

The Digital Transformation Of Financial Payment Tools In Algeria - Analysis Of The Development Of The Adoption Of Electronic Payment Methods

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Received: 15/02/2025

Accepted: 07/04/2025

Published: 15/04/2025

Abstract:

Through this paper, we sought to identify the evolution of Algeria's electronic payment methods. After the corona virus pandemic, it highlights the important role played by the pandemic in accelerating the digitization of the banking sector and the development of electronic payment transactions in Algeria as a result of the use of e-commerce due to home quarantine. This helped to spread citizens' culture of digitization after decades of traditional transactions dominating national trade.

Based of the statistics published on the GIE MONETIQUE website, we found that the market for e-financial transactions experienced a significant recovery in Algeria during the post-pandemic period, with a sustained growth rate of 500% in the number and value of e-payment transactions in various forms (national and international e-commerce exchanges, payment of bills, purchasing of needs and services such as insurance and transportation,... etc.).

Keywords: Electronic Payment in Algeria , Banking , Electronic Payment , Coronavirus , E-commerce



Introduction:

Due to the great development that e-commerce has witnessed at the local levels of all countries and the global level alike, traditional payment methods have become insufficient for stimulating e-commerce, and this is what led to the emergence of electronic payment methods as a result of technological development, and as a solution to the problems and obstacles created by traditional payment methods.

The banking movement has recently witnessed a great development through the use of the Internet and the spread of electronic commerce operations, whereby customers have become able to carry out buying and selling operations using electronic payment methods produced by banks and financial institutions as a means of payment, which are represented by bank cards, electronic money, and smart cards. These means are intended to be a set of tools and electronic transfers. Issued by banks and institutions as a means of payment.

Modern electronic payment systems are considered one of the most important outcomes of the technical and technological revolution, the most prominent of which is in the field of global financial and banking transactions. They have become of great importance at the global financial and investment level, as they have produced a new global financial and banking industry that has had an impact. Hence, it was necessary for Algeria to keep pace with these developments. By modernizing its communication system, developing the electronic payment system, and modernizing its banking structure.

In light of the above, we pose the problem of the research paper as follows:

Did the spread of the Covid-19 virus have an impact on the development of the electronic payment system in Algeria?

To answer the problem of the study, cover the merits of the topic and highlight its most important issues, we divided this research paper into the following topics:

The theoretical foundation of the study:

- What is electronic payment?
- Types of electronic payment methods.

The applied aspect of the study:

- Companies and bodies to digitize payment methods in Algeria
- The development of electronic payment in Algeria

I- The theoretical foundation of the study:

1- The theoretical framework for electronic payment:

Electronic payment is considered a modern form of electronic commercial transactions, as it eliminates the need for customers to make direct traditional cash payments.

1-1- Definition of electronic payment :

Prevalently, the traditional payment methods that utilize cash are progressively being demoted and this role has been taken over by the payment method that utilizes digital means, as the development of goods transactions increases amongst the various trades via the internet.

Electronic payment systems (EPS) are considered as useful and user-friendly and is also secure by unique users and assorted users, who perceived the means as an entry point towards progress in technology in terms of the economy worldwide. EPSs have evolved into significant promoters of electronic commerce which are relied on by businesses done electronically. They have diminished the number of fraudulent attempts and activities within the payment system worldwide (Marwah , Hameed, & Sabah Tah, 2019).

Jean-Paul Foillard defined electronic payment as representing “banking operations subject to bank control, as it prohibits any person other than banking or financial institutions from carrying out such operations on a regular basis without obtaining the accreditation issued by the Committee of Credit Institutions or Investment Institutions.” (Foyart, 2006)

1-2- Definition of electronic payment methods:

The electronic payment method be defined as “cards issued by financial institutions in the name of a person, and which perform the functions of loyalty and credit, meaning that its holder has the ability to continue paying the amounts he used from the credit opened by the card issuer. That is, it is a card issued by a licensed institution and received for the purpose of using it.” Frequently used to withdraw money or to pay for goods and services to suppliers, without acceptance being limited to the institution issuing the card only.

