

Electronic payment as a tool for the discharge of monetary obligations in the virtual environment: A comparative study

ALLAOUA Ait Amira Anaghim ¹ and Dr. AMOURA Amira ²

¹ amiraanaghim@gmail.com

² Lecturer (B), National School for Applied Land Transport Technologies (ENATT)
Faculty of Law, University of Batna 1, Algeria. Email: amoura.amira19@live.fr

Abstract---With the accelerated digital transformation, electronic payment has become an essential means for the discharge of monetary obligations, replacing paper currency and checks in numerous transactions. This system offers speed, efficiency, and ease of tracking operations. However, it raises significant legal issues concerning the legitimacy of electronic means, the evidentiary value of digital records in proof, as well as data protection and transaction security. In Libya, this field is regulated by Law No. 6 of 2022 on Electronic Transactions, while in Algeria, it is governed by Law No. 15-04 on Electronic Signatures, Law No. 73-59 (as amended by Law No. 05-02), Law No. 03-11 on Currency and Credit, and Law No. 18-05 on Electronic Commerce. Electronic payment methods include bank cards, electronic checks, transfers, electronic money, and electronic wallets. These methods face multiple risks, most notably hacking, fraud, unauthorized use of cards, and weaknesses in systems or their design. To address these, reliance is placed on technical and legal safeguards such as securing electronic websites, legally recognized electronic signatures, and encryption to protect data confidentiality, prevent tampering, and ensure the validity of transactions. Electronic payment represents a contemporary extension of the principle of legitimate documentation of financial obligations and requires strengthening technical infrastructure and user awareness to guarantee trust and stability in digital transactions.

Keywords---Electronic payment, electronic payment methods, bank cards, electronic commercial papers, technical risks, electronic payment safeguards.

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Introduction

With the rapid digital development and profound transformations in the fields of commerce and financial services, electronic payment has emerged as one of the fundamental pillars underpinning virtual transactions. The execution of monetary obligations, traditionally linked to paper currency and checks, has shifted to a digital environment reliant on advanced information systems that ensure speed, efficiency, and ease of traceability. Notwithstanding the economic and organizational advantages this technological shift entails, it poses precise legal challenges related to the legitimacy of electronic means, the evidentiary force of digital records in proof, the determination of the scope of parties' liability, and the assurance of information security and data protection in the virtual environment. In the context of electronic payment, the virtual environment refers to the digital space in which financial operations and commercial transactions are conducted via the Internet using digital payment instruments.

Although positive legislation has sought to keep pace with this evolution by enacting specific rules governing electronic transactions, the foundational value underpinning the legitimacy of executing financial obligations finds its roots in the provisions of the Holy Qur'an. The Qur'an establishes the principle of the legitimacy of transactions based on mutual consent, as stated in the verse: (يَأَيُّهَا الَّذِينَ آمَنُوا لَا تَأْكُلُوا أَمْوَالَكُم بَيْنَكُم بِالْبَاطِلِ إِلَّا أَنْ تَكُونَ تِجَارَةً عَنْ تَرَاضٍ مِنْكُمْ): "O you who have believed, do not consume one another's wealth unjustly but only [in lawful] business by mutual consent" (Surah An-Nisa, verse 29). It also establishes the principle of documenting debts to preserve rights and prevent disputes, as in the verse: (يَا أَيُّهَا الَّذِينَ آمَنُوا إِذَا تَدَايَنْتُمْ بِدَيْنٍ إِلَىٰ أَجَلٍ مُّسَمًّى فَاكْتُبُوهُ) "O you who have believed, when you contract a debt for a specified term, write it down" (Surah Al-Baqarah, verse 282). This reflects that the legislative objective of safeguarding wealth and ensuring transaction stability remains constant, even as the means evolve with time.

Consequently, electronic payment can be viewed as a contemporary extension of the idea of legitimate documentation of financial obligations. Although the technical means differ, the purpose remains singular: preserving rights and achieving stability in transactions. This necessitates an important legal study to examine the adequacy of the existing legislative framework in regulating these means and achieving a balance between the requirements of digital development and legal protection guarantees.

