

A READING FROM AN ECONOMIC LEGAL PERSPECTIVE ON THE EFFECTS OF DIGITAL TRANSFORMATION AND ARTIFICIAL INTELLIGENCE APPLICATIONS ON ELECTRONIC COMMERCE

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Abstract:

With the advent of digital communication technology, which has compressed time, removed national borders, and brought space closer together, the world is currently experiencing an information revolution in media, the COVID-19 pandemic and its aftermath have led to increased adoption of digital technology in various nations and economies, examples of these include electronic commerce and remote learning, the purpose of this study is to demonstrate the extent to which electronic commerce benefits from the digital transformation from both a legal and economic standpoint, electronic contract signing has become a unique way to close business deals, and electronic commerce has seen a significant technological revolution that has benefited electronic marketing and involved the use of artificial intelligence techniques in research processes.

Keywords: Digital transformation, E-commerce, E-marketing, artificial intelligence.

Introduction:

As a result of the continuous and accelerating technological progress and development, especially in the field of communication and media, electronic commerce has emerged as one of the products of the information revolution and the expansion of electronic media, led by the Internet in its spread to reach the home, the store and the company, as it has become the backbone in developed countries for economic and financial transactions and the development of development in all fields. Through several applications, the most important of which are concluding deals and concluding e-commerce contracts.

Communications were based on telephone, fax, and telex. The Internet appeared and became the ideal means of communication and transfer of information that could not be dispensed with. It made the

world today merely a small village that enables any person to conclude a transaction with another person anywhere in the world and in moments through electronic media.

This method cast its shadow on all aspects of life after it was limited to military and academic purposes in the United States of America in 1969. It was transformed to be used for civil and economic purposes, and this opened a wide scope for concluding contracts of various kinds, and this led to the emergence of a new type of commercial exchange called electronic commerce. Through the Internet, a new type of contract was created with an electronic nature. The good or service became presented in a visible, intangible way, where the contracting parties negotiated remotely and exchanged information and other data very quickly.

The subject of electronic commerce derives its importance from the importance of electronic transactions in themselves and the regulation that governs their work and includes their vocabulary and terminology, guarantees the integrity of long-distance contracting, and gives full authority in proof. In addition, it works to protect the consumer from all methods and means of fraud and unfairness that appear in electronic transactions in a more severe manner.

The aim of this study is to know the changes and effects that digital transformation has brought about on the trade sector in Algeria, especially e-commerce, which has become one of the most important strategies and goals that governments seek due to its great importance in the conduct of business and services in the era of crises, as digitization saves time and helps, raising productivity using artificial intelligence techniques. Based on the above, we pose the following problem:

How effective is digital transformation and the implications of employing artificial intelligence on e-commerce?

To answer this problem, we decided to divide the topic into two topics. In the first topic, we addressed the requirements and reasons for digital transformation in the field of e-commerce, and in the second topic, the manifestations of applications of artificial intelligence to e-commerce.

1-justifications and conditions for E-commerce's digital transition

Because of the information and communications revolution, which changed legal terminology and concepts on the one hand and drastically altered how services are provided to citizens and customers on the other, leading to the rise of electronic commerce, digital transformation has become a hot topic among governments and businesses worldwide. As a result, we will go over the definition and elements of e-commerce, its security measures, and the connection between e-commerce and digital transformation.

1.1-electronic trade between the idea and its constituent parts

A full definition of the idea of electronic commerce is unachievable due to the rapid growth of communication and media, along with the proliferation of activities in the sphere of electronic commerce. As a result, we shall attempt to draw attention to a few definitions and indications of electronic commerce.

