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**Digital Transformation Response to the  
Coronavirus Pandemic  
(E-commerce model)  
Effet de la transformation numérique à la pandémie  
de coronavirus  
(exemple de commerce électronique)**

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**Abstract :**

Countries around the world have responded and taken many measures to confront the outbreak of the Coronavirus, not only by implementing quarantine measures and closing borders and public spaces, but also by mobilizing resources to maintain digital infrastructure and services systems and create new and innovative digital solutions .The Corona pandemic has led to the attraction of e-commerce and the growth of the digital economy, and based on a future outlook, traditional commerce and electronic commerce can coexist for decades to come. E-commerce may surpass traditional in the context of the digital transformation of this trade sector.

**Key words :** Coronavirus, digital transformation, e-commerce, digital services

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**Resumé :**

Les pays du monde entier ont réagi et pris de nombreuses mesures pour contrer l'épidémie du virus Corona, non seulement en mettant en œuvre des mesures de quarantaine et en fermant les frontières et les espaces publics, mais aussi en mobilisant des ressources pour maintenir les infrastructures numériques et les systèmes de services et créer de nouveaux systèmes numériques innovants. solutions.

La pandémie de Corona a conduit aux processus d'attraction du commerce électronique et à la croissance de l'économie numérique, et sur la base des perspectives d'avenir, le commerce traditionnel et le commerce électronique peuvent coexister pour les décennies à venir. Et le commerce électronique peut surperformer le traditionnel dans le contexte de la transformation numérique de ce secteur commercial.

**les mots clés:**

Virus Corona, transformation numérique, e-commerce, services numériques.

**Introduction :**

The development of HIV cases reflected a global struggle to solve a difficult equation, which is to preserve the health and lives of humans and ensure the rotation of the economic wheel, in light of the high cases of Covid 19 infection and the increase in social and economic uncertainty and the emergence of fears of an unprecedented economic crisis, technology and digital solutions have proven during this crisis. It is an important and

necessary tool to help ensure that governments continue to deliver essential public services and respond to crises and emergencies.

Countries around the world have responded and taken many measures to counter the outbreak of the virus not only by implementing quarantine measures and closing borders and public spaces, but also by mobilizing resources to maintain digital infrastructure and services systems and create new and innovative digital solutions.

Since the beginning of 2020, many countries have been keen to accelerate the transition process towards the digital economy and adopt digital solutions, and the responses of governments and citizens have confirmed their readiness to adapt to new ways of communication and organize life due to the epidemiological conditions, and access to the Internet has proven to be a window on the world and for most countries and individuals. A prerequisite for the continuation of life without significant interruption and hence Internet access has become a public service that must be provided to all.

Thus, the digital economy proved a historical and exceptional position in the face of this global challenge that humanity faced and had not sufficiently prepared for it. We find that countries that had greater digital capabilities were more able to confront, deal and withstand, unlike countries that are less advanced in the field of digital transformation.

The importance of the study shows that the transition to digitization, and to the digital economy in particular, and if it was an option under normal conditions, but it became after the emergence of the epidemic an inevitable necessity. In light of

the COVID-19 pandemic and the consequent preventive measures and home quarantine, the world, especially microfinance institutions, has become an imperative to change their priorities. We must look to the future with a view that is more dependent on technology and make maximum use of it to achieve effectiveness, efficiency, profitability and reduce losses during crises, especially since our Arab region is always fraught with risks at various levels.

Accordingly, the forms that are presented are: How has modern technology in general and the so-called digitization responded, especially to confront the emerging epidemic, and to what extent can electronic commerce be benefited from in light of the outbreak of viruses, and what is the impact of the new Covid-19 pandemic on the future of electronic commerce?

The analytical descriptive approach has been relied upon, and in order to provide an analysis of the concept of digitization and electronic commerce due to the complexity and breadth of the subject, so it is necessary to go deeper and analyze when processing information after collecting it from various sources and references and using a group of academic sites in order to address the problem.

The study was divided into two main axes:

The first axis - the concept of digital transformation.

The second axis - digital transformation after the Covid-19 crisis and its impact on Arab e-commerce.

