



Electronic Payment Systems in Algeria

Benseddik Zoubida*

Administration and Financial Law- Public

Law- Algiers 1 University

z.benseddik@univ-alger.dz

Received:10/01 /2025

Accepted: 26/02 /2025

Published: 20/03/2025

Abstract:

Electronic payment has emerged as a cornerstone of innovation, driving the development of new business models and services grounded in digital technology. This service significantly enhances the speed and efficiency of financial transactions when compared to traditional methods, which are often characterized by their complexity and sluggishness. From a societal perspective, electronic payments have become indispensable in daily life, reflecting a necessity dictated by the digital transformation and technological progress of the modern era. Nonetheless, despite the convenience they offer, electronic payment systems present notable risks, particularly regarding the vulnerability of personal and financial data to breaches and misuse. These risks necessitate intensified national and international efforts to combat the proliferation of cybercrime.

Keywords: electronic payment, e-services, digital cards, ATMS.

Introduction :

Advancements in technology have rendered electronic payment services increasingly diverse and accessible, providing tailored solutions to meet the varied demands of users. Numerous platforms and companies now offer specialized services, while advancements in security protocols—such as encryption and multi-factor authentication—have bolstered the reliability of electronic payment systems. In the context of the digital economy, electronic payment has become a linchpin of e-commerce and financial transactions, with projections indicating sustained growth and further evolution in the foreseeable future.

* Corresponding author



This paper examines electronic payment systems, focusing on their capacity to streamline financial transactions by offering unparalleled speed and convenience. However, this innovation is accompanied by growing concerns over privacy and data security, particularly given the rising incidence of cybercrimes targeting sensitive personal and financial information. Against this backdrop, the research addresses a central problematic: what are the challenges associated with developing the requisite infrastructure for electronic payment systems and what are the strategic measures necessary to ensure their secure and widespread adoption? To address these concerns, the study is structured into two sections. The first explores the conceptual and legal dimensions of electronic payment, while the second analyzes the practical initiatives undertaken in Algeria to promote the adoption and circulation of electronic payment cards.

SECTION ONE:DEFINITIONS OF ELECTRONIC PAYMENT

In contemporary society, electronic payment has become one of the most prominent and convenient methods for executing financial transactions. It provides a secure and rapid mechanism for transferring funds without the need to handle physical currency or visit financial institutions in person. Nevertheless, this advancement in financial transactions is accompanied by legitimate concerns regarding its associated risks, raising the critical question: What is electronic payment?

SUBSECTION ONE: JURISPRUDENTIAL AND LEGAL DEFINITIONS OF ELECTRONIC PAYMENT

From a jurisprudential standpoint, electronic payment is defined as the digital transfer of funds between accounts through various technological tools, including credit cards, debit cards, online bank transfers, and mobile payment platforms. It is commonly characterized as "a financial transaction method conducted exclusively through electronic means, devoid of physical cash or negotiable instruments."¹

The electronic payment system can be further conceptualized as "a suite of payment services leveraging information and communication technologies to enable the transfer of electronic funds across accounts, irrespective of the



geographic location of the account holders."² Within the Algerian context, this system is intricately linked to advanced information technology frameworks, replacing conventional paper-based instruments with automated digital processes to enhance the efficiency and reliability of financial transactions³.

Legally, the Algerian framework introduced a formal definition of electronic payment in Law No. 03-11 on currency and credit. Article 69 defines electronic payment tools as "instruments enabling any individual to transfer funds, irrespective of the medium or technical method employed."⁴ This provision laid the groundwork for subsequent legislative elaborations on electronic payment systems.

Law No. 18-05 on e-commerce further refines the definition in Article 6, Paragraph 4,⁵ which defines electronic payment as "any authorized payment instrument, compliant with applicable legislation, allowing its user to execute transactions either remotely or in person via an electronic system." Article 27 of the same law stipulates that electronic payments must be facilitated through platforms explicitly designed for this purpose. These platforms are exclusively managed by accredited financial institutions, such as banks or Algeria Post, and interconnected with electronic payment terminals via public telecommunications networks.