Duclos Thierry also defined it as “the set of means that allows every person to transfer money, regardless of the electronic support used or the technology used.” (Tierry, 1999)

The Algerian legislator also touched on the definition of electronic payment methods in Article VI of Law 18-04 of May 10, 2018 specifying the general rules related to electronic commerce of goods and services, where he defined the electronic payment method as every payment method licensed in accordance with the applicable legislation that enables its owner to Paying closely or remotely via an electronic system.

2- Types of electronic payment methods:

In view of the developments witnessed by electronic commerce and in an effort to provide all means to facilitate the latter’s exchanges, banks in all their forms have resorted to converting most of the payment methods into electronic payment methods, as these methods have multiplied and taken several forms in a way that is compatible with the nature of electronic transactions.

2-1- Bank cards:

Also called plastic money, they are cards that allow the holder to use them to purchase most of his needs or pay for the services he obtains online or from traditional stores. These cards also allow their owner to transfer a certain financial value from his account to the seller’s account through proof of identity.

Bank cards are, in general, any card that allows its holder to withdraw or transfer money, and they can only be issued by a loan authority, financial institution, or authority licensed to issue and issue cards, such as banks, public treasuries, and postal services. They are a modern means of payment that offer better features than those provided by Traditional payment methods have therefore spread throughout various countries of the world.

There are many forms of bank cards, and there are several types, the most important of which are:

a- Debit Card:

A debit card is a bank card with characteristics such as automated teller machines and point of sale that allow it to be used at merchant locations. A debit card is connected to a person's bank account and allows money to be withdrawn at ATMs and points of sale without having to write a cheque. A debit card holder pays for his purchases at the bank immediately. It is intended to take the place of actual currency and cheques. Customers who use a debit card deposit money with the bank ahead of time and withdraw it at the time of purchase. In the real world, there are two different sorts of debit cards: 1. Online Debit Card 2. Offline Debit Card. (Parghi & Dodia, 2022)

b- Credit card:

The credit card is circulated to customers by financial institutions to execute payments via online means. It is the prevalently utilized e-payment system. However, it is not suitably used for making payments with petty value . (Marwah , Hameed, & Sabah Tah, 2019)

c- Bank exchange cards:

They differ from credit cards in that payment must be made in full by the customer to the bank during the month in which the commercial withdrawal signed for encryption was made.

2-2- Smart cards:

In the early stages of the online payment market new products such as Cybercash or DigiCash, were proposed (OECD, 2000). However, they had little success and most of these instruments have disappeared. Currently, smart card-based systems are most commonly used to pay small amounts within organisations (e.g. vending or copying machines). They usually rely on specialised hardware and dedicated smartcard readers for authentication. (Economiques, 2006)

A smart card is a plastic card with an integrated electronic cell that contains information about the person who owns the card, such as financial facts, private code key, account information, credit card numbers, health insurance information, and other private information such as: name, bank address, source, method of disbursement. The amount spent and its date, and the history of the customer's banking life.

2-3- Electronic checks:

A buyer inputs the digits or numbers contained on the check while purchasing using an online check. This is done for the purpose of authorisation, but with electronic fund transfer, a financial house called an Automated Clearing House (ACH) is responsible for moving payments from the buyer's or promoter's account to the seller's receiver or recipient's accounts.

2-4- Electronic financial transfers:

Electronic financial transfer is a process that is subject to a set of rules and procedures approved for transferring funds through electronic banks, or Internet banks licensed to carry out this process, as many banks participate in a network of accounts that handles the electronic trading of millions of accounting entries, which record debts and credits between banks. This system aims to facilitate and expedite payments and settlements between banks.

According to this process, a certain amount is transferred from one account to another by debiting it on the debit side of the ordering party and the credit side of the beneficiary.

2-5- Electronic money:

E-Cash is a software-based, anonymous, inaccessible online token payment mechanism that runs on Unix, Windows, and Macintosh. When a consumer buys a token, e-cash software saves the digital money to the customer's computer, which is then signed by the bank. Users may simply spend digital money in any business that takes e-cash without giving the merchant their credit card information. As well as an example of the cashless approach.