### **1- The concept of digital transformation:**

There is no doubt that the digital transformation has penetrated all areas of business, most notably the field of communications, shopping, entertainment, health, education, commerce, and so on. Rather, it also affects the way work is done ( (-Christof, 2016, p. 4) ), and how it can be improved, and when we talk about transformation, we are talking about a shift towards actual change in the whole process and workforce, inclusion and use of data, technology and more.

### **1-1 - Defining digital transformation:**

Digital transformation has been defined as: “a large-scale process of change in how organizations and companies create value for their customers, through the application of digital technologies” (MacLamore, 2020) .

It is noted that this definition highlights the broad meaning of the term, but it does not include the important elements for achieving digital transformation.

It is also defined as "the process of companies' transition to a business model that relies on digital technologies to innovate products and services, and to provide and impose new revenue channels that increase the value of their product. (2021, p. Al Marhabi).

And it is a transformation in business or governments, ie: making radical changes that affect the business model, procedures and processes, the transformation may affect the process of changing the product or the way the service is provided entirely. It may be strategic by interfering with all enterprise functions from sales to supply, information technology and the entire value chain (Bardan, 2018, p. 03).

It was also known as: "Benefiting from the information and communication revolution, to provide services and products in an innovative way, which generates a distinctive experience at all levels, which is the change associated with the application of information technology in all aspects (education, health, commerce...), it targets any institution, and all activities" (bader, 2020, p. 78) .

Digital transformation is described as a process that goes beyond catching up with the status quo, as a change caused by technology on many levels, and includes the exploitation of digital technologies, to improve ongoing operations, and the exploration of digital innovation, which can change the business model (Benjamin, 2019, p. 49) .

And for digital transformation, there are three distinct elements, which are the adoption of technology. Digital transformation depends on the use of new digital technologies, such as: social media, mobile phone, analytics, or embedded devices.

It is also characterized by regulation where digital transformation requires changing organizational processes, or creating new business models, as companies need to establish management practices to control these complex transformations.

Another component of digital transformation is the social dimension. It is a phenomenon that affects all aspects of human life, through, for example, improving the customer experience (João & Et-al, 2018, pp. 417-418).

It is noted that digital transformation is not only limited to digitizing data from its traditional image to the information technology environment, which in turn adapts to the changing

needs of institutions, but starts from the strategy that is developed in companies, to be the main driver to ensure their success in digital transformation, which is In innovation, changes in organizational procedures, as well as public understanding, and knowledge of business and customer culture, to take advantage of the opportunities offered by modern technologies (Al-Mutairi, 2019, p. 163), and it is important to have these elements that lead to digital transformation, because without them, the real transformation will not be Possible ((Daniel R. & Christopher A. , 2018, p. 4).

So the concept of digital transformation is:

Taking advantage of the information and communication revolution, to provide services and products in an innovative way that generates a distinctive experience at all levels, which is the change associated with the application of digital technology in all aspects. Simplifying work procedures, facilitating services and operating them, and shortening steps, cost and time, so that we have a new model for service or business.

One of the most important drivers of digital transformation or the “digital age” that led to changing the business model to the digital age is the development of technology, including the emergence of artificial intelligence technology and the development of communications. Which led to the creation of interdependence and business integration between banks and business owners and resulted in reducing costs and time and increasing the quality.

The quest to increase the number of customers and increase their expectations of better service is an impetus to use technology instead of the traditional method of providing services to the

citizen. Also, the increasing number of young people who are dependent on technology has led to the tendency of governments and institutions to shift to the digital age, in order to meet their requirements.

And since the lack of awareness of competition and the lack of transition to digital technology may lead to an exit from the market, companies that rely on digital technology have become threatening old companies present in the market for more than 100 years, but the consumer or citizen has become preferring the digital model.

### **1-2- Digital transformation in some Arab countries.**

Digital strategic planning plays a very important role in Arab economies, with many Arab countries adopting digital strategic plans that establish economic programs that seek to achieve several goals, perhaps the most important of which are stimulating economic growth, promoting self-reliance, creating more job opportunities, and supporting economic diversification. . Thus, defining strategic directions for the decision-making process by taking advantage of digital transformations in the authorities concerned with implementing these plans, as well as providing frameworks in light of which the actual and targeted levels of implementation can be approached, enabling the periodic review of economic objectives and policies. Accordingly, it is important at the outset to address the efforts of Arab countries in adopting strategies and plans to support the digital transformation process.

