

How to Cite:

Benkhadra, H., & Beddiaf, S. (2025). Digital transformation as the first step towards e-commerce to achieve a digital economy in Algeria. *International Journal of Economic Perspectives*, 19(3), 820–834. Retrieved from <https://ijeponline.org/index.php/journal/article/view/908>

Digital transformation as the first step towards e-commerce to achieve a digital economy in Algeria

Hamida Benkhadra

Research Laboratory on Innovation and Organizational and Institutional Change, University of Blida 2-Lounici Ali (Algeria)
Email: eh.benkhadra@univ-blida2.dz

Salah Beddiaf

Economic and Human Development Laboratory in Algeria, University of Blida 2-Lounici Ali (Algeria)
Email: s.beddiaf@univ-blida2.dz

Abstract--This study aims to explore the process of digital transformation as the first step towards the implementation of e-commerce and achieving a digital economy in Algeria in light of current developments and keeping up with modern technology. This is in the context of Law No. 18-05, dated May 10, 2018, which defines the general rules related to e-commerce. The study employs both a descriptive approach to define e-commerce and the digital transformation process, highlighting the strengths and weaknesses in order to reach a digital economy. The analytical approach is used to analyze the economic indicators resulting from the study, utilizing data, statistics, and information. The main findings of this study indicate that digital transformation in Algeria is undergoing significant changes, especially within e-commerce, which has been strengthened by the enactment of laws that clarify and regulate the process, including the establishment of electronic payment systems, which will be widely implemented starting in 2025 for various transactions. However, challenges remain that hinder its broader adoption and usage.

Keywords--Digital Transformation, Digital Economy, E-commerce, Websites, Algeria.

Introduction

The widespread use of modern media and communication tools, in the context of digital transformation towards achieving a digital economy, has led to the emergence of new mechanisms for business negotiations and online transactions within what is known as e-commerce. E-commerce has become the foundation of commercial and economic transactions worldwide.

Algeria, like other countries, is striving to keep pace with these technological developments and benefit from new electronic communication and information technologies, using them effectively in commercial activities. Additionally, special laws have been enacted to regulate e-commerce.

However, the use and spread of e-commerce have been limited in Algeria compared to other countries, mainly due to certain obstacles that need to be addressed in order to stimulate and activate e-commerce, achieve digital transformation, and move towards a digital economy.

From this point, the following main research question can be raised:

How has digital transformation enhanced the implementation of e-commerce in Algeria and contributed to achieving a digital economy?

This main question gives rise to a set of sub-questions:

- What is the theoretical foundation of digital transformation, e-commerce, and the digital economy?;
- What is the current state of e-commerce in Algeria and its relationship with digital transformation?;
- What are the challenges and possible solutions to enhance e-commerce in Algeria in the context of digital transformation?.

Research Hypotheses:

The research hypotheses can be summarized in the following points:

- E-commerce in Algeria, in the context of digital transformation, is experiencing an increasing pace and positive development.
- Digital transformation contributes to the rise in electronic payment transactions within e-commerce in Algeria.
- E-commerce in Algeria, in the context of digital transformation, is an effective tool and pillar for building the digital economy.

Importance of the Research:

The importance of this research lies in the significance of the topic and the position that e-commerce holds in the Algerian economy, aiming to facilitate domestic trade by relying on digital transformation mechanisms and attempting to achieve a digital economy.

Objectives of the Research:

The objectives of the research are as follows:

- To provide an overview of digital transformation and the digital economy.

- To define e-commerce and its importance in Algeria.
- To explore various e-commerce regulations in Algeria.
- To identify the main obstacles to e-commerce in Algeria in the context of digital transformation.

Research Methodology:

This research relies on both the descriptive and analytical methods to present various theoretical concepts and analyze the results and data.

Structure of the Research:

To answer the main research question, we divided this research into three sections:

- The first section will address the conceptual framework of digital transformation and the digital economy.
- The second section will cover the general framework of e-commerce.
- The third section will discuss the adoption of e-commerce in Algeria in the context of digital transformation and its legal framework.

1. Conceptual Framework of Digital Transformation and the Digital Economy:

The digital economy refers to an economy based on digital technologies. It relies on several foundations, including the digital transformation to a digital environment supported by digital infrastructure, technology, e-commerce, devices, and software, all aimed at keeping up with the technological wealth the world is witnessing as a whole.

