.

Through these statistics, we note that there is a qualitative leap in the activity of the monetary system in Algeria ( although it is low compared to World rates), both in terms of the volume of transactions in automated dispensers and in terms of the number of cards, it was the result of several factors, the most important of which is the endeavor of the monetary authorities and competent authorities to modernize the banking sector by adopting an effective electronic payment system .

As well as through the preference of citizens holding a payment and withdrawal card from ATMs on the windows of mail centers or banks, especially under the conditions imposed by the current health crisis covid-19, which contributed significantly to accelerating the pace of reaching this positive growth.

#### **c.a the electronic payment terminal in Algeria**

The payment service through the electronic payment terminal in Algeria is known by several names, including the electronic payment finals, which are known in commercial circles as TPE, which is an abbreviation for the word " THE ELECTRONIC PAYMENT TERMINAL ". It can be briefly defined as an electronic payment device that is installed in various shops where the merchant was able to overlook the price of sales and process them securely using interbank payment cards



**Table N05 :Number of payment terminals operating in Algeria**

	Number of the electronic payment terminal	number of transactions payment
2016	5049	65,501
2017	11985	122,694
2018	15397	190,898
2019	23762	274,624
2020	33945	711,777
2021	37561	2,150,529
2022	39045	2, 712, 848
July 2023	50 495	1,872,471

Source: <https://giemonetique.dz/qui-sommes-nous/activite-paiement-sur-internet>, at the date: 10/09/2023 /08.43.: <https://giemonetique.dz>.

The table shows the evolution of the number of payment terminals operating in Algeria starting from the year 2016 to the end of July 2023 by an estimated growth of 900%.

The highest growth rate was recorded in the number of payment devices through the electronic payment terminal in 2017, estimated at 157%, as the number of electronic payment terminals moved from **5049** devices in 2016 to about **11985** devices in service in 2017. And then this growth continues throughout the years of our study.

On the other hand, we note an increase in the number of transactions payment, coinciding with the rise of the electronic payment terminal, where the number of transactions recorded an increase of 2 647 347 Between 2022 and 2016.

### **b. Saudi Arabia case study during 2018 until july 2023**

**a.b. Saudi Vision 2030:** has laid strong foundations for success, starting with the implementation of unprecedented reforms, including the public sector and all economic and social aspects. This vision has identified three axes, including the development and promotion of the economy and its development, and financial technology has had a great share in it [FintechSaudi](#) is promoting fintech industry growth in Saudi Arabia. Launched in 2018 by [the Saudi Central Bank](#) and [the Capital Market Authority](#), they are positioning Saudi Arabia as a leading fintech hub by building a strong and responsible ecosystem that includes banks, investors, companies, and government institutions. [FintechSaudi](#) is providing education and resources for small and medium enterprises (SMEs) in fintech by offering workshops and training for students, investors, companies, and banks. This helps emerging talent and entities learn about the fintech industry and understand the role [FintechSaudi](#) plays in developing it. They are also creating products and services to support SMEs across the country. And this is part of the Saudi **Vision 2030**.

#### **b.b application of fintech services in Saudi Arabia**

In this study, we relied on the analysis of statistics on the number of ATMs and the number of cards issued, as well as the analysis of the volume of transactions during the period 2018 until july2023

**Table N06 : Evolution of the number of operating interbank ATMs in Saudi Arabia (2018 july2023)**

<b>Years</b>	<b>No. of ATMs*</b>
<b>2018</b>	<b>18,685</b>
<b>2019</b>	<b>18,882</b>
<b>2020</b>	<b>18,299</b>
<b>2021</b>	<b>16,544</b>
<b>2022</b>	<b>16,251</b>
<b>july 2023</b>	<b>16,171</b>

Source : [Monthly Statistics \(sama.gov.sa\)](https://sama.gov.sa)

The number of ATMs has decreased significantly in Saudi Arabia over the past three years by up to 12%, or the equivalent of 2,128 devices, reaching 16,171 devices in July 2023.