1.1.1- Definition of electronic commerce

It is not easy to define the concept of electronic commerce given the nature of the technology used in this type of commerce. Defining electronic commerce requires taking into account the three elements that distinguish it, which are commercial activity, electronic supports, and globalization, certain jurists describe electronic commerce as "any form of business conducted through an electronic medium, such as business conducted by phone, television, or fax, as well as via the Internet and communication networks set aside for that purpose." ¹

There are those who define it as "electronic commerce is a basic activity that is practiced through the Internet and the subsequent means of infrastructure, such as computers or international networks, and includes various activities such as advertising, promotion, marketing, and the exchange of data messages for concluding deals, etc." ²

As for Arab legislation, Tunisian law is considered one of the first pieces of legislation at the level of Arab countries that dealt with regulating commercial transactions, as commercial exchanges were defined in the Electronic Commerce Law No. 83 as commercial operations that take place through electronic exchanges, and electronic exchanges were defined as exchanges that take place using electronic documents. ³

The Algerian legislator regulated the Internet as a regulated economic activity in accordance with Executive Decree No.98/257, which includes regulating the conditions and methods for establishing and exploiting Internet services, as amended by Executive Decree No. 2000/307 relating to regulated economic activities. ⁴

As an embodiment of the choice to move towards entering the world of electronic media, Executive Decree No. 01/123 was issued relating to the exploitation system applicable to every type of network, including wireless electrical and various wired and wireless transportation services, amended and supplemented by Executive Decree No. 07/162, which defined some terms related to signing. The electronic document, the data for creating the electronic signature, the electronic certificate, the electronic certification service provider, and other concepts related to these terms, without mentioning the definition of electronic commerce.

From the foregoing, it can be concluded that electronic commerce refers to all exchanges and transactions carried out or implemented by a merchant, whether a natural or legal person, working within the parameters of his professional activity directed toward the consumer, whether he is a natural or legal person, using one of the modern means of communication. It covers the conclusion of contracts, payment, delivery,⁵ and all other associated business operations whether they are carried out fully or in part by electronic means.

1.1.2- Forms of electronic commerce:

Based on the parties involved in the business interaction, there is a set of patterns and degrees of electronic commerce.

We discover that it is restricted to the four patterns listed below:
A/ Business unit - Business unit: The company uses electronic media to send purchase orders to suppliers and exhibitors and deliver invoices. This activity follows work schedules and involves business units exchanging information with one another via communication networks and information technology, this kind of electronic commerce, particularly in electronic data interchange⁶, is among the oldest by virtue of the completion of the payment procedure.

B/ Trade between businesses and consumers: This kind of electronic commerce evolved and grew as more people used the Internet and as websites that showcased businesses' goods and services to the public appeared. Because the merchant works directly with the customer, this sort of transaction is known as retail commerce.⁷

C/ Trade between customers and governments: This pattern includes supplies, government auctions and tenders, and other exchanges between businesses and government organizations, such tax payments and electronic media services. In nations where the government has adopted digitalization technology across the board, this tendency is rapidly and continuously growing.⁸

D/ Trade between consumers and other consumers: This kind of e-commerce involves direct purchases and sales between people via electronic media. An example of this would be if a customer posted an advertisement for a product on another website or in his email. Lately, the "electronic auction" has gained popularity, where members of the website, which specializes in bidding between users and visitors, show goods they wish to sell.⁹

1.1.3- Electronic commerce components

To establish electronic commerce, a number of components are needed, including human, material, and legislative ones, these components are found in the infrastructure, which consists of the information and communications industry, the industries that produce

information technology, as well as fast and incredibly efficient wired and wireless devices like fax machines, cell phones, and fixed phones. These devices also offer secure electronic payment systems, means of supporting electronic operations, and banking financial devices.