1.1 Definition of Digital Transformation:

To provide an accurate definition of digital transformation, it is essential to clarify the terms, as outlined in the table below:

Table N 01: The Difference Between Digitization, Digitalization, and Digital Transformation

Digitization	Digitalization	Digital Transformation
Transform analog to digital information.	Transform analog to digital processes.	Full scale of business model.
Basis for other phases.	Smaller scale change.	Most pervasive form.
Focus on saving costs.	Focus on increasing efficiency.	Focus on transforming the renewal model.
E.g., from paper files to electronic files.	E.g., establish online shop.	E.g., from product to software-as-a-service.

Source: Prepared by the researchers based on: (Baalmans, Broekhuizen, & Fabian, 2022)

Digital transformation refers to the ability to use technology to create value, rather than focusing on the technology itself (Baalmans, Broekhuizen, & Fabian, 2022, p. 17). It involves restructuring an organization to harness information and

network-based technologies in ways that enhance its competitiveness (Baker, 2014, p. 15).

Based on this, digital transformation can be defined as the fundamental change resulting from the application of technology, marking the transition from a traditional business environment to a digital business environment.

1.2 Benefits of Digital Transformation:

There are numerous benefits to digital transformation, including (Ben Said, 2022, pp. 316-317):

- Saving money, time, and effort for all parties involved in electronic transactions.
- Creating new job opportunities in various fields such as infrastructure operation and maintenance, information security, and data entry.
- Establishing an information society capable of dealing with modern technologies and keeping up with the information age.
- Eliminating the direct relationship between the parties involved in a transaction, thus reducing the impact of personal relationships, and eradicating bureaucracy, which enhances transparency in work.
- Accommodating a larger number of customers at the same time.
- Reinforcing the principle of total quality with its modern concept.

1.3 Definition of the Digital Economy:

There are several definitions of the digital economy, including: The digital economy is defined as the networking of technologies, human intelligence, institutions, and societies. Through this networking, major changes occur in the structure of the economy (Hamed, 2001, p. 29).

The digital economy is also defined as "the practice of activities electronically, relying on computers, information, communications, and human elements, whether producers or consumers" (Al-Moussawi, Saad, Kazem, & Zainab, 2017, p. 11).

In another definition, it is an electronic economy based mainly on technological and informational development, which increases opportunities to develop products and services, especially those that can be commercially traded digitally through information networks. It is the interaction and integration between information and communication technology and both the national and international economy, which ensures transparency for all economic indicators to support economic decisions (Salah & Jaber Al-Sayed, 2020, p. 5).

Therefore, the digital economy can be defined as the combination of technological development, scientific progress, institutions, and individuals to provide a new perspective on the economy.

1.4 Characteristics of the Digital Economy:

The digital economy is characterized by several features, including:

- The operation of economic activities and projects through the internet, where economic transactions will be possible without the need for the

physical movement of individuals or money. This will accelerate the process of economic globalization and unify the laws that regulate it globally (Jassim, 2010, p. 93).

- The development of the future of the macroeconomy in the digital economy, where information and communication technology plays a key role in increasing economic growth rates, capital investments in both internal and external e-commerce, and the internet's influence on the methods of performing commercial transactions and working styles (Salam, 2019, p. 15).
- Virtuality, as it has become easy to convert tangible items into digital information, changing the fundamental rules that underlie traditional economies.
- Innovation and openness through the development of new products and services, relying on human creativity and innovation, which are the main sources for creating added value in the digital economy (Abdul Nour, 2023, p. 397).
- Reliance on e-commerce by conducting transactions and signing contracts electronically, facilitating interaction and negotiation between parties, providing inquiry services, and simplifying banking transactions through the provision of electronic payment methods (Borkan, 2023, p. 262).

1.5 Indicators of the Digital Economy:

The digital economy can be evaluated and analyzed using various indicators, including the following:

1.5.1 Expansion of Internet Availability:

This indicator measures the percentage of the population that has access to the internet. High internet penetration rates indicate a greater opportunity for digital economic transactions.

1.5.2 Government Initiatives:

The policies and strategies implemented by the state in the field of digital transformation to expand economic activity and achieve financial inclusion. These indicators contribute to supporting the achievement of a digital economy and increasing economic growth rates.