These declines, whether in the number of branches or ATMs, reflected the nature of cash handling in Saudi Arabia by consumers, as the volume of cash withdrawals during the past year is at its lowest level.

According to some reports, The machines have become a source of worry to the general public, the users and bank operators alike. This is based on the fears that the purpose the ATMs were meant to fulfill has since been eroded contrary to the expectations. The ATMs have since become money wheels for the fraudsters who not only hack the system but also tamper with the normal network operations and functionality of these devices.

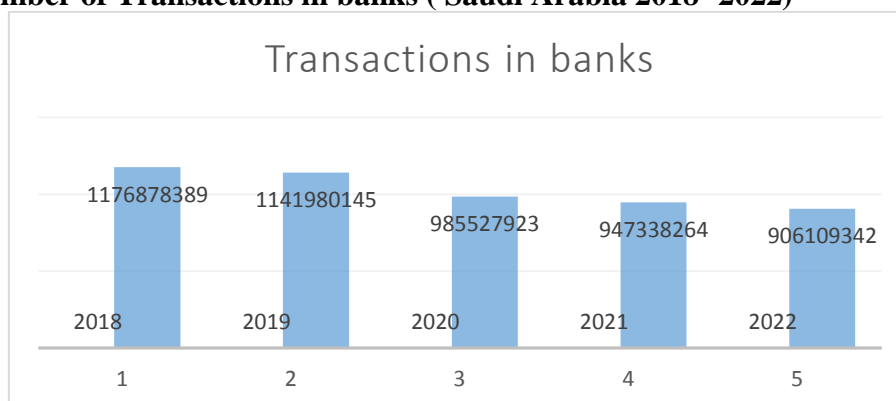
**Table N07 : Evolution of the number of Transactions in banks in Saudi Arabia (2018 july2023)**

<b>Years</b>	<b>No. of Cards Issued*</b>	<b>No. of Transactions in banks</b>
<b>2018</b>	<b>28,559,828</b>	<b>1,176,878,389</b>
<b>2019</b>	<b>31,540,067</b>	<b>1,141,980,145</b>
<b>2020</b>	<b>34,336,693</b>	<b>985,527,923</b>
<b>2021</b>	<b>39,373,810</b>	<b>947,338,264</b>
<b>2022</b>	<b>42,563,445</b>	<b>906,109,342</b>
<b>july 2023</b>	<b>45,375,600</b>	

Source : [Monthly Statistics \(sama.gov.sa\)](https://sama.gov.sa)

Electronic payment services in Saudi Arabia are a key product due to the enormous and accelerated technological development in this country, and this is shown by the table and the increasing in the number of cards issued so that number of Cards Issued data was reported at 28,559,828 Unit in 2018.

The table also shows that the percentage of cards issued increased by 59% in 2023 compared to 2018 .This is due to the vision of the monetary authorities in the kingdom of Saudi Arabia to the need to revive the digital sector and achieve one of the goals of "Vision 2030"

**Figure02: Number of Transactions in banks ( Saudi Arabia 2018- 2022)**

**Source:**Prepared by the researchers, based on the table n07

Previous figures indicate that 2018 and 2019 accounted for the lion's share of the total number of transactions in banks in Saudi Arabia.

Transactions witnessed a significant decrease estimated at -23% between 2023 and 2018 , despite the increase in the number of cards issued, as it is clear that there is a negative path.

**Table N08: Number of Transactions by Sectors in saudi arabia (2018-july2023)**

Years	Telecommunication	Education	Public Utilities	Others
2018	5,029	1,794	6,962	115,782
2019	6,268	2,67	18,749	214,597
2020	10,457	2,264	25,065	551,405
2021	19,483	3,754	41,655	1,075,468
2022	22,689	5,759	54,885	1,545,132
Until july2023	16,828	3209	41,804	1097,897

**Source :** [Monthly Statistics \(sama.gov.sa\)](https://sama.gov.sa)

Data of transactions by sector show positive growth in transactions of most Sectors.