Regarding the availability of legal frameworks and legislation pertaining to electronic commerce, these serve to guarantee the advancement and continuity between involved parties in order to prevent electronic crimes like piracy, safeguard trading parties, and find ways to settle electronic conflicts between involved parties, one of the keys to the success of e-commerce in any society is the availability of human cadres; these human cadres include experts in the fields of information and communications technology and e-commerce software, additionally, electronic readiness refers to a community's capacity and willingness to engage in E-commerce through the provision of instruction in the use of information and communication technologies.¹⁰

1.2- Mechanisms for securing electronic commerce

The Internet has become an essential tool for financial transactions that take place between customers, business organizations, and their electronic stores, therefore, the confidentiality and security of the information that is exchanged when concluding e-commerce deals, especially when it comes to business secrets or financial issues. Customer account numbers and credit card numbers, therefore, have become confidential and security of data. Among the important and very necessary issues for the success of electronic commerce, and among the most important means and systems used in securing electronic financial transactions, we mention the following:

1.2.1- Secure Slot Layer Technology (SSL): This technology was developed by Netscape Police, which helped increase confidence in electronic commerce and the level of security in it, making it the basis of electronic commerce in the world. The SSL program contains an encryption protocol dedicated to transferring encrypted data and information between two devices over the Internet, in a secure way, such that it cannot be read by the sender or the receiver because the encryption strength is strong and difficult to decode.¹¹

1.2.2- Secure Financial Transactions (SET): It is similar to the Secure Financial Layers Protocol in that it is based on encryption and digital signatures. This protocol uses software called electronic wallet software. This wallet contains the cardholder's number and his digital certificate. He also obtains a digital certificate issued by one of the banks he approves. When conducting financial transactions over the Internet,¹² both the merchant and the card holder have a digital certificate for each other, which allows verifying the other's identity.

While conducting financial transactions, the credit card number for this customer cannot be seen. Using this protocol, encrypted formats of this number are sent to the card issuer for approval. Conducting financial transactions for the merchant, the merchant can also receive payments from customers without a SET protocol certificate. In this case, the merchant only has to use his SET certificate to document the financial transactions with the bank or the financial transactions processor he deals with, and after verifying the validity of the financial transactions and accepting them, the merchant can send the goods.¹³

1.2.3- Encryption: Encryption is defined as converting information into incomprehensible codes without meaning to prevent unauthorized persons from accessing the information. The encryption process works to convert plain texts into encrypted texts, using keys. These keys are based on complex mathematical formulas and algorithms and provide strength and effectiveness to encryption. Based on the algorithm and the length of the key in bits, decryption is the process of converting the data back to its original form using the appropriate key to decode it, Encryption is divided into symmetric encryption and asymmetric encryption¹⁴.

1.2.4- Electronic fingerprint: It is a digital fingerprint that is derived according to certain algorithms called functions or associations for camouflage. These algorithms apply mathematical calculations to the message that generates the fingerprint, a small message that represents an entire file or a large string message. The electronic fingerprint of the message consists of data of a fixed length taken from The transferred message has a variable length, and this fingerprint distinguishes the original message and identifies it accurately. If a change is made, even by an amount of BITS, in the message, this leads to another completely different fingerprint.¹⁵

1.2.5- Digital certificates: They are electronic documents that prove the identity of users via Internet networks. These certificates are issued by a trusted body called the certificate issuing authority. each digital certificate¹⁶. issued contains important information related to its owner and the authority that issued this certificate, such as the name of the certificate holder and the key. The year, name of the authority that issued the certificate, serial number, date of issuance, and validity period of the certificate¹⁷.

1.2.6-Firewalls: The firewall allows monitoring of all data and information that reaches the server via the Internet. It is an application program that protects the data stored on the server from any attack or hacking. In the event of unauthorized instructions or commands, this program informs the user about the occurrence of an information breach. Also, if the user accesses data or data via the Internet, this program

warns that the use of this data or this site is unsafe and therefore will be subject to hacking¹⁸.