The legal recognition of electronic payment is not confined to these primary legislations. For instance, Ordinance No. 05-06, addressing anti-smuggling measures, and Law No. 05-02, amending the Commercial Code, incorporate provisions that acknowledge the role of electronic mechanisms in financial transactions. Article 404, Paragraph 3, of the amended Commercial Code permits the circulation of negotiable instruments through "any electronic exchange mechanism prescribed under prevailing legal and regulatory frameworks."

In the context of fiscal legislation, electronic payment is addressed in Article 169 bis 2 of the Tax Procedures Code. This provision mandates that large enterprises fulfill their tax declarations and payments electronically, adhering to the stipulated deadlines and conditions established by fiscal legislation. There are other legislative texts that cannot be exhaustively addressed here.⁶



The Algerian legislator's explicit delineation of electronic payment and its operational modalities reflects a progressive and meticulous approach to legal codification. By providing clear and comprehensive definitions, the legislative framework mitigates interpretative ambiguities that often plague emerging financial technologies.

SUBSECTION TWO: FUNDAMENTAL COMPONENTS OF ELECTRONIC PAYMENT

Electronic payment systems operate through an intricate interplay of essential components that enable the secure, efficient, and legally compliant execution of financial transactions in a digital context. The primary components are as follows:

1. **Parties to the Transaction (Payer and Payee):**

- **Payer:** The individual or legal entity initiating the transfer of funds.
- **Payee:** The recipient, either an individual or entity, designated to receive the transferred amount.

2. **Payment Instruments:**

Payment instruments encompass a diverse array of tools, including credit cards, debit cards, electronic funds transfers, digital wallets, and cryptocurrencies. Among these, electronic payment cards, typically issued by financial institutions or international banking organizations, are a cornerstone of contemporary payment systems. These cards, personalized and compact, are issued to account holders and grant access to a wide range of financial services.⁷

3. **Financial Data:**

The integrity of financial transactions is predicated on the availability of accurate and comprehensive financial data. This includes critical details such as card numbers, expiration dates, CVV codes, and bank account information. Conceptually, financial data is understood as "an organized repository of essential variables related to financial operations, sourced from internal and external entities, aimed at enabling informed and strategic decision-making processes."⁸



4. **Verification and Authentication:**

Robust verification and authentication measures are indispensable for ensuring transactional security. These measures often include multi-factor authentication, password protections, and electronic signatures, all of which contribute to verifying the legitimacy of transactions and safeguarding sensitive financial information.

5. **Personal and Supplementary Information:**

Electronic payment systems frequently necessitate the provision of supplementary personal data, including addresses, phone numbers, and email addresses, which facilitate the accurate processing and authentication of transactions.

6. **Electronic Payment Service Providers:**

Service providers are instrumental in underpinning the technical and operational infrastructure of electronic payment systems. These entities, encompassing credit card issuers, digital payment platforms, and online payment gateways, ensure the seamless processing of transactions. In Algeria, a prominent example is the **SATIM initiative**, which established the **CIB shared bank card system**. This system facilitates interoperability among financial institutions, creating a unified national framework for electronic payments*.

7. **Security and Privacy Standards:**

Security and privacy protocols form a critical aspect of electronic payment systems, ensuring that users' financial and personal data are protected from breaches or unauthorized access.

8. **Electronic Money:**

Electronic money is conceptually defined as "monetary value represented in digital form and stored electronically." Unlike conventional currency, electronic

*La Société d'Automatisation des Transactions Interbancaires et de Monétique (SATIM)" is an interbank automation company affiliated with seven Algerian banks: BADR, BDL, BEA, BNA, CPA, CNEP, and Al Baraka, as well as CNMA Insurance.



money exists as encrypted data, stored on digital platforms such as smart cards or electronic devices⁹.

9. Costs and Fees:

The implementation and usage of electronic payment systems often involve specific fees and charges, including transaction fees, processing costs, and subscription-based services; these costs vary based on the payment instrument and service provider.¹⁰

The aforementioned components collectively form the structural backbone of electronic payment systems, ensuring their reliability, efficiency, and security.