II- The practical aspect of the study:

1- Companies and organizations to digitize payment methods in Algeria:

Algeria has taken slow steps in this field despite its importance, as the reality of the use of electronic payment methods indicates that it is still far from what is desired. The first initiatives date back to the year 1995, when the Automatic Cash and Automatic Relations between Banks Company "SATIM" was established at the initiative of the Union of Banks, which includes seven banks. General Assembly, in addition to the National Fund for Agricultural Cooperation, with the aim of supporting the banking development program, especially enhancing electronic payment methods.

The "Automated Monetary Association (GIE monetique)" was also established in June 2014, which came to support this strategic approach to define the tasks and powers of the group of actors of this system. It is also charged with ensuring the relationship between banks within the monetary system and their compatibility with protected or international monetary networks.

1-1- Automated Money and Automatic Relations between Banks Company (SATIM):

Founded in 1995 at the initiative of the banking community, the Automated Cash and Interbank Relations Company "Satim" is a subsidiary of seven banks in Algeria: BADR, BDL BEA, BNA, CPA, CNEP, Al Baraka and CNMA Insurance Corporation.

It is the operator of electronic payment between banks in Algeria for local and international cards, where it works as one of the technical tools to support the program of developing and modernizing banks, especially enhancing payment methods by card.

Satim brings together 18 members in its electronic interbank payment network, which consists of 18 banks including 06 public banks and 11 private banks in addition to Algeria Post.

Satim has witnessed significant development and sustained growth in its services in recent years. To date, it has more than 1,351 ATMs and 40,000 electronic payment terminals connected to its servers, in addition to this + 274 merchant websites running on

its platform. This growth is mainly due to the impact of the CIB card on the purchasing habits of Algerian citizens.

- **SATIM Company's tasks:**

- Working on developing and using electronic payment methods. Establishing and managing the technical and organizational platform to ensure full interoperability between all actors in the electronic banking network in Algeria.

- Participate in the implementation of interbank rules for managing interbank electronic payment products by being a suggestion force. Supporting banks in creating and developing electronic payment products.

- Customize checks, payment cards and cash withdrawals. Implementing all procedures that govern the operation of the electronic payment system with its various components, namely mastering technologies, automating procedures, speed of transactions, economics of financial flows,...etc.

- Automated cash and interbank relations company Satem provides communication and management functions for ATMs, assigning interbank debit cards to “banks”, creating keys for members with their own authorization system.

- Many banks participate in the interbank electronic banking network for cash withdrawal, including seven SATEM shareholder banks (Al Baraka, BNA, BDL, CPA, BADR, BEA, CNEP-Bank) as well as the CNMA and other institutions, in particular (Algeria Post, Société Générale Algeria, BNP Paribas Algeria, Housingbank, Algérie Gulf Bank, Natixis, Fransabank, Arab Banking “ABC”, Arab Bank and Peace).

- **SATIM company services:**

- A - National services:**

- Transaction routing.
- Hosting electronic payment services.
- Transaction acquisition.
- Withdrawals from ATMs.
- Payment on electronic payment terminals.
- Online payment (e-commerce).
- Monitoring monetary activity.
- Anti-fraud and dispute management.
- Accreditation laboratory for payment methods between banks.
- Customize the CIB card and print secret codes (PIN code and electronic payment password).
- Customizing checks.
- A service provided since 1996, customizing checks is the first activity of Satim, which provides all banking institutions with unified and secure check books of different types intended for clients of private and government banking agencies, individuals and companies throughout the country.
- Help and support until 3020.

- B- International services:**

- Directing transactions to international networks.
- Flow processing.

- Issuing MasterCard cards.
- Customize MasterCard cards.
- Acquisition transactions.
- Withdrawals from ATMs.
- Payment on electronic payment terminals.
- Anti-fraud and cost recovery.

1-2- Automated cash pool (GIE MONETIQUE):

Establishing an effective electronic payment system is a priority for the Algerian public authorities. It is part of the tools for modernizing the banking system, similar to the remote compensation system for collective payment methods.

The establishment of the Automated Cash Group in June 2014 came to support this strategic approach to defining the tasks and powers of the group of actors in this system. It is also charged with ensuring the relationship between banks of the monetary system and its compatibility with local or international monetary networks.