1.2.7-Digital signature: The digital signature makes the transfer of transactions more secure and confidential, as it serves as the identity seal that accompanies the message over the Internet, and it is used to ensure that the message came from its source without being subjected to any change during the transfer process, so that the sender uses the private key to sign the document. Electronically, the receiver verifies the authenticity of the signature using the public key, the electronic fingerprint and the public key can be combined so that the message is first camouflaged to create an electronic fingerprint for it, then the electronic fingerprint is encrypted using the owner's private key, which results in a digital signature, attached to the sent document. To verify the authenticity of the signature, the receiver uses The appropriate public key to decrypt the signature..¹⁹

1.3- How the growth of e-commerce is connected to digital transformation

The fast evolution of information technology has brought about a significant shift in the types of economic activity. The ability to transmit information, services, money, and goods has made communication tools more powerful than ever, the emergence of electronic commerce has been dubbed the biggest qualitative shift in business and commerce, and it may be the first sign of the Electronic Algeria Program of 2013, which aims to give Internet users freedom and promote digital transformation across multi, according to Algerian law, some of the most well-known uses of digital transformation for e-commerce are as follows:

1.3.1- E-commerce technologists: The Algerian e-commerce legal regulation ensures legal protection for e-traders by regulating the contractual relationship between the consumer and the e-supplier and providing the consumer with legal mechanisms, both in the pre-contracting stage. As a result, e-commerce technologists are regarded as somewhat late in comparison to various Arab legislation, or in the process of coming to an agreement and carrying it out in compliance with Law No. 18/05, which deals with internet commerce..²⁰

1.3.2- Commercial Registry: In line with Executive Decree No. 18/12, an extract form for the electronic commercial registry was determined. In accordance with this decree, an electronic code known as "STA" is inserted, which is a data code that contains encrypted information about the merchant, this is done within the framework of digitizing the trade sector, including the commercial registry, and in balance with digital technological development in various transactions.

It may be read by any device that has a camera system and has an application that can be downloaded for free from the business registry's electronic site. It is printed on the right side of the extract's top side, the National Center's interests drive the updating of the data in the extract, regarding the commercial registry.²¹

1.3.3- Electronic payment: In light of Electronic Commerce Law No. 18/05, the Algerian legislator made provisions for the possibility of electronic payment. Article 27 of that law states that payments for electronic commerce transactions must be made remotely or upon delivery of the product using payment methods that have been licensed in accordance with applicable laws, as a result, the number of electronic payments has increased, in order to streamline the remote payment procedure, this action is being taken in response to the Corona situation..²²

The benefits of e-commerce may be summed up as time and labor savings that enable online purchasing and selling of goods and the acquisition of all desired goods. An electronic store may be established for a lot less money than a regular store, and unlike traditional stores, it doesn't require a huge staff. Another benefit is that communicating with e-commerce officials and answering questions is made simple.

The drawbacks of e-commerce include difficulties with language and delivery charges, inability to inspect goods offered, difficulty exchanging goods and exercising the right of withdrawal, and the effect of digital transformation on tax systems, which has led to an increase in tax evasion and fraud and deception because of the inability to authenticate dealer together with the delivery delay, which is a typical issue with e-commerce platforms.

2-Aspects of artificial intelligence applications in e-commerce comprise

Innovations in artificial intelligence are spreading throughout many different industries, but they are more prevalent in industries with robust commercial supplies, suggesting a close relationship between commerce and AI. As a result, we will talk about how artificial intelligence techniques fit into the electronic marketing process, what effects using these techniques has on the process, and lastly, how artificial intelligence affects electronic commerce.

2.1- The function of AI technology in the marketing process

Given the advancements in technology that have united the globe as a single network, artificial intelligence technology is viewed by both academics and practitioners as the technology of the future that will direct business. Gaining a competitive edge requires more than just knowing the requirements and preferences of the consumer; it also

requires making offerings that align with those needs and preferences in order to win over the client's happiness and loyalty.²³

2.1.1- Artificial intelligence methods' place in product management

Artificial intelligence-based market analysis techniques greatly aid in the discovery and determination of the right product for the customer, their needs, and the design that best suits their taste. As a result, the company is successful in offering the customer a banking product because artificial intelligence tracks the elements that the customer searched for, the client and their unique qualities, which aids in the identification of the needs and preferences of the consumer and the creation of the best product for him²⁴.