Based on the foregoing, the following problem is posed:

To what extent is electronic payment legitimate as a means of discharging monetary obligations in the virtual environment, and what are the legal safeguards sufficient to mitigate its risks?

Sub-questions

- What is the legal basis for the legitimacy of electronic payment as a means of discharging monetary obligations?
- To what extent do electronic payment methods and records possess evidentiary value in proof?
- What are the most prominent legal and technical risks associated with electronic payment operations?
- What are the prescribed legal safeguards for protecting the electronic consumer during the electronic payment phase?

Hypotheses General Hypothesis

Electronic payment constitutes a legitimate means of discharging monetary obligations in the virtual environment, provided it is grounded in an explicit legal basis and the legislative safeguards necessary to protect the parties to the transaction and mitigate its risks are available.

Sub-hypotheses

Regarding the legal basis, electronic payment is based on a legal foundation derived from general rules in civil law and specific legislation on electronic transactions, rendering it a valid means of discharging monetary obligations. Regarding evidentiary value in proof, electronic payment methods and records enjoy legal evidentiary force provided they fulfill the technical and legal conditions related to electronic writing, electronic signature, and data integrity assurance. Regarding risks, electronic payment involves legal and technical risks, most notably electronic fraud, data breaches, and difficulties in determining liability, which may affect transaction stability. Regarding safeguards, the current legislative framework provides protections for the parties to electronic transactions; however, these safeguards require continuous development to keep pace with accelerated digital evolution.

Previous Studies

A review of the legal literature reveals that most studies have addressed electronic payment from an economic or technical perspective, or focused on protecting the electronic consumer, with limited attention to analyzing electronic payment as an independent tool for discharging monetary obligations from a legal standpoint. Moreover, studies dealing with legal risks have often been limited to applied examples without linking them to the legal and regulatory basis. Therefore, this study aims to fill this gap by offering a comprehensive analytical vision.

Difficulties of the Study

The study encountered several difficulties related to the novelty and rapid evolution of the topic of electronic payment, resulting in limited specialized legal and technical references. Additionally, the comparative legislative texts between Algeria and Libya remain incomplete in certain aspects, complicating access to accurate information on practical applications of electronic payment. Furthermore, the overlap between legal and technical dimensions poses a challenge in analyzing risks and protection safeguards, necessitating reliance on the analytical and comparative method to provide a comprehensive perspective.

Significance of the Study

This study derives its importance from the fact that electronic payment represents a modern and effective tool for discharging monetary obligations, with direct implications for the stability of electronic transactions. It aligns with the global trend toward reducing dealings in paper currency and promoting electronic money, links electronic payment to investment flows and electronic commerce, strengthens the digital economy, and enhances trust among contracting parties in electronic contracts. The study provides a legal vision to assist the legislator in closing gaps and reinforcing protection safeguards in the field of electronic payment. It enriches legal research in a modern, evolving domain tied to the digital transformation of the economy, addresses the issue of the evidentiary value of electronic means in proof amid the development of digital documentation tools, and protects the electronic consumer while ensuring trust in digital transactions.

Moreover, the study offers a comparative framework between Libyan and Algerian legislation in regulating electronic payment and the discharge of monetary obligations via digital means, enabling practical recommendations to contribute to the development of electronic payment services amid the shift toward a digital economy.

This study aims to: Identify the conceptual framework of electronic payment and its various forms. Assess the adequacy of the current legal framework governing electronic payment with respect to the evidentiary value of electronic documents in proof and their status as records producing full legal effects. Highlight the various traditional and modern electronic payment methods. Examine the legal risks associated with electronic payment operations. Shed light on the prescribed legal and regulatory safeguards for protecting the parties to transactions in the virtual environment. Propose solutions and

recommendations to enhance legal protection and achieve balance between the requirements of digital development and transaction stability.