1.5.3 Mobile Phone Usage:

This indicator reflects the number of mobile phone subscriptions by users, whether institutions or individuals, and the extent of digital technology usage. Mobile phones are considered a starting point for e-commerce activities, particularly in developing countries (Dahmani, Hadid, & Naar, 2023, p. 05).

1.5.4 Technological Readiness:

This indicator focuses on three main points: the readiness of individuals, the readiness of institutions, and the readiness of the government to use and develop information and communication technology applications.

1.5.5 Science and Technology Indicators:

These include actors in research and development, patents, and scientific publications. This indicator allows for the evaluation of knowledge acquired from

education and training, determining the stock of human capital and the potential for investment in it (Al-Moussawi, Saad, Kazem, & Zainab, 2017, pp. 45-46).

2. The General Framework of E-commerce:

The widespread use of modern media and communication tools, in the context of digital transformation, has led to the emergence of new mechanisms and methods for conducting transactions through specialized modern platforms, such as the internet, which has encouraged e-commerce due to the flexibility and speed it provides in transactions.

2.1 The Emergence of E-commerce:

The term e-commerce began to appear after 1994, when it became fully associated with the invention of the internet, which revolutionized the world and enabled countries to connect in ways that were previously unimaginable. E-commerce has passed through three main stages within the business sectors, starting with the use of computers in institutions and economic enterprises. These stages are as follows (Bouras, 2021, p. 22):

- Stage 1: This stage involved the connection between main companies and their subsidiary suppliers, i.e., between the parent company and its branches.
- Stage 2: In this stage, electronic exchanges began between main companies and various suppliers through the use of value-added networks.
- Stage 3: This stage marked the electronic exchange of documents and the completion of all commercial transactions on the internet, providing many advantages for economic institutions.

2.2 Definition of E-commerce:

There are several definitions of e-commerce, depending on the perspective from which it is viewed. Since it is electronic, it does not rely solely on the internet, as some may believe. It also includes phone, fax, and other means of completing commercial transactions. This is what makes it considered an international trade, as it does not recognize borders. The exchange of goods and services occurs between various individuals or institutions, regardless of the geographical location of the parties involved (Ben Qania, 2017, p. 181).

The World Trade Organization defines e-commerce as a comprehensive set of activities related to the production, distribution, marketing, and sale of products through electronic means (Reem & Boujani, 2021, p. 172).

E-commerce is a term that can be divided into two parts: the first part, "commerce," refers to the economic activity through which goods and services are traded between governments, institutions, and individuals, governed by various rules and regulations. The second part, "electronic," refers to the means by which commercial activities are carried out, specifically using electronic media and methods, primarily the internet (Hamidato, Messi, & Al-Arabi, 2022, p. 48).

Based on the above definitions, e-commerce can be defined as all commercial transactions conducted via the internet, using various electronic methods such as mobile phones and computers.

2.3 The Importance of E-Commerce:

E-commerce has become a significant factor in the growth of national economies and the enhancement of their external trade. It has emerged as a crucial tool for increasing the competitive capacity in marketing products, providing information and services to clients, and enabling consumers to place immediate orders regardless of their location. This has prompted most countries, especially developed ones, to prepare their economies and institutional environments for the transition to a digital economy and to maximize its benefits (Kawashi & Qadi, 2022, p. 556).

2.4 Advantages of Using E-Commerce:

E-commerce offers several advantages, including:

- **Enhancing Competitive Advantage:** E-commerce serves as a tool for increasing the competitive capacity of institutions by providing additional methods and tools for promoting and marketing products, which helps boost exports. This is achieved through easy access to major consumer centers and the ability to market goods and services globally at limited costs.
- **Supporting Small and Medium Enterprises (SMEs):** E-commerce acts as an effective instrument for stimulating SMEs, which are a fundamental pillar of economic development (Bouafia, 2014, p. 123).
- **Reducing Prices:** Marketing products online reduces the costs associated with intermediaries, leading to lower prices for goods and services.
- **Saving Time and Effort:** E-commerce simplifies the shopping process through online markets, eliminating the need for customers to travel or relocate physically.
- **Providing Freedom of Choice:** Consumers enjoy the ability to compare and choose between various stores, products, and offers (Yado & Bouafia, 2018, p. 157).