In Jordan, at the beginning of 2019, the Jordanian government launched the “Digital Transformation Strategy for Government Services (2019-2020), which highlighted five strategic



objectives represented in meeting the needs of the citizen, facilitating procedures, upgrading the level of government services and raising the percentage of demand for them, and saving public expenditures. Improving the efficiency of government performance, in addition to raising the level of confidence in the government.

And the government of Jordan has approved a number of laws supporting the digital transformation process in the Kingdom, where it passed in 2015 the Electronic Transactions Law No. 15), which defines the mechanism for managing the electronic authentication process and the authorities authorized to do so, and based on the Electronic Transactions Law, the government prepared the amended system for the system of entities Electronic Documentation No. 86 of 2016, which shows the conditions for obtaining a license to issue authentication certificates and provide services related to those certificates. In mid-2019, the government approved Cyber Security Law No. (16), which in turn enhances cyber security governance in the Kingdom and sets the general mechanism for managing cyber incidents.

In the UAE, the Ministry of Digital Economy and Entrepreneurship, which was established in 2019, is responsible for activating the pioneering role in the field of information technologies, which in turn supports the digital economy at the national level, whether in the public or private sectors. As the ministry works on two main axes, the digital economy and entrepreneurship in the UAE, the Telecommunications Regulatory Authority is preparing a strategy to promote digital transformation in the telecommunications sector.

The Central Bank of the United Arab Emirates has also developed a "strategy for developing the modern financial technology sector in the country", which it is working to implement with the participation of strategic partners. The strategy aims to ensure a supportive environment for modern financial technologies, by launching a number of initiatives covering all aspects of legislation, regulation and innovation with the aim of ensuring a healthy and sustainable environment for modern financial technologies in the long term. The strategic plan is supported by a balanced regulatory framework in the Emirates Federal Law No. (12) of 2016 was issued to amend Federal Decree-Law No. (5) of 2012 regarding combating information technology crimes, in addition to Federal Law No. (1) of 2006 regarding transactions and e-commerce, as well as the law on the dissemination and exchange of data in the Emirate of Dubai.

Bahrain has also launched the "Digital Government Strategy" (2020-2022), which is an extension of previous digital strategies and plans that have been adopted by the Kingdom since 2007. In addition, Bahrain has adopted the "National Cyber Security Strategy" that aims to quickly respond to cyber threats through Establishing strong regulatory and legal frameworks, and creating a more secure cyberspace.

In Tunisia, the "Digital Tunisia 2020" program is a national initiative, in partnership with the private sector, directed to support the digital transformation of companies active in the field of export. The program aims to provide at least 50,000 job opportunities in this sector. The program is keen to promote investment in the digital field, by providing incentive mechanisms that allow achieving balance in the Tunisian labor

market, and the state is also committed to supporting foreign and local investments. (Ministry of Digital Technology, 2020).

In Oman, the “Digital Oman Strategy” has been adopted since 2003, as the strategic directions of the Digital Oman have been categorized into six strategic axes that integrate together to implement the vision of the Digital Oman through a set of main objectives that include the initiatives and projects necessary to support the country’s march towards achieving an economy-based Knowledge The digital transformation strategy is based on developing the capabilities of society and individuals' skills, spreading e-government applications and smart services, providing an integrated system for the information and communication technology industry, governance, developing standards and policies, the new generation of digital infrastructure, and enhancing knowledge awareness.

Oman adopts a number of laws related to the digital economy, represented in the Electronic Transactions Law 2008, the Information Technology Crimes Control Law 2009, and the Telecommunications Regulatory Law 2002, in addition to a set of other legislative frameworks.

With regard to Algeria, the e-Algeria project 2008-2013 came from the goal that the Algerian state seeks to achieve, which is to satisfy citizens’ demands and aspirations towards good services and better services, which resulted in the birth of e-government, which is an integral part of electronic management, that comprehensive digital space. Electronic Business Group.