In terms of subject matter, the study is limited to analyzing electronic payment as a means of discharging monetary obligations in the virtual environment, focusing on its legal legitimacy and evidentiary value in proof, while identifying its risks and the prescribed safeguards for protecting transaction parties, without expanding into technical or economic aspects except to the extent that serves the legal analysis. Spatially, the study focuses on Algerian legislation as the primary framework for analysis, with reference to Libyan legislation for comparative purposes. Temporally, the study addresses contemporary legislation regulating electronic transactions and electronic payment amid the ongoing digital transformation.

To address the research problem, this study adopts the analytical, descriptive, and comparative methods, in accordance with the nature of the topic. In order to answer the questions raised, the study is structured into two main axes. The first axis examines the nature of electronic payment, beginning with the concept of electronic payment and then discussing its various methods. The second axis addresses the risks associated with electronic payment and the safeguards established to mitigate them, by first analyzing the risks of electronic payment and then examining the legal and technical safeguards designed to ensure its security and reliability.

1. The Nature of Electronic Payment

Electronic payment has become an essential means for the discharge of monetary obligations in the digital environment, as it provides speed, security, and ease of transaction tracking compared to traditional methods. In this axis, we will address the concept of electronic payment (firstly) and electronic payment methods (secondly).

1.1. The Concept of Electronic Payment

1.1.1. The Doctrinal Definition of Electronic Payment

Electronic payment is defined as any process of transferring funds in exchange for a specific good or service through electronic means, by sending data via telephone, a specific network, or any other method of data transmission (Ghabbasha, 2021, p. 315). It is associated with being one of the methods for settling and paying financial obligations owed by a person to another electronically. It is also described as a system provided by financial and banking institutions to make the payment process secure, facilitated, and rapid. Furthermore, it is defined as any payment operation that is initiated and processed electronically, consisting of a set of tools and electronic transfers issued by banks and credit institutions (Sultani, 2022, p. 211).

Other definitions of electronic payment systems primarily revolve around the nature of the payment process in comparison with traditional payment systems. It has been defined as a payment method used as an alternative means of discharge to traditional payment instruments such as cash and checks; it consists of monetary value stored on a card with digital memory or in the main memory of the entity managing the exchange process (Ben Amiro, 2005, p. 14).

From the foregoing, it can be concluded that electronic payment is a modern means of executing financial obligations carried out through electronic technologies, whereby funds are transferred in exchange for goods or services via communication networks or various digital means. This process is organized and managed by financial and banking institutions with the aim of providing speed, trustworthiness, and efficiency in completing transactions. It relies on electronic instruments as alternatives to traditional payment means such as cash and checks, and is generally based on digital monetary value stored on cards or information systems that manage the exchange process.

1.1.2. The Legal Definition of Electronic Payment

The Algerian legislator addressed electronic payment methods for the first time, albeit implicitly, in the Currency and Credit Law No. 03-11, specifically in Articles 66 and 69 thereof. Article 66 provides that banking operations include receiving orders from the public, credit operations, as well as placing payment instruments at the disposal of customers and managing these instruments. Article 69 states that payment instruments are considered to be all tools that enable any person to transfer funds, regardless of the underlying document or technical method used. Through these two provisions, it is observed that the legislator did not precisely define the concept of electronic payment instruments nor refer to it explicitly; rather, the wording was general, encompassing traditional payment methods while not excluding newly developed ones.

Following subsequent legislative developments, Commercial Law No. 75-59 was amended by Law No. 05-02 to explicitly include electronic payment methods. This was introduced in the Fourth Book under the title “Certain Means and Methods of Payment,” specifically in Article 543 bis 23, which explicitly defined the electronic payment and withdrawal card. Thus, the Algerian legislator established a clear legal reference for regulating electronic payment, particularly the provisions governing electronic payment cards. As for the legal reference in Libyan law concerning electronic payment, it is based on Law No. 6 of 2022 on Electronic Transactions, which regulates the framework for electronic dealings and includes electronic payment systems as part of banking and electronic operations.