SUBSECTION THREE: ADVANTAGES AND CHALLENGES OF ELECTRONIC PAYMENT SYSTEMS

1. Speed and Efficiency

Electronic payment systems enable instantaneous financial transactions, eliminating delays associated with physical cash handling or in-person banking processes.

2. Security and Ubiquity

Leveraging advanced encryption technologies and multi-factor authentication protocols, electronic payment systems provide robust safeguards against fraud and unauthorized access. Furthermore, these systems allow users to perform transactions from virtually any location, relying on mobile devices or computers.

3. Catalyst for E-Commerce Development

As a cornerstone of e-commerce, electronic payment systems facilitate seamless online purchasing experiences for consumers while offering merchants secure, efficient mechanisms for processing payments.

4. Cost Reduction and Simplification of Processes



By diminishing reliance on cash-based transactions and manual accounting procedures, electronic payment systems lower operational costs and reduce logistical complexities.

5. **Improved Financial Transparency and Recordkeeping**

Electronic payment systems automatically generate detailed transaction records, enabling precise tracking of expenditures and facilitating more effective financial management.

6. **Diverse and Flexible Payment Options**

Users benefit from a wide range of payment methods, including credit and debit cards, digital wallets, bank transfers, and cryptocurrencies. This flexibility empowers individuals and businesses to tailor payment strategies to their specific needs and preferences.

While electronic payment systems offer numerous advantages, they also present significant challenges and concerns that require thorough attention and effective mitigation measures, such as:

1. **Cybersecurity Threats and Data Vulnerability**

The reliance on digital platforms for financial transactions exposes users to significant cybersecurity risks, including hacking, phishing, and identity theft. Sensitive financial data, if inadequately protected, may be exploited by malicious actors. Robust legal frameworks and technological safeguards are essential to mitigate these risks¹¹.

2. **Proliferation of Cybercrime**

Electronic payment systems are increasingly targeted by sophisticated criminal enterprises engaging in white-collar crimes or non-violent digital offenses (soft-crimes). These crimes exploit technological vulnerabilities, enabling perpetrators to commit fraud or disrupt financial networks remotely and inconspicuously. Addressing this challenge requires stringent regulatory oversight and proactive enforcement measures.



3. **Digital Divide**

Access to electronic payment systems remains uneven due to disparities in digital literacy, financial inclusion, and technological infrastructure. Limited internet connectivity and inadequate technological resources in rural or underserved regions pose significant barriers to adoption, exacerbating existing inequalities.

4. **Additional Costs**

While electronic payment systems offer numerous benefits, their usage often incurs additional costs, including transaction fees, processing charges, and subscription-based services.

5. **Currency Compatibility Issues**

Some electronic payment systems encounter challenges in integrating local currencies, thereby limiting their applicability in certain markets.

6. **Technological and Cultural Barriers**

The uneven pace of technological adoption and varying cultural attitudes toward digital systems present obstacles to the uniform implementation of electronic payment solutions.

Despite these challenges, electronic payment systems remain an indispensable component of modern financial ecosystems. To fully harness their potential, governments, financial institutions, and technology providers must collaborate to strengthen regulatory frameworks, enhance cybersecurity measures, and promote digital literacy.

In Algeria, electronic payment platforms are regulated under Law No. 18-15, which governs e-commerce. These platforms are subject to oversight by the Bank of Algeria, ensuring their compliance with standards for interoperability, data confidentiality, and transaction security.



SECTION THREE: PRACTICAL MEASURES FOR THE IMPLEMENTATION AND EXPANSION OF ELECTRONIC PAYMENT CARDS IN ALGERIA

The integration and widespread adoption of electronic payment cards in Algeria require a strategic, multi-tiered approach that encompasses regulatory bodies, financial institutions, commercial enterprises, and end users.

SUBSECTION ONE: INTERVENTIONS TO PROMOTE ELECTRONIC PAYMENT CARDS

Expanding the adoption of electronic payment cards in Algeria necessitates targeted measures across multiple levels:

1. Legal and Regulatory Interventions

- Establishing comprehensive regulations that govern electronic payments, safeguard consumer rights, and protect financial institutions against risks associated with electronic transactions¹².
- Mandating robust cybersecurity protocols to ensure the confidentiality and integrity of user data, thereby mitigating risks of fraud.
- Incentivizing financial institutions to expand their electronic payment services, including the issuance of debit and credit cards, while fostering innovation in digital payment technologies.
- Creating a robust, interconnected electronic payment infrastructure that seamlessly integrates with international banking networks, enhancing cross-border transaction capabilities.