The project included a set of goals and axes and an integrated system of executive mechanisms, all centered around

modernizing and digitizing the administration and improving the level of services provided to citizens.

Law No. 09-04 of August 5, 2009 includes the rules for preventing and combating crimes related to information and communication technologies (JR No. 47).

- Law No. 15-03 of February 1, 2015 relating to the modernization of justice (J.R. No. 6)

- Law No. 15-04 of February 1, 2015 laying down the general rules related to electronic signature and ratification (JR No. 6)

- Law No. 18-05 of May 10, 2018 relating to electronic commerce (JR No. 28).

- Law No. 07-18 of May 10, 2018 setting the general rules related to post and electronic communications, (JR No. 27)

Law No. 07-18 of June 10, 2018 relating to the protection of natural persons in the field of data of a personal nature (J.R. No. 34)

Based on the results achieved on the ground, the countries were divided, according to the general arrangement, into three groups:

The first group: the leading countries, which are considered attractive countries for international investment, and their results can be compared with the digitally developed countries, which are the countries that ranked from 1 to 5 (the United Arab Emirates, Bahrain, Oman, Qatar and Saudi Arabia). These countries are distinguished by their ability to adapt. Quickly and possessing great flexibility in the speed of transition towards modern applications, the ease of achieving digital and financial

inclusion, and the automation and linkage of all government services.

The second group: The digitally promising country, which is the countries that have made a reasonable stride in the digital transformation process, and they can be considered among the countries that attract investment, albeit to a lesser degree than the countries of the first group. These countries ranked from 6 to 12, and this group includes seven countries: (Kuwait, Egypt, Jordan, Lebanon, Morocco, Tunisia and Algeria).

These countries are distinguished by having sufficient infrastructure and knowledge to move forward, and during an average period of two to four years, they can move to the refineries of the leading digital countries if they adopt bold and decisive plans to transform the completion of their plans for digital transformation. However, many economic activities still take place outside the formal system and are not included financially and digitally.

The third group: Countries that need digital activation and make more investments to maximize the capabilities of their digital infrastructure, so they are attractive to support the leading countries and international institutions, which are the countries ranked from 13 to 22, namely: (Iraq - Syria - Mauritania - Yemen - Sudan - Djibouti - Palestine Comoros, Libya, Somalia.

These countries, at different levels, need to complete the basic infrastructure for communications, access to Internet services and cybersecurity, as well as clearly need strategic plans for transformation and the digital economy to expedite what they have missed, complete building their digital capabilities, and move towards modernity in a thoughtful and stable manner. We

find some among those countries still suffering from the instability that followed some of the Arab revolutions at the beginning of the second decade of this century, or before this date.

## **2- Digital transformation after the Covid-19 crisis and its impact on Arab e-commerce.**

Affected by the spread of the Corona Virus (Covid-19) pandemic, customers are buying products remotely by committing to staying in their homes, as it is expected that the digital economy will continue to grow with an increasing demand by consumers to meet their requirements through online purchasing, which is known as the transformation Digital for E-Commerce: “Integrating Digital Technologies and Business Processes in the Digital Economy” (-Christof, 2016) (S & Et-al, 2020, p. 407). Which directly affects the volume of electronic commerce after the crisis.

### **2-1 - The recovery of electronic commerce globally after the crisis:**

Digitization has greatly affected the world of commerce in the past two decades with more and more goods and services being sold online. E-commerce was growing rapidly even before the COVID-19 pandemic. In 2019, about 1.5 billion people shopped online, an increase of 7% from 2018. The pandemic has heightened focus on the shift towards e-commerce as individuals and businesses have taken to the internet to deal with various lockdowns and travel restrictions. It is estimated that online shopping as a share of global retail sales increased from 13% in 2019 to 17% in 2020. (Purcarea, 2020, p. 10)

The COVID-19 e-commerce industries have seen a twofold increase in their revenue and customer base during this pandemic (Anam, 2020, p. 1449), as people have turned to using online apps and platforms to order all kinds of groceries, medical supplies and other products they need. And e-commerce expectations for the year 2020 were that sales would increase globally to reach about \$4.2 trillion, especially with the accelerated growth of “Amazon”, which accounted for about 37.7% of America’s online sales in 2019 (Emarketer, 2020).