2.1.2 Artificial intelligence methods' function in pricing control

Since pricing is the most dynamic and sensitive component of the marketing mix²⁵, it is regarded as one of the most significant marketing operations. Companies that use artificial intelligence methods are able to adjust their rates with flexibility since these methods rely on the business can monitor market conditions and quickly modify the pricing in response to changes in demand thanks to algorithms. It may also rely on artificial intelligence-based BAZIAN inference factor technology, which tracks and monitors rivals' pricing in real time and makes necessary price adjustments.

2.1.3-The role of artificial intelligence techniques in price management

Pricing is considered one of the most important marketing activities, as it represents the most sensitive and dynamic element among the elements of the marketing mix. By relying on artificial intelligence techniques, companies are able to manage their prices flexibly, as artificial intelligence techniques depend on, algorithms enable the company to track market variables and immediately adjust the price based on the demand situation. It can also rely on the BAZIAN inference factor technology, which is a technology that relies on artificial²⁶ intelligence to instantly track and follow up on competitors' prices and adjust price.

2.1.4- The role of artificial intelligence technologies in promotion management: Traditional promotional campaigns have given way to digital promotional campaigns through digital marketing and marketing campaigns through social media, where the customer now has control and the roles have shifted. A successful promotion strategy therefore requires organizing and scheduling promotional content and managing advertising campaigns. in the information and location of purchase.²⁷

2.2- Consequences of using artificial intelligence in the process of electronic marketing

One of the most major areas where artificial intelligence is useful is

in electronic marketing over the Internet. It offers a plethora of options that may greatly advance the marketing industry.

2.2.1- Smart searches: People frequently want to buy something to satisfy a particular need without being exactly sure what they need. As a result, searches backed by artificial intelligence can now turn search terms into purchases of goods and services by utilizing the user's known information. When he integrates it with his prior experiences, he gets outcomes that are pertinent to his desires and maybe even some other desires²⁸.

2.2.2- Chat bots: In our fast-paced world, consumers anticipate prompt responses, which people alone are unable to provide. Artificial intelligence advancements have made it possible for online businesses to incorporate robot mechanisms into their operations to mimic conversations, respond to queries and requests from clients, and ²⁹ ultimately increase customer satisfaction while cutting costs and effort a goal shared by many.

2.2.3- Warehouse intelligence and mechanism: In this case, e-commerce artificial intelligence has progressively spread from websites to warehouses, where robots employ artificial intelligence to load and prepare goods for shipping continuously³⁰. Its implementation resulted in enhanced accuracy, decreased human injuries, labor cost savings, and a decrease in inventory losses due to damage, all while maintaining an efficient balance between speed and precision.

2.2.4- Automated product description: Due to the rapid advancements in technology, it is becoming increasingly difficult to manually describe extensive product lists. In this regard, artificial intelligence offers consumers a way to generate content by automatically creating precise and in-depth product descriptions, this is achieved by combining information from manufacturer websites with the most pertinent details that can be found online, thereby generating It packs a lot of information into a brief amount of space, including descriptions and the most detailed details from artificial intelligence, this technology can assess the text's effectiveness and make necessary changes, as well as add dynamic details to cater to individual customers' interests and streamline the shopping experience.³¹

2.2.5- Visual search: Among the most recent trends that have been introduced recently, shoppers can now search for exactly what they need with a few clicks. The image is useful in searching for a brand of products, better quality, or a specific size or color. Also, in fact, artificial intelligence facilitates visual search. More and expands the ideas of its uses³².

2.2.6- Voice assistance: Users may now purchase a wider range of products thanks to the diversity of voice assistant technology. It is interactive and can even save the user from having to type when it's not appropriate, Also because artificial intelligence makes more individualized recommendations based on analytics, it improves user experience and real-time involvement. Precise customer behavior: with the advancement of technology, purchasing clothing, shoes, and other items online has been much simpler³³.