Article 1 defines electronic payment systems as the set of methods, means, and procedures related to the payment process that is carried out electronically. Furthermore, Articles 61 and 66 of Chapter Six (Banking Operations) clarify that electronic payment or transfer is conducted based on a clear agreement between the customer and the bank or financial institution, including the terms and conditions related to electronic payment orders. These encompass electronic payment methods such as electronic payment cards, electronic money transfers, electronic credits, electronic commerce instruments approved by the Central Bank of Libya; these means form part of the legally recognized electronic payment systems in Libya.

In light of the above, it is evident that the Algerian legislator referred to electronic payment as a means of settling funds that includes the electronic payment and withdrawal card, within specific legal rules. In contrast, the Libyan legislator indicated that electronic payment is a system encompassing all approved electronic payment means and their procedures under the supervision of financial institutions. Accordingly, electronic payment is the process of settling funds by transferring money in exchange for a good or service using electronic means, with electronic payments and transfers conducted within a legal framework.

1.2. Electronic Payment Methods

Electronic payment methods are divided into modified payment methods and newly introduced payment methods.

1.2.1. Modified Payment Methods

These include bank cards, electronically processed commercial papers, and electronic bank transfers.

a. Bank Cards

Law No. 6 of 2022 on Electronic Transactions defines bank cards in Article 1 (Definitions) as magnetic plastic cards issued by banks for the benefit of their customers, enabling the cardholder to obtain needed goods and services without immediate payment, whether in cash or by check. Among the most important of these cards are the following:

- **Credit Card** It is a payment and withdrawal instrument issued by a commercial bank or financial institution, allowing the cardholder to conduct purchase transactions on behalf of the issuer. It also enables the holder to access special services and obtain cash as a loan from the issuer or other guaranteed parties (Bouadi, 2017, p. 46).

These are cards that grant the holder a predetermined credit limit agreed upon in advance with the bank, which can be used without requiring sufficient balance in the account at the time of payment. This credit is renewable, automatically renewed after payment of the due amount. The credit element constitutes the essence of this card, whereby the bank undertakes to settle the value of purchases or services and then recourse against the customer in accordance with the contract terms, including agreed interest and fees (Abd al-Fattah, 2002, p. 112).

- **Debit Cards** These are cards that enable the cardholder to pay the price of goods and services from specific commercial establishments that accept them pursuant to an agreement with the card issuer, by transferring the amount from the customer's account to the seller's account, either directly or indirectly (Nabil, 2001, p. 229).

The Algerian legislator referred to them in Article 543 bis 23 of the Algerian Commercial Code, considering every payment card to be a card issued by banks and legally qualified financial institutions that allows its holder to withdraw or transfer funds. Accordingly, the debit card is regarded as a card issued by banks and financial institutions that permits the disbursement or transfer of funds to the beneficiary upon electronic payment.

b. Electronically Processed Commercial Papers These consist of:

- **Electronic Check** It is a document or three-party instrument that is processed wholly or partially electronically, containing an order from the drawer to the drawee (the bank) to pay a sum of money to the beneficiary. It serves as an alternative to the paper check and contains the same information found in a conventional check (amount, date, beneficiary, drawer, drawee), but in electronic form (Mohamed, 2020, p. 15).

The electronic check is a three-party instrument processed electronically in whole or in part, containing an order from a person called the electronic drawer directed electronically to the electronic drawee (the bank) to pay a sum of money to a third party called the electronic beneficiary (Al-Buqayrat, 2010, p. 131).

Accordingly, the electronic check is considered a substitute for the paper check and enjoys the same legal force as the paper check, particularly in countries that recognize electronic signatures.

- **Electronic Promissory Note** It is explicitly regulated in the Commercial Code (Articles 465–471) and is a document drafted in a specific form prescribed by law, containing an undertaking by a person called the maker to pay a sum of money on a fixed or determinable date or on demand to the order of another person (the beneficiary).