2.5 Disadvantages of E-Commerce:

Despite the numerous advantages of e-commerce, it does have some disadvantages, among which we mention the following:

2.5.1 Hacking:

Due to the almost complete reliance of e-commerce on bank cards, the unauthorized access to these cards' information by malicious individuals leads to significant losses for both individuals and institutions. Additionally, website hacking and obtaining clients' private information violates data confidentiality.

2.5.2 Fraud:

The spread of deceptive websites may result in substantial losses for shoppers, as some websites aim to steal bank card numbers and use them. At times,

individuals are misled into receiving goods that differ and do not match what was displayed on the site.

2.5.3 Legal protection:

E-commerce can cross borders and become international trade, making it difficult for governments to apply laws that protect consumers and their interests from fraud and deception (Ben Qania, 2017, p. 183).

2.5.4 Difficulty verifying the identity of the parties involved:

Given the absence of direct relationships between institutions and customers, there are cases where verifying the identity of the parties involved becomes challenging.

2.5.5 Importing prohibited goods:

It becomes possible to import some goods prohibited in local markets through global shopping sites (Reem & Boujani, 2021, p. 175).

2.6 Challenges of E-Commerce:

Despite the numerous advantages and significant opportunities offered by e-commerce in the context of globalization and the shift toward the digital economy, it faces some challenges and obstacles that limit its potential benefits. Among the most significant of these obstacles are the following (Hawas & Hafsi, 2020, p. 196):

2.6.1 Regulatory Challenges:

The growth of business through e-commerce requires fundamental changes in infrastructure, organizational structure, trajectory, and philosophy. Institutions must reorganize their structures, integrate e-commerce-specific communication and marketing activities with their traditional strategies, and update their operational procedures to align with modern technological advancements.

2.6.2 High Costs of Setting Up Websites:

Creating a website on the internet is similar to building a physical site, as designing and developing websites requires highly skilled specialists, as well as the need for marketing and technical studies. The website must be designed to attract customers' attention and provide additional value to the customer, which gives the institution a competitive advantage.

2.6.3 Limited Access to Online Payment Solutions:

International online payment solutions are available, but they are not always useful since companies often cannot withdraw money from their online payment solution account to their bank account.

2.6.4 Lack of Skills Related to Market Research:

This includes marketing and branding, website and marketplace design, logistics, payment, digital marketing, customer service, and more.

2.6.5 Poor Connectivity in Rural Areas:

More efforts need to be made to ensure that everyone has affordable access to the internet and can connect to online services (UNESCO, 2022, p. 73).

3. Adopting E-Commerce in Algeria and Its Legal Framework:

The development in the field of information and communication technology in recent years, both globally and specifically in Algeria, has led to fundamental changes in various forms of administrative, commercial, and financial transactions in Algeria, in line with the government's program.

3.1 Legal Development of E-Commerce in Algeria:

Algeria began its efforts to establish an information society at the beginning of 2000, focusing on the field of postal services and communications. However, it did not develop a comprehensive national plan with a vision related to modern technology until December 6, 2008. The launch of the multi-sectoral national strategy marked the beginning, which includes Algeria's e-strategy with 13 main pillars, particularly focusing on three key topics: e-government, e-enterprise, and e-citizen (Abdel-Lawi, 2021, p. 697).

The Algerian legislator recognized electronic writing in 2005 and granted it the same evidentiary value as traditional written documents, as stipulated in Article 323 bis 1 of the Algerian Civil Code. Additionally, Law 15-04, dated November 1, 2015, sets out the general rules related to electronic signatures and certification.

The Electronic Commerce Law 18-05, dated May 2018, is one of the most significant steps taken by Algeria to regulate and promote the digital economy. It represents the legal and regulatory framework governing electronic commercial transactions in Algeria, particularly as these transactions raise many legal challenges that emerged with the introduction of electronic tools in commercial activities (Alalou, 2022, p. 413).

Law 18-05 defines the general rules related to e-commerce for goods and services. The primary goal of the Electronic Commerce Law is to ensure the security of e-commerce, specifying the obligations of Internet service providers, suppliers, and consumers.

In addition, Executive Decree No. 19-89, dated March 5, 2019, outlines the procedures for storing electronic transaction records and submitting them to the National Commercial Register (Alalou, 2022, p. 414).