2.3-The impact of artificial intelligence on e-commerce

Artificial intelligence (AI) in online shopping is transforming the e-commerce sector by forecasting consumer behavior based on the items and timing of purchases. For instance, if online buyers regularly purchase a specific brand of rice each week, an online retailer may use machine learning to propose a complementary product that pairs well with rice meals or send these shoppers a tailored offer for that product.³⁴

Artificial intelligence-enabled digital assistants, like Google's Duplex tool, or e-commerce tools aim to create features like generating a shopping list based on a shopper's natural purchasing habits and even sending online purchase orders to them. Some of the primary uses of artificial intelligence in e-commerce include Certain applications that work better than others to accomplish objectives in e-commerce or retail settings.

The most significant examples are chat bots and robots, intelligent recommendation systems, inventory control systems, and sales forecasting E-commerce businesses are increasingly using chat programs or digital assistants to aid online consumers in addition to customer data systems, online store security, and other virtual assistants.³⁵

Conclusion:

Finally, through our study of our topic, we read from a legal-economic perspective the effects of digital transformation and applications of artificial intelligence in the field of e-commerce. We answered this problem by addressing the effectiveness and reasons for digital transformation and the implications of employing artificial intelligence on e-commerce.in which we touched on the requirements of the reasons for digital transformation in the field of e-commerce, from the concept of e-commerce, its forms and components, as well as the mechanisms for securing it and the relationship of digital transformation to the development of e-commerce. As for the aspects of applications of artificial intelligence on e-commerce, such as the role of artificial intelligence techniques in the marketing process, the implications of its employment, and the effects of artificial intelligence on e-commerce, and

through what was presented, we reached several results, including the following:

-Digital transformation has become an urgent necessity to keep pace with economic developments and in all other areas.

-Digital transformation contributed to pushing e-commerce in Algeria to change, but at a slow pace.

-Weakness of the laws regulating digitization in Algeria.

-Applications of artificial intelligence are one of the mechanisms of electronic marketing.

E-commerce is an important mechanism through which countries can build safe and effective artificial intelligence systems.

-Artificial intelligence applications combined with machinery and contemporary technology have brought about a significant change in a number of fields, including electronic marketing, smart search, audio and video search, shipping, and warehouse automation.

The following are some of the most crucial recommendations we make:

*Constitutionalizing and safeguarding digital rights.

* Holding seminars and training sessions about the use of AI in digital marketing.

*The promotion of artificial intelligence research.

*Developing platforms and apps for electronic marketing in Algeria.

* The need for artificial intelligence methods to be taught in classrooms.

* Making efforts to improve and supply electronic security in order to counter the threats and electronic assaults that come with the digital transition.

* The requirement for national and international legislation that are compatible with artificial intelligence technologies.

Références :

¹-LAZHAR Ben Said, *The Legal System for Electronic Commerce Contracts*, Dar Houma for Publishing and Distribution, Algeria, 2012.

²-SOLTAN Abd Allah Mahmoud El-Jawari, *Electronic Commerce Contracts and the Applicable Law, A Comparative Study*, 1st edition, El-Halabi Legal Publications, Beirut, 2010, p. 28.

³-Chapter 2 of Law No. 83/2000, dated August 9, 2000, relating to Tunisian electronic commercial exchanges.

⁴-Executive Decree No.2000/307, dated October 14, 2000, relating to regulated economic activities, issue 60, issued in 2000.

⁵- Law No.15/04 of February 1, 2015, relating to the general rules for electronic signature and authentication, AJO, Issue 06, issued on February 10, 2015.

⁶- SOLTAN Abd Allah Mahmoud El-Jawari, *op.cit*, p. 36.