The automatic cash group consists of 19 participating members, including 18 banks and the Algerian Post. The Bank of Algeria participates in it as a non-involved member to ensure the conformity of systems and means of payment, and the standards applied in this field, in accordance with the applicable regulation.

• Automated cash collection tasks:

The automated cash pool supervises the leadership of the automated cash system through the following basic functions:

- Managing specifications, characteristics and standards in the field of automated cash.
- Definition of bank cash products and the rules of their practical application.
- Managing the technical floor for guidance.
- Authentication.
- Security management.

Thus, it embodies transparency in defining the standards and rules of monetary activity in a way that allows for the liberalization of investment initiatives in the monetary industry. The goal is to promote automated cash by spreading the use of electronic payment methods.

• The founding bodies of the Automated Cash Association:

General Assembly: The General Assembly consists of all members involved and not involved in the automated cash pool. It is qualified in all matters related to the conduct of the association through the Ordinary General Assembly and the Extraordinary General Assembly.

Management Council: The Automated Cash Group's Management Council consists of eleven (11) active members who are appointed by the General Assembly. The Bank of Algeria participates in it as a non-involved member.

The person in charge of management: The automated cash pool is managed by an administrator who is a natural person, appointed by the management board, which determines his duties and authority to manage the pool and has broad powers to perform his duties. The administrator is considered the legal representative of the automated cash pool towards third parties.

Operations Committee: The group's operational committee consists of thirteen - 13 - involved members, including the Bank of Algeria. The participating members are appointed by the Board of Directors.

2- The evolution of electronic payment in Algeria:

It is no secret to everyone that the payment methods used in the Algerian banking system are traditional methods and do not suit the new global reality. However, out of Algeria's keenness to keep pace with technological developments and its endeavor to improve the quality of electronic payment, it began introducing and adopting modern payment methods, perhaps the most important of which is the bank card. The Bank of Algeria, in partnership with banks, launched the online payment project. It is about expanding the uses of the payment card in Algeria. The first phase was limited to using payment cards through DAB automatic dispensers, GAB payment windows, or through TPE payment terminals.

Electronic payment methods have spread widely in recent decades in Algeria, like other countries of the world, due to the facilitation of payments for individuals and consumers, as they allow transferring money, paying bills, and paying for goods and services from their homes, in the market, or in stores.

The modernization of payment methods in Algeria was initiated through the establishment of the "Satem" company, which initiated a group of projects with the aim of modernizing the payment methods in Algerian banks, as the Algerian banking system was known for introducing the debit card and programming many projects, with the aim of supporting the bank development programme, in particular Enhancing electronic payment methods.

2-1- Development of electronic payment methods:

It was necessary for the Algerian banking system to use electronic payment methods after it became clear that traditional payment methods were limited in completing financial and commercial transactions, especially with the emergence of electronic commerce and what happened to information and communication technology. In addition, electronic payment methods are more appropriate to the nature and requirements of electronic banks for settling... Commercial and financial transactions between customers, whether natural or legal persons, via the Internet, whether local or cross-border. Accordingly, new methods appeared in their electronic form to solve these problems, and we find

2-1-1- Bank cards in Algeria:

Bank cards began to be used in Algeria in 1989 by the Algerian Foreign Bank, the Algerian Popular Credit, and the National Bank of Algeria. However, with the establishment of the Satem Company, a special debit card was created for each bank. This company manufactures bank cards for withdrawal according to the internationally applicable standard and prints the confidentiality sign. This service is established through a contract concluded with the Satem Company, which specifies a commitment between the two parties, especially with regard to the deadlines. And proper procedures, in addition to linking the DAB automated dispensers with the interests of Satem Company through a communication network that allows carrying out withdrawals, whether internal or transferred, in addition to a register connected to the clearing body for settling accounts between banks.

2-1-2- Automated teller machine:

Automated dispensers are a simple image of the machine in the banking sector. Automatic machines are used using an electronic card that allows the consumer to withdraw an amount of money without going to the branch. Thus, the main task of the automatic paper dispenser is to provide the most necessary service to the consumer. Once the customer inserts the bank card into the machine, it receives... The latter provides his data (identification number, account number, service code...etc.), so the machine responds immediately to the required banking service (cash withdrawal, check deposit, account statement...etc.).