3.2 Some E-Commerce Websites in Algeria:

The number of websites dedicated to selling various products online in Algeria has increased, thanks to the widespread availability of high-speed internet, both fixed and mobile, especially after the launch of 3G services in 2014 and 4G services in 2016. This demonstrates that Algeria is making positive strides toward establishing e-commerce. Some of the most prominent websites include (Kawashi & Qadi, 2022, pp. 562-563):

- **Ouedkniss Market:** Established in 2007, this is considered the first online shopping platform in Algeria dedicated to posting commercial advertisements aimed at buying, selling, and exchanging various products.
- **Made in Algeria Website:** A virtual Algerian marketplace that allows Algerian companies, particularly exporters, to showcase and promote their products, which typically include textiles, food products, and more.
- **AchriLi Website:** Founded in 2012, it specializes in selling food products, cleaning supplies, and cosmetic essentials from various brands. It ensures delivery within 24 hours to customers' homes in Algiers Province and Boumerdes Province only.
- **Qaidayni Website:** Established in 2009, it markets beauty supplies, IT equipment, and home appliances. It operates 24/7 throughout the week and was awarded the title of the best e-commerce website in 2012.
- **Chri Fi Net Website:** Launched in February 2010, this website offers more than 500 products, including books, IT equipment, cooking utensils, and more.
- **Jumia Website:** Founded in 2014, it is one of the leading e-commerce platforms in Algeria, with an average of 1.5 million visitors per month. Its digital trading platform allows visitors to choose from a variety of products that meet customers' needs (wasila, 2020, p. 20).

3.3. The State Of Digital In Algeria In 2023:

There were 32.09 million internet users in Algeria at the start of 2023, when internet penetration stood at 70.9%, Algeria was home to 23.95 million social media users in January 2023, equating to 52.9 % of the total population, and a total of 48.53 million cellular mobile connections were active in Algeria in early 2023 equivalent to 107.2 % of the total population (Simon kemp, 2023). Some statistics depend on the population, so it is necessary to present statistics on the composition and distribution of the population in Algeria in the year 2023.

Table N.02: Population composition in Algeria in February 2023

Population	Population between 2022-2023	% Women	% Men	Population lived in urban center	Population lived in rural areas
45.26 million	719 thousand (+1.6%)	49.10	50.90	75%	25%

Source: Prepared by the researchers based on: (Data Reportal, 2024)

According to the table, the population of Algeria at the beginning of 2023 reached approximately 45.26 million. It is observed that the population increased by 1.6% compared to 2022. Females represent 49.1% of the total population, while males account for 50.9%. Additionally, 75% of the population resides in urban areas, while 25% live in rural areas. The report also indicates that 22.10 million users aged 18 and above actively use social media, which corresponds to 75.4% of the total population aged 18 and over. Among social media users, 41.9% are women, while 58.1% are men.

Table N .03: Number of social media users

Applications	Number of users			Number of users compared to local internet users	Rate of change between 2022-2023
	Total (Million)	female	male		
Facebook	20.80	39.80%	60.20%	64.80%	-7.30%
YouTube	22.70	47.30%	52.70%	70.70%	-----
Instagram	8.40	43.70%	56.30%	26.20%	-2.30%
Messenger	13.60	38.60%	61.40%	42.40%	-4.60%
LinkedIn	3.20	31.60%	68.40%	10%	14.30%
Snapchat	6.95	54.60%	44.30%	21.70%	11.20%
Twitter	1.15	22.50%	77.50%	3.60%	29%

Source: Prepared by the researchers based on: [\(Data Reportal, 2024\)](#)

From the table, it is observed that Facebook and YouTube lead in the number of users, particularly when compared to the total number of internet users (32.09 million users), as they are among the most prominent social media platforms. This dominance is largely due to the reliance of most companies and merchants on these two platforms for advertising campaigns aimed at reaching the largest possible number of customers. These platforms are used to promote various products, whether goods or services, by offering deals and giveaways as a new marketing strategy to keep up with advancements and maintain competitiveness. Messenger ranks third, serving as a complement to Facebook, followed by Instagram in fourth place, Snapchat in fifth, LinkedIn in sixth, and Twitter in last place.