## **2-2 - Electronic commerce in the Arab countries.**

In a short time, electronic commerce turned to be the only outlet for retail markets worldwide, with the trend of all countries and governments to launch the “Stay at Home” slogan in the context of confronting and containing the repercussions of the Corona virus, and estimates before the outbreak of the Corona virus indicate the growth of electronic commerce in the Arab region by about 25 percent annually to exceed 28 billion dollars until the end of 2020, with expectations that global spending on electronic commerce will reach about 3.5 trillion dollars by the end of 2020, i.e. an increase of 18% in 2019 so that electronic commerce will enter a pivotal period in the region and constitute an important opportunity for consumers, companies and investors.

In Egypt (mousi siham, 2021, p. 138), not much depended on e-commerce, as it is estimated that those who enjoy the culture of electronic purchase do not exceed 8%, although the number of Internet users exceeded 48 million users, but the fear of the outbreak of the Corona epidemic and infection with the disease, changed many Concepts in the Egyptian consumer culture. It prompted him to resort to e-shopping, and this resulted in the

emergence of a large number of mobile applications for e-shopping.

Experts expect an increase in the volume of online shopping by at least 50% during the outbreak of the virus, in conjunction with policies to prevent gatherings and reduce presence in commercial centers to limit the spread of the Corona virus. It is estimated that the volume of e-commerce in Egypt reached 400 billion pounds after the Corona pandemic, out of a total of 1.2 trillion pounds, the total internal trade in Egypt. Increasing the growth rate of the digital economy by 30% annually, with the expectation that this percentage will increase as the Corona virus continues.

In Kuwait, the take-out service, which is the only way to shop and buy, has flourished, through electronic applications, and within a short time, what is requested of foodstuffs, clothing and cosmetics arrives to the shopper, and the volume of e-commerce in Kuwait has reached .1.1 billion dollars, while the number of Active accounts in this field are about 2.4 million accounts, 80% of them have bank accounts, including about 66% of Kuwaiti youth, while 36% of residents rely on online purchases.

In the UAE, consumers relied to avoid the spread of the Corona virus on online purchases, which grew by 500% during the period of the epidemic during March 2020. While preliminary estimates of the UAE Ministry of Economy indicate that the volume of sales through e-commerce increased by 300% during the first quarter of 2020. The data indicate that the volume of e-commerce in the UAE reached 59 billion dirhams (16.07 billion dollars) by the end of 2019, and is expected to achieve This type of trade will grow by more than 600% by the end of 2020.



A recent study by Visa International estimated the volume of sales of the e-commerce market in the UAE during the year 2020 to be about 72.2 billion dirhams (\$19.7 billion), expecting a growth of up to 85.8 billion dirhams, an increase of 18.2% during the current year, and this is due to the increasing demand among consumers for options E-commerce and stores strengthening their online presence to deal with the repercussions of the Covid-19 pandemic. (Al-Abbas, 2021).

In Saudi Arabia, the Corona virus crisis confirmed the importance of e-commerce and remote shopping in order to preserve lives and their safety, and that crisis raised how to deal with this trade and delivery companies. Expectations indicate a high demand for electronic commerce, which enhances its activity in large proportions, especially with the continuing fears of the spread of the Corona virus. , and that a large percentage of young people, close to 60%, depend on purchasing through digital platforms (The Independent, 2020). Growth in the e-commerce sector is expected to range between 12% to 14% annually until 2022.

As for Algeria, according to the latest annual report issued by the United Nations Conference on Trade and Development, on e-commerce, it moved from 109th rank to 80th globally, ranking fourth in Africa.

And the UN report indicates that "Algeria is among the four countries that have achieved the greatest progress at the global level according to the same indicator, along with Brazil (advancing 10 ranks), Ghana (advancing 20 ranks) and Laos (advancing 11 ranks)," explaining that The report "is based in its classification on a number of indicators, represented in the percentage of universal use of the Internet, its security, financial

inclusion, as well as the reliability of postal services according to the arrangement of the Universal Postal Union."