In this context; The number of DAB/GAB automatic cash dispensers across the national territory is estimated at approximately 3,690, according to statistics in February 2023, after the number was 1,621 in 2019. The Automated Cash Company revealed the development of automated payment numbers across the country since 2019, as it pointed to the positive effects of the Corona pandemic on the increase in resorting to remote payment, which is in line with the desire of the relevant authorities to move more towards enhancing electronic payment.

2-2- The development of electronic payment in Algeria after the Covid-19 virus:

The published statistics include electronic payment activity via the bank card and the gold card

2-2-1- Online payment activity:

Currently, there are 321 web merchants involved in the interbank electronic payment system. Since the launch of online payment, about 23,700,556 transactions have resulted, distributed according to the following table:

Table 01 - Online payment activity from the year 2019 to the end of the year 2022

The year	Telephone/communications	Transport	insurance	Bills	Administrative service	Services	Selling goods	Sports and entertainment	The total number of transactions
2019	141 552	6 292	8 342	38 806	2 432	5 056	0	0	202 480
2020	4 210 284	11 350	4 845	85 676	68 395	213 175	235	0	4 593 960

2021	6 993 135	72 164	8 372	120 841	155 640	457 726	13 468	0	7 821 346
2022	7 490 626	195 490	23 571	302 273	153 957	705 114	24 169	152 925	9 048 125

Source: Prepared by researchers based on <https://giemonetique.dz/ar/qui-sommes-nous/activite-paiement-sur-internet/>

The table shows the rapid and significant growth in the volume of transactions, as the number of online payment transactions increased after the Corona pandemic from 202,480 transactions in the year 2019 before the spread of the pandemic to 4,593,960 transactions after the spread of the pandemic. This increase is primarily due to the exceptional situation that the world and Algeria experienced as a result of the repercussions. The Corona virus, which forced the world to impose quarantine, and encouraged contactless exchanges, including electronic payment tools.

The growth rate in online payment transactions continued to rise above average, as e-commerce flourished in Algeria after the pandemic, and online sales operations expanded, which encouraged an increase in resorting to online payment, as it reached 9,048,125 transactions at the end of the year 2022. This is due to increased confidence by customers in electronic transactions, increased demand for e-commerce products and services, in addition to the development of means and methods of electronic transactions.

Conclusion

Unlike traditional trade, which was negatively affected by the Corona pandemic, due to closure and social distancing measures, e-commerce has witnessed great development and prosperity in the world in general and in Algeria in particular. This led to the revival of electronic payment services, and necessitated the need to develop this type of transaction, especially since during this period the state worked to launch new banking services in light of the development of the use of information and communication technology, the desire to move towards the digital economy, and the expansion of the scope of electronic commerce in most countries. Countries of the world .

During the recent period, Algeria has witnessed significant steps in embodying e-commerce, given the preventive measures imposed by the authorities, such as quarantine, which limited the movements of citizens. All they had to do was move towards the digital space.

In order to limit mingling with others, avoid the hassle of moving and waiting, and reduce the chances of contact with means that transmit the virus, such as banknotes or coins, there has been increased resort to electronic payment in various transactions, such as paying the dues of utility bills for water, electricity, gas, and communications. The spread of the epidemic contributed significantly to changing the behavior of individuals towards cash payment, and increasing the demand for electronic payment, especially after realizing the advantages that it provides to customers in terms of ease and speed, something that could not have been achieved in many years. Therefore, the period of the spread of the

Corona virus can be considered a turning point in the field. Electronic payment according to statistics published on the Automated Cash Association website.

Recommendations:

- Strengthening the basic structures in the country according to the latest technologies to achieve the necessary effectiveness in exchanging and processing the information system to ensure its security.
- Every bank must work to generalize electronic connectivity between all agencies, in order to deliver the electronic payment system service to the largest segment of customers, whether they are merchants, customers, or even other banks.
- Enacting legal texts and legislation that regulate and address problems resulting from the use of electronic payment methods.
- Establishing incentives that push customers, including merchants and buyers, to rely on electronic payment instead of cash payment.

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