It has also been defined as a written document whereby a person called the maker undertakes to pay a specified sum of money to another person called the beneficiary on a specified date; it may be drafted according to various models, as the legislator did not prescribe a specific model (Sabhi, 2019, p. 280).

The legal relationship in a promissory note exists between two parties: the maker, who is the creator of the instrument and the principal debtor therein, and who undertakes to the order of the second party—the beneficiary—who is entitled to performance or to his order. This leads to the conclusion that the maker in a promissory note combines the capacities of both drawer and drawee (Ghazali, 2017, p. 163).

- **Electronic Bill of Exchange** The definition of an electronic bill of exchange does not differ from that of the paper bill of exchange, which may be defined as a three-party document or instrument processed wholly or partially electronically, containing an order from the drawer to the drawee to pay a sum of money to the beneficiary on demand or on a fixed date (Mustafa, 2005, p. 345).

It can be defined as a formal three-party instrument processed electronically wholly or partially, containing an order issued by a person called the drawer to another person called the drawee to pay a sum of money to a third party called the beneficiary upon sight or on a specified date (Bouakka, 2022, p. 345).

- **Electronic Bank Transfer** It is the process of authorizing the bank to carry out credit and debit financial transfers electronically from one account to another bank account, via telephone, computer, and modem, electronically instead of using paper; such financial transfers are executed through clearing (Arab, 2021, p. 171).

The Algerian legislator addressed it in the First Chapter of the Commercial Code, Book Four concerning Commercial Instruments, under the Fourth Book, Section on Certain Means and Methods of Payment; however, it did not elaborate on its provisions nor define it explicitly, but merely referred to specifying its particulars and the moment at which discharge becomes irrevocable or final.

1.2.2. Newly Introduced Electronic Payment Methods

These consist of electronic money and electronic wallets.

a. Electronic Money

It is intangible money in the form of electronic units stored on an electronic medium, not linked to a bank account, enjoying wide acceptance by third parties from the issuer, and used as a payment instrument for various purposes (Boukhalifa, 2015, p. 10).

Electronic money should not be confused with the means expressing it; electronic money consists of ordinary monetary units preserved electronically and discharged electronically. Alternatively, it is defined by some as digital electronic units transferred in a certain manner from one person's account to another. These units are either stored in a small computer memory attached to a card carried by the consumer, used for discharge via that card, or stored in the consumer's personal computer memory, used via that computer (Hizam, 2019, p. 1367).

b. Electronic Wallet

It is a virtual payment means used for direct or indirect payment of small-value amounts; it may consist of a floppy disk inserted into the floppy drive of a personal computer, or a smart card attached to the personal computer to transfer monetary value over the Internet (Bouakka, previous reference, p. 15).

Electronic payment has become an essential means for the discharge of monetary obligations with speed and security compared to traditional methods, whereby funds are transferred in exchange for goods or services through digital means, provided by financial institutions to ensure effectiveness. Algerian law encompasses payment cards, commercial papers, and electronic transfers, whereas Libyan law regulates all electronic payment means within the framework of financial institutions. Electronic payment methods vary between modified ones—such as bank cards, commercial papers, and bank transfers—and newly introduced ones—such as electronic money and electronic wallets. Despite its advantages, electronic payment is associated with legal and technical risks that affect transaction stability and parties' trust. Consequently, it is necessary to study these risks and the accompanying legal and regulatory safeguards to ensure the security of electronic operations and consumer protection.

2. Risks of Electronic Payment and Its Safeguards

The electronic consumer may be exposed to several risks during the payment process, which could harm their rights and interests. Consequently, various legislations, financial institutions, and commercial entities have sought to secure the electronic payment environment and impose penalties on anyone committing payment-related crimes or endangering the safety and security of the consumer. In this axis, we will address the risks of electronic payment (firstly) and the safeguards for securing electronic payment (secondly).