2. Financial Institutions and Banks

- Introducing and promoting diverse electronic payment solutions tailored to meet consumer needs, including flexible debit and credit card options.¹³
- Deploy electronic point-of-sale (POS) terminals and automated teller machines (ATMs) nationwide.



- Train employees on electronic payment technologies and raise customer awareness about the benefits and secure use of these systems.
- Employ advanced encryption technologies to ensure the security of customer financial data.

3. **Retailers and Commercial Entities**

- Enforcing regulations that require retailers to install POS terminals, ensuring the availability of electronic payment options for consumers.
- Equipping retail staff with the necessary knowledge to operate payment terminals efficiently and address customer queries.
- Offering promotional discounts or rewards to encourage the use of electronic payment methods, thereby fostering a cultural shift away from cash-based transactions.
- Implementing stringent data protection measures to create a secure environment for electronic transactions, enhancing consumer confidence in digital payment systems¹⁴.

4. **Citizen Engagement**

- Launching educational initiatives to inform citizens about the benefits, security features, and ease of use associated with electronic payment cards.
- Promoting the opening of bank accounts and facilitating the issuance of electronic payment cards.
- Providing citizens with hands-on training in the secure and effective use of electronic payment systems to build trust and familiarity.
- Assuaging public fears regarding data breaches and fraud through transparent communication and consistent application of cybersecurity measures.

By implementing these measures in an integrated and coordinated manner among all stakeholders, Algeria can significantly enhance the use of electronic



payment cards and accelerate the digital transformation of its payment systems, benefiting the economy and society as a whole.

SYBSECTION TWO: CIB: A CORNERSTONE OF ALGERIA'S ELECTRONIC PAYMENT INFRASTRUCTURE

The **Carte Interbancaire (CIB)** has emerged as a central element of Algeria's electronic payment ecosystem. Issued through contractual agreements between financial institutions and individual clients, the CIB card operates within a legally defined framework that governs its issuance and use. This contractual arrangement specifies the card's validity, permissible transaction limits, repayment conditions, and any associated fees or interest rates. A prerequisite for obtaining the card is maintaining an active account with the issuing bank. Furthermore, the CIB card is strictly personal and non-transferable¹⁵.

The development and widespread adoption of the CIB card system in Algeria is largely attributed to the efforts of SATIM (Société d'Automatisation des Transactions Interbancaires et de Monétique). As the primary entity responsible for interbank payment automation, SATIM has been instrumental in fostering collaboration among Algeria's leading financial institutions, including BADR, BDL, BEA, BNA, CPA, CNEP, Al Baraka Bank, and CNMA Insurance.

The CIB card is equipped with a secure microprocessor, commonly referred to as a "chip," designed to ensure the integrity and confidentiality of payment transactions. This technological foundation enables the cardholder to perform a variety of financial operations, including:

- **Retail Payments:** Transactions at diverse commercial outlets, such as hotels, supermarkets, restaurants, and pharmacies.
- **Cash Withdrawals:** Access to funds through automated teller machines (ATMs) located throughout the country.
- **Bill Payments:** Settling invoices for utilities and services via electronic banking systems.



The CIB card is available in two primary variants to cater to diverse user needs:

- The classic card, which offers basic functionalities such as payments and withdrawals.
- The gold card, which provides enhanced features, including higher transaction and withdrawal limits, tailored to the needs of premium clients.

SATIM's contributions extend beyond the CIB card itself. The organization plays a pivotal role in modernizing Algeria's banking sector through the implementation of automated teller networks¹⁶, interbank interoperability initiatives, and advancements in payment security technologies among others.