- ⁷- LAZHAR ben Said, *op.cit*, p. 27.
- ⁸- SOLTAN Abd Allah Mahmoud El-Jawari, *op.cit*, p. 38.
- ⁹- LAZHAR ben Said, *op.cit*, p. 28.
- ¹⁰-BASSEM Ahmed El-Mobaideen, *Electronic commerce, its concept, importance, characteristics, benefits, obstacles*, Dar El-Jalis El-Zaman for Publishing and Distribution, Amman, 2010, p. 83.
- ¹¹-IBRAHIM Bakhti, *The role of the Internet and its applications in the field of marketing*, doctoral thesis, Faculty of Economics and Management Sciences, University of Algiers, 2014, p. 134.
- ¹²-IBRAHIM Bakhti, *ibid*, p. 136.
- ¹³-KARIMA Saraa, *The Reality and Prospects of Electronic commerce in Algeria*, Master's Thesis, Faculty of Economics, Management Sciences and Commercial Sciences, University of Oran, 2014, p. 78.
- ¹⁴- IBRAHIM Bakhti, *op.cit*, p. 79.
- ¹⁵-Mustafa Youssef Kafi, *Electronic Commerce*, Salan Publishing House, Damascus, 2010, p. 18.
- ¹⁶-See Article 2 of Law No.15/04 of February1, 2015, relating to the general rules for electronic signature and authentication, AJO, Issue 06, issued on February 10, 2015.
- ¹⁷-KHADER Misbah Ismail El-Titi, *Knowledge Management Challenges, Technologies, and Solutions*, 1st edition, Dar Hamed for Publishing and Distribution, Amman, 2010, p. 259.
- ¹⁸- KARIMA Saraa, *op.cit*, p. 83.
- ¹⁹- MOSTAFA Youssef Kafi, *op.cit*, p. 190 .
- ²⁰-Law No. 18/05 of May 10, 2018, relating to electronic commerce, AJO, No. 28, issued on May 16, 2018.
- ²¹-FATIMA Sarir and AHMED Rabahi, *digital transformation and its impact on international trade between the present and the future*, published by the Arab Democratic Center for Strategic and Economic Studies, Germany, June 2021, p. 6.
- ²²- See Article 27 of Law No. 18/05, relating to electronic commerce.
- ²³-HAMOUD Mohammad Mohammad Mehanni, *The use of electronic marketing for artificial intelligence technology applications and big data analysis and its impact on privacy in the digital age*, *Future of Social Sciences Journal*, 2021, p.5.
- ²⁴-ISSA Tarabbah and MOSTAFA Hawachmi, *The Role of Artificial Intelligence in Improving the Marketing Decisions of Service Organizations*, Master's Thesis, Services Marketing Specialization, Faculty of Economic, Commercial and Management Sciences, Ibn Khaldonne University, Tiaret, 2022, p. 53.
- ²⁵-LIKAA MATAR El-Nouri meeting, *The impact of marketing intelligence on competitive performance*, College of Administration and Economics, University of Basra, 2020, p.133.
- ²⁶- LIKAA MATAR El-Nouri ,*ibid*, p.135.
- ²⁷- ISSA Tarbah and Mustafa Hawashmi, *op.cit*, p. 54.
- ²⁸-HAMOUD Mohammad Mohammad Mehanni, *op.cit* , p. 7.
- ²⁹-SAIF El-Din Qahiriya, *Applications of artificial intelligence and their impact on the present and future of electronic shopping*, *El-Bashaer Economic Journal*, Volume 07, Issue 02, August 2021, p. 369.
- ³⁰- SAIF El-Din Qahiriya, *ibid*, p. 375.
- ³¹-SOFYAN Bouzid, *Employing Artificial Intelligence Applications in Electronic Marketing*, *Journal of Industrial Economics*, Volume 12, Issue 01, June 2022, p. 480.

³²- Saif al-Din Qahairiya, *op.cit*, p. 369.

³³- HAMOUD Mohammad Mohammad Mehanni, *op.cit*, p. 8.

³⁴-SOFYAN Bouzid, *op.cit*, p. 48.

³⁵-LIKAA MATAR El-Nouri, *op.cit*, p. 140.