2.1. Risks of Electronic Payment

The risks primarily consist of the unauthorized use of bank cards, technical risks, and risks arising from system inefficiency, inadequate design, and poor maintenance, as follows:

2.1.1. Unauthorized Use of Bank Cards:

The consumer faces the risk of unlawful use of payment cards, which may occur when merchants are disclosed the card number, when merchants withdraw excessive amounts, misuse personal identification numbers, or when the card is stolen or lost, or the personal identification number is obtained through unlawful means. This may include card forgery or the hacking of global communication systems to obtain payment card information (Al-Dhahabi, 2015, pp. 120–121).

2.1.2. Technical Risks of Electronic Payment :

When using the Internet, the consumer may encounter several risks, including cybercriminals breaching accounts during the settlement of goods' value, phishing and electronic deception, targeting of bank cards, or complete destruction of the website and alteration of its content (Shawqi & Boudiar, 2011, p. 316).

2.1.3. Risks Arising from System Inefficiency, Inadequate Design, and Poor Maintenance :

The lack of efficiency and the employee's inability to control technological factors related to the electronic payment system, coupled with weak communication networks, may pose a significant risk to electronic payment. Additionally, the inability to control the flow of information and images transmitted to banks and financial institutions to the electronic payment center, or the transmission of complete information to the customer, may expose such data to piracy and hacking risks (Kardous & Ibrahim, 2023, p. 650).

Accordingly, the risks of electronic payment encompass legal risks (unauthorized use), technical risks such as hacking and online fraud, and risks stemming from system weaknesses, design flaws, and inadequate maintenance. All of these threaten the security and integrity of financial transactions conducted via electronic cards.

2.2. Safeguards for Securing Electronic Payment

Among the most important safeguards for securing electronic payment are the securing of electronic websites, electronic signatures, and electronic encryption.

2.2.1. Securing Electronic Websites

Specialized software programs are used to secure electronic websites, making unauthorized access difficult. This protection is achieved through the use of a secret code (password) that enables the website to verify the user's identity upon entry to the electronic commercial website or any part thereof. Therefore, the user must correctly enter their secret code to access electronic commercial transaction data (Shaib, 2018, p. 39).

2.2.2. Electronic Signature

The Algerian legislator defined it in Article 2, paragraph 1 of Law No. 15-04 as: data in electronic form that is logically associated with or attached to other electronic data and used as a means of authentication.

It is a statement consisting of letters, numbers, symbols, signs, or any electronic processing system that is authenticated by an accredited authority and sealed with the intention of authentication, and the adoption of transactions or correspondence of its owner is attached to or logically linked to his electronic message.

The Libyan legislator permits the creation of an electronic signature using a reliable system, as stipulated in Article 8 of Law No. 6 of 2022 on Electronic Transactions, in Chapter Two (Electronic Signature and Electronic Records), which states: Any natural or legal person may create an electronic signature through a reliable creation system, and the executive regulations shall determine the necessary conditions and specifications therefor.

Furthermore, Article 10 of the same law specifies the conditions under which the electronic signature is recognized: it must be unique to the person who used it and indicate the identity of the signatory; the information related to the creation of the signature and the method of its use must be under the

complete control of the signatory; no change must have occurred to the electronic transaction since the electronic signature was affixed. The signature is considered invalid if any of the conditions set forth in this article are not met.

In light of the foregoing, it is clear from the legislative regulation in both Algeria and Libya that the electronic signature has become a legally recognized means of proving transactions in the digital environment and enjoys legal evidentiary value provided it fulfills the conditions prescribed by law.

2.2.3. Encryption as a Mechanism for Protecting Electronic Payment Instruments

Article 27 of Chapter One (General Provisions) of Law No. 6 of 2022 on Electronic Transactions defines encryption as: the process of converting electronic data into unknown or unintelligible codes that cannot be read or understood without restoring them to their original form.

In Chapter Five (Methods of Protecting Electronic Transactions), Article 58 of the same law provides that encryption is used to protect electronic transactions with the aim of preserving the confidentiality of the information or data contained in the electronic message, verifying the identity of the originator, and preventing others from intercepting the information or electronic messages in order to prevent their delivery to the intended recipient or their distortion.