Based on the table's data, a comparison between 2022 and early 2023 reveals a decline in the number of Facebook users by 7.3%, as well as decreases in Instagram and Messenger users. Conversely, there has been a significant increase in Twitter users, with a growth rate of 29%, along with a rise in LinkedIn and Snapchat users. To promote e-commerce, companies must consider these audience trends and adopt various social media platforms to reach the largest number of online visitors and customers. Regarding user demographics by gender, the majority of users are male, which can be attributed to men's greater interest in technology compared to women.

3.4 Examples of Electronic Payment in Algeria:

Below are some examples of electronic payment systems in Algeria:

3.4.1 Transactions Completed via the "BaridiMob" Application:

"BaridiMob" is the most downloaded financial application in Algeria on Android devices, with over 5 million downloads. The value and number of transactions conducted through the app (such as mobile phone credit top-ups, payment of Algeria Telecom bills, payment of Algeria Water Authority bills, and SEAAL bills) have seen a significant increase between 2020 and 2022. The total transaction amounts increased more than sixfold, while the number of completed transactions grew more than 24 times through the BaridiMob application.

3.4.2 Circulated Gold Cash Cards:

The development of circulated gold cash cards can be observed, as the number of Algeria Post's gold cash cards increased from 6 million at the beginning of 2020 to approximately 13.38 million by the first half of 2024, representing a 100% growth.

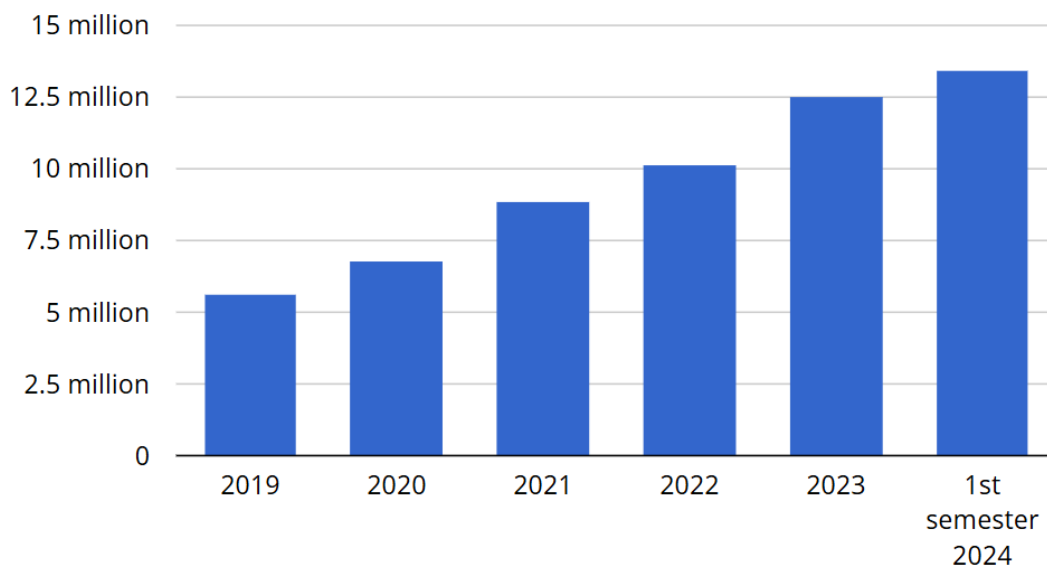


Figure (01): Growth in the Number of Circulated Gold Cards

Source: (MPT, 2024)

3.4.3 Online Payment Transactions:

The increase in the number of holders of the "golden payment card," along with the expansion of the services available on Algeria Post's commercial platform, has led to a significant rise in the number and value of online payment transactions. Between 2020 and 2022, the number of payment transactions increased by more than 98%, while the value of transactions grew by approximately 240% during the same period.

- Remote Payments: (BaridiMob, web-based transactions, ATMs)
- Proximity Payments: (Electronic payment terminals, QR codes)

3.4.4 Withdrawals through ATMs:

The interoperability has improved service for both holders of the golden payment card and the bank cards, with a continuous increase in the access of bank card holders to ATMs of Algeria Post. The strategy pursued, which involved increasing the number of golden payment cardholders, raised the number of ATMs and improved liquidity availability at these ATMs. This led to a doubling of the total number of withdrawals, from around 13 million transactions per month to more than 24 million transactions, without any increase in transactions through traditional post office counters. This has helped accommodate a larger number of citizens and alleviated the pressure on post offices to some extent (MPT, 2024).