Conclusion

The evolution of electronic payment systems in Algeria, exemplified by the CIB card, aligns with global trends emphasizing security, accessibility, and innovation. Emerging developments in this domain include:

1. Incorporating fingerprint and facial recognition technologies for transaction authentication to enhance security.
2. Exploring the potential of digital currencies and cryptocurrency, such as Bitcoin and Ethereum, as viable payment methods in selected retail and online markets.
3. Facilitating secure and user-friendly transactions through mobile wallets and QR-based payment systems, which are increasingly gaining traction worldwide.

While these advancements signal significant progress, safeguarding personal and financial data remains paramount. A robust cybersecurity framework and stringent enforcement of privacy laws are indispensable for mitigating risks and bolstering trust in electronic payment systems.



To safeguard digital privacy, it is essential to adopt appropriate preventive measures to mitigate the risks of personal data breaches. The following recommendations are specifically directed at cardholders:

- Employ strong, unique passwords and enable multi-factor authentication for enhanced security whenever possible, such as requiring withdrawal confirmation via SMS or a secure mobile application.
- Refrain from sharing sensitive information, such as card details or personal identification numbers, on unverified platforms.
- Stay vigilant against phishing attempts and malicious links, which may compromise account security.
- Use antivirus software and firewalls to secure personal devices used for financial transactions.

On a broader scale, the state must adopt precise preventive measures and enhance legal sanctions to ensure stringent enforcement against breaches of data security.

References

First : Legal Texts

- Ordinance No. 03-11 of August 26, 2011, concerning Currency and Credit, Official Gazette No. 05, issued on August 27, 2011, amended and supplemented.
- Law No. 17-11 of December 27, 2017, concerning the Finance Act for 2018, Official Gazette No. 76, dated December 28, 2017.
- Law No. 18-05 of May 10, 2018, concerning E-Commerce, Official Gazette No. 28, dated May 16, 2018.

Second: Books



• Ramadan Seddik, Taxes in the Digital Economy: Changing Ideas, Emerging Principles, Shifting Bases, and Evolving Management, Dar Al-Nahda Al-Arabiya, Cairo, 2020.

Third: Theses and Dissertations

• Jamil Halimi, Financial Information Systems and Their Role in Financial Decision-Making Processes, PhD Dissertation in Economic Sciences and Management, Faculty of Economics, Commerce, and Management Sciences, Ghardaia University, June 28, 2020.

• Hedaya Bouazza, The Legal Framework for Electronic Payment: A Comparative Study, PhD Dissertation in Private Law, Faculty of Law, Abou Bekr Belkaid University, Tlemcen, 2018–2019.

Fourth: Articles

• Bessiri Mahfoud, "The Algerian Electronic Payment System as a Mechanism for Developing New Payment Methods," Studies and Research: The Arab Journal for Research and Studies in Humanities and Social Sciences, Vol. 11, No. 4, Ziane Achour University, Djelfa, 2019.

• Jamil Ahmed and Recham Kahina, "Credit Cards as a Means of Payment in Algeria," New Economy Journal, Vol. 0, No. 0, Khemis Miliana University, 2009.

• Rabah Hamdi Basha and Wahiba Abdel Rahim, "The Evolution of Payment Methods in E-Commerce," Journal of Economic, Management, and Trade Sciences, Vol. 14, No. 4, Institute of Economic Sciences, University of Algiers 3, 2019.

• Adman Mrezig and Bouklachi Imad, "Information Security in the Context of E-Commerce: A Focus on the Cases of Tunisia and Algeria," New Economy Journal, No. 3, Khemis Miliana University, 2011.

• Alouti Lamine, "Challenges of Cybersecurity in Organizations," Economic and Administrative Research, Vol. 3, No. 2, Mohamed Khider University, Biskra, 2009.



• Kahina Recham, "Central Bank Regulations for Managing Electronic Payment Methods with Reference to the Reality of Bank Cards in Algeria," *International Journal of Economic Performance*, Vol. 4, No. 1, Mohamed Bougara University, Boumerdes, 2021.

• Moussahaf Fatima and Ait Ali Zina, "The Concept of Electronic Payment and Its Distinction from Traditional Payment," *Journal of Legal and Political Studies*, Vol. 11, No. 2, Blida 2 University, 2022.