It is the system by which confidential data are concealed, making them incomprehensible to unauthorized persons, such as storing them securely in a computer file or transmitting them insecurely over the Internet.

Encrypting information requires the installation of specialized programs on the computers of both the sender and the recipient of the information or data. The program encrypts the card details by entering the secret number or account number, then redirects the encrypted message to the merchant or bank. Upon receipt, the message is decrypted using the dedicated program to enable reading. If someone obtains a copy of this message, they will not be able to read it due to the encryption technology (Wahiba, 2018, p. 39).

Accordingly, encryption is a technical system for concealing sensitive data, particularly in electronic payment operations. Specialized programs are used by the sender and recipient to encrypt card or account data and transmit it securely over the Internet, followed by decryption upon arrival. Thus, encryption ensures the protection of financial transactions from hacking or unauthorized access and enhances trust in electronic payment instruments (Aban, 2022, p. 1240).

These three mechanisms form an integrated system for ensuring the security of electronic payment, providing technical protection for data, legal evidentiary value for transactions, and strengthening confidence in online commercial dealings.

From the second axis, it is evident that the electronic consumer is exposed to multiple risks during electronic payment, most notably the unauthorized use of bank cards, technical risks such as electronic fraud and hacking, and risks arising from inadequate system efficiency, design, or maintenance, all of which may threaten the security and integrity of financial transactions. To counter these risks, legal and technical safeguards have been established, most prominently the securing of electronic websites through secret codes for user identity verification, the legally recognized electronic signature in Algeria and Libya for proving digital transactions, and electronic encryption to protect and conceal data from unauthorized parties. These mechanisms constitute an integrated system that ensures the security of electronic payment, provides technical data protection, confers legal evidentiary value on transactions, and enhances trust among the parties to the digital financial process.

Conclusion

It can be stated that electronic payment has become one of the fundamental pillars for the discharge of monetary obligations in the virtual environment, as it enables rapid performance, ease of tracking, and precise and secure documentation of transactions. Through the study, it has been demonstrated that this form of payment represents a fundamental transformation in the methods of fulfilling financial obligations, taking into account modern technological developments and the requirements of the digital economy:

- Electronic payment constitutes a legally legitimate means of discharging monetary obligations under both Algerian and Libyan law, provided that the legal and technical safeguards necessary to protect the consumer and ensure transaction security are in place.
- In Libya, the recognition of electronic payment is embodied in Law No. 6 of 2022 on Electronic Transactions, which grants legal force to electronic records and transactions, including electronic signatures and encryption. In Algeria, Law No. 18-05 on Electronic Commerce and the banking regulatory framework provide for authorized electronic payment instruments, despite the absence of an explicit comprehensive definition of electronic payment.
- Electronic payment is a modern means of discharging monetary obligations, characterized by precision, speed, and protection of parties from manipulation or forgery through electronic signatures and encryption.
- The most prominent risks associated with electronic payment include consumer exposure to forgery or unauthorized use of bank cards, technical dangers resulting from hacking or system weaknesses, and inefficiency of certain platforms or poor network maintenance, which may lead to data loss or transaction failure.
- The legal and technical safeguards consist of securing electronic websites and protecting data, the legally approved electronic signature, and electronic encryption to ensure the confidentiality of information and prevent tampering.

Recommendations

- Banks and financial platforms should adopt secure encryption and authentication systems and update them periodically to ensure data protection and prevent fraud.
- Awareness programs should be disseminated to users on the safe use of electronic payment instruments, with emphasis on protecting personal information and passwords.
- It is essential to establish rules for proving electronic transactions before the courts, ensuring the evidentiary value of electronic payment and the rights of parties in the event of disputes.
- Support should be provided for legal and technical studies on electronic payment to deepen understanding of legal and technological challenges and to propose innovative solutions.

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