3.5 Obstacles to E-commerce in Algeria:

Despite the numerous positive effects of e-commerce on individuals and the economy, it remains very limited in Algeria due to a range of technical, commercial, social, and cultural barriers that prevent its development and expansion both locally and globally. Among these obstacles, we highlight the following:

3.5.1 Weak Technological Infrastructure:

The success of e-commerce requires the establishment of an advanced technological infrastructure that supports the spread and use of the internet. Available statistics in Algeria reveal the weakness of the essential infrastructure needed to practice e-commerce, including the limited coverage of landline and mobile communication networks. One of the reasons for the delay in utilizing technological infrastructure is the lack of widespread availability of landline and mobile services, which directly affects internet usage (Mazhoud & Muqaddam, 2022, p. 33).

3.5.2 Lack of Trust in E-commerce:

Algerian consumers' fear of being scammed is a significant barrier. Trust is a crucial factor influencing consumers' purchasing intentions. The more consumers trust the e-commerce platform, the more likely they are to engage in online purchasing (Hassan, 2020, p. 315).

3.5.3 Weak Infrastructure for Electronic Payments:

The weakness and lack of availability of electronic payment methods play a significant role in the limited development of e-commerce operations in Algeria (Sararma, 2022, p. 48).

3.6 The Reality of E-commerce in Algeria:

A United Nations report on trade and digitization revealed that Algeria has made significant progress in e-commerce, ranking 80th globally, 4th in Africa, and 10th in the Arab world with a score of 52.2 points. This is based on the latest e-commerce indicators report for 2020, up from a previous global rank of 109 (Sararma, 2022, p. 52).

In Algeria, the economic activity code 607074, under the name "E-commerce," has been included in the list of activities subject to registration in the commercial registry. Additionally, another activity code 511145, titled "Retail trade of all types of products via mail or home delivery," was also added. As of December 31, 2021, approximately 1,868 traders were registered in the e-commerce sector across various provinces. Of these, 829 traders were natural persons, and 1,039 were legal entities. The majority of these traders are concentrated in Algiers, which accounts for about 58% of the total number of traders, followed by Oran with 97 traders, and Constantine with 93 traders (Alalou, 2022, p. 413).

Conclusion

In this research paper, we aimed to examine the reality and development of e-commerce in Algeria in light of digital transformation, which has witnessed increasing growth, especially after 2020 due to the COVID-19 crisis and its impacts on financial and commercial transactions. Despite the efforts made by the state through the issuance of laws related to e-commerce, we observed that progress remains slow, and it has not reached the desired level when compared to advanced foreign countries. This is attributed to the weakness in the telecommunications infrastructure, as well as the poor internet bandwidth in some urban and remote areas. Therefore, it is essential to provide a cohesive environment and favorable conditions to complete the electronic project of Algeria and achieve a digital transformation towards a digital economy.

Bibliography

1. Abdel-Lawi, S. (2021). E-commerce development: the case of Algeria. *Scientific Research Notebooks Journal*, 9(1), pp. 687-705.
2. Abdul Nour, J. (2023). The Reality of the Digital Economy and Electronic Payment System in Light of the COVID19 Pandemic - A Case Study of Malaysia. *Journal of Economics and Business*, 8(1), pp. 408-395.
3. Alalou, S. (2022). E-commerce in Algeria and its collection requirements. *Economic Notebooks Magazine*, 13(2), pp. 411-425.
4. Al-Moussawi, A. J., Saad, S., Kazem, A.-A., & Zainab, H. N. (2017). *Digital Economy* (1st ed.). Jordan: Dar Al Ayam for Publishing and Distribution.
5. Baalmans, B., Broekhuizen, T., & Fabian, N. (2022, 12 01). *Digital transformation A Guide for Managers*. Retrieved 10 12, 2024, from University of Groningen: <https://www.rug.nl/gdbc/the-gdbc-book/20221201-digital-transformation-a-guide-for-managers.pdf>
6. Baalmans, Broekhuizen, & Fabian. (2022, 12 06). Digital Transformation A Guide for managers. *faculty of economics and business*. university of Groningen. Retrieved from <https://www.rug.nl/gdbc/the-gdbc-book/?lang=en>
7. Baker, M. (2014). *Digital Transformation*. Retrieved 10 05, 2024, from DGA: https://www.dga.or.th/upload/download/file_8f093d6d5522a1286dd23b4ee3d65d84.pdf
8. Ben Qania, M. (2017). E-commerce in Algeria: Many obstacles and optimistic possibilities. *Modir Journal*, 4(2), pp. 180-196.
9. Ben Said, L. (2022). Trends of digital transformation in Algeria and its contribution to achieving economic development. *Journal of Horizons of Management and Economics Sciences*, 6(1), pp. 314-330.
10. Borkan, B. (2023). Components of the digital economy in Algeria. *Journal of Banking, Financial Economics and Business Administration*, 12(1), pp. 256-277.
11. Bouafia, R. (2014). The role of electronic money in the development of e-commerce. *Algerian Journal of Economics and Finance*, 1(2), pp. 111-131.
12. Bouras, B. (2021). The reality of e-commerce in Algeria. *Al-Basaer Journal of Legal and Economic Studies*, 1(1), pp. 20-37.