We note that the volume of transactions has increased, this is due to the contribution of the corona pandemic in directing citizens towards shopping and ordering their various needs online. This is evidenced by the high percentages, where in the telecommunications sector there is a growth of 351% in 2022 compared to 2018 and a growth rate in the number of transactions is estimated at 117% after covid-19. Also the education sector, which witnessed significant growth in 2022 compared to 2018, which recorded an increase of 221%.

The same applies to the public utility sector, with an estimated increase of 688% between 2022 and 2018 in the number of transactions, all due to the positive effects of the corona pandemic.

### 3. Analysis of comparative results

The results showed the relative superiority of Saudi Arabia in digital services indicators, as the Saudi economy is moving at a steady pace towards digital transformation in light of the kingdom's second place in the Global Cybersecurity Index for 2023. This is what serves the financial sector. Saudi Excellence in the digital field has emerged through the provision of innovative digital services and solutions, and the provision of quality programs to build capacity and enhance its competitiveness locally and globally.

This was shown by our analytical study and comparison with Algeria, where we score several points :

- The presence of a slower pace in Algeria compared to Saudi Arabia, where we record a difference in the number of ATMs with an estimated lag of **16481,168**.
- The difference in the number of bank cards issued between the two countries was estimated at **183,933 ,804**.
- In terms of issued cards, this is a very weak number for a country like Algeria, and this is probably due to the electronic culture among consumers, and their distrust of the banking system .
- The volume of transactions in Algeria is limited to one sector compared to the figures of other sectors , but if compared with Saudi Arabia, it can be said that this number does not represent part of the volume of transactions in kingdom.
- By analyzing the tables between the two countries, we note that the growth in financial technology services is limited to the first wave of "payment solutions."
- This lag in growth remains below the prevalence rates in the more developed countries of the world, where Algeria records low rates compared to market needs.

#### **4.Conclusion:**

Through this study, we tried to analyze the reality of the application of financial technology services by taking a comparative study between Algeria and Saudi Arabia during the period 2016-2023 .

The study provided an introductory descriptive overview of digital payments in an attempt to highlight its increasing importance with the advent of financial technology, especially in light of the covid-19 pandemic. Because it has had a great impact in mitigating the impact of the recent economic recession, Algeria, of course, has not been isolated from these technological and health repercussions that have affected the whole world. , The study came to the following conclusions:

- In relation to electronic payment methods, there are efforts by the Algerian authorities to issue some electronic bank cards and develop financial technology .
- As for Algerian banks still suffer from weakness and lack of use of banking technologies, and from delays in keeping up with financial technology . As a result, we validate the study's first hypothesis.
- Algeria's inability to keep up with modern developments affects the ability of banks to continue in light of the intense competition witnessed by the global banking sector
- The kingdom of Saudi Arabia is among the countries that have come to go hand in hand with the technological development taking place, especially in the banking sector, where there has been a significant development in the use of the internet, as banks operating in the kingdom are competing vigorously to provide electronic banking services to their customers, electronic banking services. As a result, we validate the study's second hypothesis.
- The adoption of electronic banking is no longer only one of the goals of developed countries, but even developing countries are working hard to provide electronic banking services and take advantage of its advantages, which has increased the intensity of competition among banks operating in the internet environment.

#### **In light of the preceding findings, we propose:**

- The introduction of information and communication technology and its dissemination to all economic sectors.
- The need to develop the banking sector and provide financial and banking services to all segments and across various regions

- Raising awareness of the importance of using electronic payment will help to eliminate financial illiteracy and establish a culture of digital payment.
- Strengthening the legal environment to ensure protection and security when using digital payment, as well as keeping up with the latest cyber security developments.
- Providing qualified cadres to practice digital work in Algeria, as well as appropriate digital payment equipment.
- In addition to the necessity of activating the banking system at the national and international levels, providing the appropriate financial environment for the emergence of financial technology institutions and accompanying them financially and managerially.

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