This is due to the large number of electronic commercial transactions during the period of the Covid-19 pandemic, which is led by a group of young people who are made up of advanced use of information and communication technologies, in addition to the creation of a Ministry for Startups and a Ministry for Digitization. As the Corona epidemic prompted Algerians and some institutions to adopt electronic payment via websites, which was recorded in the Corona stage between 3 to 4 times than it was 3 years ago. (Algerian News Agency, 2021)(

The Corona crisis has caused significant growth, as 73% of consumers in the Middle East and Africa went to online shopping, compared to more than before in the post-pandemic stage, according to estimates by the MasterCard Institute of Economics. It is expected that it will be more popular in the coming period.

### **Conclusion :**

The rapid development and spread of information and communication technology has led to a change in the methods of carrying out economic activities and the lifestyles of individuals, resulting in a new type of economy called the digital economy, which is what makes it linked mainly to information and communication technology.

The importance of digital transformation today stems from the strategies for dealing with the Corona virus crisis itself, as the introduction of the strategy of social separation, work from home, and isolation by using our places of residence as

temporary shelters, all of which imposed solutions for the transformation to the digital world and its electronic services.

What is certain is that the Corona epidemic has led to massive changes in all aspects of life, and led to an accelerated digital transformation that has left its effects in various economic sectors, and the pandemic has created new social habits due to the radical transformation in lifestyles and work until it is no longer possible to return to the lifestyle that prevailed Before the pandemic, the concept of life itself has become different. This "normal life" is no longer the same as it was before, it is a natural life, but it is digital in everything.

The study concluded with a set of results, followed by a set of recommendations.

### **Results :**

o The digital transformation has become one of the common topics between governments and commercial companies in the countries of the world, and this is the result of the information and communication revolution that has brought about a change in legal concepts and terminology on the one hand, and has led to a radical change in the way service is provided, both for citizens and customers.

o Digital transformation has a significant impact in supporting electronic commerce because it allows the use of computers and the Internet to complete work, in addition to eliminating time and spatial restrictions.

o The persistence of the Corona virus in the spread and the lack of knowledge of the extent to which countries will end up using

artificial intelligence in developing electronic platforms and inventing new ways to attract consumers has helped.

o Electronic commerce is the practice of everything related to the purchase and sale of goods and the provision of various services and information via the Internet.

o Developing countries are still very far from a serious activation of electronic commerce due to the weak number of Internet users due to the lack of a relatively strong infrastructure and the loss of confidence in dealing with it.

o Arab countries know a severe shortage in the field of communications and information technology and relatively e-commerce activities compared to the volume of global electronic commerce due to several factors that hindered its spread, as we mentioned earlier, including the weakness of the Internet.

o Electronic commerce has spread and flourished thanks to the use of the Internet and all its associated information technologies and networks, whether internal or external networks.

o The problem of the Corona pandemic has led to the processes of attracting electronic commerce and the growth of the digital economy, and traditional commerce has begun to take the principle of electronic commerce and give a future view that there are stages of coexistence between traditional commerce and electronic commerce for decades to come. And electronic commerce may outperform traditional.

**Study recommendations:** The study reached the following recommendations:

- o Artificial intelligence in the time of a pandemic is the only solution to controlling the outbreak of the epidemic.
- o The necessity of increasing the unremitting efforts to accelerate the pace of digital transformation and e-government in the development of new forms of digital economy and financial inclusion more and it is expected that it will change the rules of traditional trade in the future.
- o The need to bridge the digital divide, both within and between countries, given the pivotal role that the digital economy has played during the Covid-19 crisis.
- o The need of developing and least developed countries for effective and affordable information and communication technology services such as telecommunications, computers and other emerging information technology services.
- o Providing the appropriate environment and information infrastructure, strengthening the communications network, and developing human cadres specialized in the Internet, information systems and technology as supportive foundations for the development of e-commerce activity and its applications.
- o Supporting and stimulating small and medium businesses to enter the e-commerce market to be an economic engine for both local growth and international trade and more competitive.

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