13. Dahmani, A., Hadid, L., & Naar, M. (2023). The digital economy and its relationship to economic growth in Algeria during the period 2000-2022. *Journal of E-Business and Digital Economy*, 1(1), pp. 1-17.
14. Data Reportal. (2024). *Digital in Algeria*. Retrieved from Data Reportal: <https://datareportal.com/digital-in-algeria>
15. Hamed, M. R. (2001). *Digital Economy* (1st ed.). Egypt: Academic Library.
16. Hamidato, S., Messi, S., & Al-Arabi, A. (2022). E-commerce in Algeria - Reality and Challenges. *Algerian Journal of Economic and Administrative Studies*, 2(2), pp. 46-61.
17. Hassan, A. (2020). Identifying the most important obstacles to e-commerce in Algeria. *Journal of Strategy and Development*, 10(5), pp. 298-318.
18. Hawas, m., & Hafsi, H. (2020). E-commerce between marketing importance and requirements for adopting electronic payment systems. *Journal of Economic Studies*, 22(1), pp. 190-207.
19. Jassim, J. H. (2010). *Introduction to the Digital Economy* (1st ed.). Oman: Municipality House Publishers and Distributors.
20. Kawashi, H., & Qadi, A. M. (2022). Towards a diagnosis of the reality of e-commerce in Algeria: e-commerce for the use of bank cards and electronic payment services. *New Economics Journal*, 13(1), pp. 554-570.
21. Kawashi, H., & Qadi, A. M. (2022). Towards a diagnosis of the reality of e-commerce in Algeria: e-commerce for the use of bank cards and electronic payment services. *New Economics Journal*, 13(1), pp. 554-570.
22. Mazhoud, N. E., & Muqaddam, Y. (2022). The reality of e-commerce contracts in Algeria. *Journal of Legal Studies and Research*, 7(2), pp. 28-44.
23. MPT. (2024, 05 12). *Promoting financial inclusion and generalizing electronic payment*. Retrieved 08 12, 2024, from Ministry of Post and Telecommunications: <https://shorturl.at/PUSHM>
24. Reem, H., & Boujani, A. H. (2021). E-commerce. *Al-Basaer Journal of Legal and Economic Studies*, 1(3), pp. 170-184.
25. Salah, M. A., & Jaber Al-Sayed, I. (2020). *Digital Economy*. Dar Al-Ilm Wal-Iman for Publishing and Distribution.
26. Salam, S. O. (2019). *Digital Economy* (1st ed.). Jordan: Dar Anida for Publishing and Distribution.
27. Sararma, M. (2022). E-commerce in Algeria: Obstacles and activation mechanisms. *Shuaa Journal of Economic Studies*, 6(1), pp. 39-57.
28. Simon kemp. (2023). *Digital 2023: Algeria*. Datareportal. Retrieved 09 05, 2024, from <https://datareportal.com/digital-in-algeria>
29. UNESCO. (2022). *International Year of Creative Economy for Sustainable Development*. Retrieved from United Nations Educational, Scientific and Cultural Organization: <https://shorturl.at/W2JDF>
30. wasila, s. (2020). Obstacles to e-shopping in Algeria and the most important proposed solutions to improve it. *Maalem Journal of Media and Communication Studies*, 2(1), pp. 51-82.
31. Yado, M., & Bouafia, R. (2018). E-commerce and Internet investment: theoretical and applied framework. *New Economics Journal*, 1(18), pp. 153-172.