• Hicham Kelo, "Electronic Payment Cards in Algerian Law," *Journal of Humanities*, Vol. 26, No. 4, Mentouri University, Constantine, 2015.

• OuldAwali Amina and Safih Sadek, "Electronic Money in Algeria: Reality and Future Challenges," *Horizons for Economic Studies*, Vol. 6, No. 1, Larbi Tebessi University, Tebessa, 2021.

• Yasmina Bounara, "Cybercrime," *Al-Mi'yar Journal*, Vol. 20, No. 39, Emir Abdelkader University, Constantine, 2015.

¹Moussahaf Fatima and Ait Ali Zina, "The Concept of Electronic Payment and Its Distinction from Traditional Payment," *Journal of Legal and Political Studies*, Vol. 11, No. 2, Blida 2 University, 2022, p. 224.

²Ramadan Seddik, *Taxes in the Digital Economy: Changing Ideas, Emerging Principles, Shifting Bases, and Evolving Management*, Dar Al-Nahda Al-Arabiya, Cairo, 2020, p. 40.

³Bessiri Mahfoud, "The Algerian Electronic Payment System as a Mechanism for Developing New Payment Methods," *Studies and Research: The Arab Journal for Research and Studies in Humanities and Social Sciences*, Ziane Achour University, Djelfa, Vol. 11, No. 4, 2019, p. 63.

⁴Ordinance No. 03-11 of August 26, 2011, concerning Currency and Credit, Official Gazette No. 05, issued on August 27, 2011, amended and supplemented.

⁵Law No. 18-05 of Shaaban 24, 1439 (May 10, 2018), on E-Commerce, Official Gazette No. 28, dated May 16, 2018, p. 4.

⁶Article 169 bis 2 of the Tax Procedures Code, updated by Article 58 of the Finance Act for 2018.

⁷Jamil Ahmed and Recham Kahina, "Credit Cards as a Means of Payment in Algeria," *New Economy Journal*, Vol. 00, No. 00, Khemis Miliana University, 2009, p. 116.

⁸Jamil Halimi, *Financial Information Systems and Their Role in Financial Decision-Making Processes*, PhD Dissertation in Economic Sciences and Management, Faculty of Economics, Commerce, and Management Sciences, Ghardaia University, June 28, 2020, p. 13.

⁹OuldAwali Amina and Safih Sadek, "Electronic Money in Algeria: Reality and Future Challenges," *Horizons for Economic Studies*, Vol. 06, No. 01, Larbi Tebessi University, Tebessa, 2021, p. 43.

¹⁰Jamil Ahmed and Recham Kahina, op. cit., p. 116.



¹¹Alouti Lamine, "Challenges of Cybersecurity in Organizations," Economic and Administrative Research, Vol. 03, No. 02, Mohamed Khider University, Biskra, 2009, pp. 162–163.

¹²Hedaya Bouazza, The Legal Framework for Electronic Payment: A Comparative Study, Doctoral Dissertation in Private Law, Faculty of Law, Abou Bekr Belkaid University, Tlemcen, 2018–2019, pp. 13ff.

¹³For more detailed analysis, see Rabah Hamdi Basha and Wahiba Abdel Rahim, "The Evolution of Payment Methods in E-Commerce," Journal of Economic, Management, and Trade Sciences, Vol. 14, No. 04, Institute of Economic Sciences, University of Algiers 3, 2019, pp. 159–181.

¹⁴Adman Mrezig and Bouklachi Imad, "Information Security in the Context of E-Commerce: A Focus on the Cases of Tunisia and Algeria," New Economy Journal, No. 03, Khemis Miliana University, 2011, pp. 11–12.

¹⁵Hicham Kelo, "Electronic Payment Cards in Algerian Law," Journal of Humanities, Vol. 26, No. 04, Mentouri University, Constantine, 2015, p. 406.

¹⁶Kahina Resham, "Central Bank Regulations for Managing Electronic Payment Methods with Reference to the Reality of Bank Cards in Algeria," International Journal of Economic Performance, Vol. 04, No. 01, Mohamed Bougara University, Boumerdes, 2021, p. 164.