

Changes in the Algerian Consumer's Behavior Towards E-commerce in Food Products During and After Covid-19*

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Abstract :

The Covid 19 pandemic has profoundly changed consumer behavior worldwide. The objective of this study is to analyze the impact of this pandemic on the online purchasing habits of consumers in Algeria.

Our results show a significant increase in online purchases of food products during the containment period, a trend driven by the closure of retail outlets and health concerns. Age, gender and income level are identified as key factors influencing online shopping adoption rates. Regarding post-pandemic trends, although online purchasing continues after the pandemic, consumers show a tendency to return to physical shops for certain product categories.

Keywords : Algerian consumer behavior, Online purchasing, COVID-19 and consumption, Digital transformation.

Jel Classification Codes : D12, L81, O31, I12.

* CoronaVirus Disease 2019, Severe Acute Respiratory Syndrome.

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1. INTRODUCTION

In recent decades, the world has been hit by several pandemics: Ebola, swine flu, SARS[‡] and MERS[§]. These epidemics have mainly had an impact on two categories of human behaviour: consumers and businesses. Researchers have reported that during these health crises there has been an increase in food purchases, as well as purchases of products designed to reduce the transmission and impact of infectious diseases (hygiene and prevention products, personal protective equipment, disinfectants, etc.) (Samuli et al., 2020).

The Covid-19 virus that caused a global pandemic was first discovered in the city of Wuhan in China in December 2019. It spread rapidly around the world, affecting almost every country and territory and causing millions of deaths. This situation has forced many countries to implement regional closures, social distancing and containment rules. In fact, the health protocol introduced, which imposes social distancing, has influenced people's behaviour. They have reduced their direct contact with others, spending more time at home teleworking and studying at a distance, and devoting more time to connecting to social networks (Sayyida et al., 2021). The situation the world found itself in, and for which it seemed completely unprepared, risked putting many businesses in various sectors out of business. Many restaurants were forced to close because of financial problems linked to confinement (Lucia et al., 2020). In order to reduce the risk of exposure, many consumers opted to buy their food online, or to have it collected or delivered to their homes (Jagdish, 2020; Lucia et al. ,2020), 2021), encouraging the growth of certain businesses, particularly those operating

[‡] Severe acute respiratory syndrome

[§] Middle East respiratory syndrome

on the Internet, such as those specializing in online entertainment, food delivery and online shopping, etc. (Naveen & Anders, 2020).

Coca-Cola and Pepsi are among the most active brands in the food and drink sector on the web, adopting several strategies that have generated millions of dollars in sales (Sheid et al., 2012, pp 42-43). For example, an evaluation of Coca-Cola's 'Polar Bears' Facebook campaign, implemented in 2013, shows that the platform only reached 14% of French internet users, but that it contributed 27% to the increase in sales despite representing only 6% of the brand's media budget (Aurier and Sirieix, 2016, p 343).

Studies have shown that today's "Foodpreneurs" need social networks to deploy their digital marketing strategy. Through numerous examples of success, experts have shown how these players have benefited and increased their value (Brégeon de Saint-Quentin and Lemerrier, 2019, P 232-239).

The situation in Algeria is not an exception. A survey of businesses and consumers shows that Covid-19 has had a significant impact on purchasing behaviors. The quarantine and generalization of teleworking have accelerated the digital transition (Executive Decree 20-69, Bensalem, 2021). Digital marketing has become an essential tool for companies wishing to adapt to this new context (ZEKRAOUI, 2022).

In this article, we are particularly interested in food purchasing. Internet food purchasing remains a niche, despite a significant increase in recent years. The range of food products that can be purchased over the Internet is also tending to expand (Mareï et al., 2016).

According to Eric Singler (2012) our food consumption decisions are strongly influenced by our emotions, the decision-making environment is largely guided by our habits, elements that encouraged us to formulate our research question.

Research questions:

With this in mind we seek to explore the following research question, ‘How has the Covid 19 pandemic influenced Algerian consumers’ online purchasing behavior regarding food products?’

To better understand this issue, we propose the following secondary questions:

Q1: How has the Covid 19 pandemic encouraged Algerian consumers to do their food purchasing online?

Q2: Does the intention to buy online depend on socio-demographic variables?

In order to answer these questions, we put forward the following hypotheses:

H1: The Covid 19 crisis had a positive impact on the online purchasing behavior of Algerian consumers;

H2: Online purchasing behavior during the Covid 19 pandemic depends on socio-demographic variables such as age, gender and income.

And to answer the research question we propose the following general hypothesis: ‘The measures taken by the State to limit the spread of Covid-19, in particular containment, played an important role in the massive adoption of e-commerce of food products by the Algerian consumer’.

Objective and importance of the research:

The general objective of this research is to determine how the Covid-19 pandemic has influenced the online purchasing behavior of Algerian consumers, particularly with regard to food products, which are generally purchased in large markets and meet well-defined sensory criteria. It will also be necessary to evaluate this change after the pandemic, to determine whether it will continue over time or whether it is merely a temporary phenomenon.

This research is of crucial importance in terms of the development of the adoption of e-commerce by the various players.

A Review of Literature:

Several previous studies have focused on individuals' motivation to protect themselves rather than on consumer behavior (Gamma et al. 2017, Rubin et al. 2009, Seale et al. 2009 and Timpka et al., 2014; in Samuli et al., 2020). These authors have not exhaustively examined how online information sources affect behavior change during a pandemic (Samuli et al., 2020).

Protection-Motivation Theory (PMT) is another model used to understand the underlying motives of human behaviour during a pandemic. The results of this model have focused on the impact of an individual's threat assessment and adaptation on their behavioural intentions (Timpka et al., 2014).

In the context of Covid 19, some researchers^{**} have integrated the concepts of perceived severity and self-efficacy of PMT into their work to better understand threat assessment and individual adaptation during the pandemic (Samuli et al., 2020).

The main conclusions of this study focus on: - Social distancing during the pandemic, which forced many people to turn to digital media to find out about products before the act of purchase. Indeed, before the pandemic, figures from the countries surveyed showed that online retail sales were much lower than offline retail sales (30 VS 70).

The pandemic had a clear impact on online retail sales, which increased by 10-15%. This increase was caused by unusual

^{**} This survey was carried out in 6 European and American countries, with the aim of analysing trends in consumer behaviour in the wake of the Covid 19 pandemic.

buying behavior, as consumers feared market disruption due to the pandemic (Sayyida et al., 2021).

- As a result of the pandemic, many companies are facing a drop in sales and employees are losing their jobs. However, the countries of East Asia have been able to adapt quickly and take advantage of the new situation.

- Covid-19 has innovated the way companies interact with their customers online. Companies have used social media marketing to sell their products, but also in an amplifying and supportive role (Arzhanova et al., 2020).

Positioning of our study and our added value:

In economic terms, pandemics can have serious macroeconomic consequences: increased unemployment, economic decline and uncertainty.

Research to date has focused mainly on individuals' motivation to protect their health rather than on consumer behavior (Arzhanova et al., 2020). This is why we are interested in this question, particularly in the Algerian context, where the country has just completed its digital transformation strategy.^{††}

Methodological framework:

The aim of our study is to gain a better understanding of Algerian consumers' attitudes towards food e-commerce. To answer our various questions and verify each of the proposed hypotheses, we used a descriptive methodology in the theoretical part of our work and an analytical methodology in the empirical part. This was done through a questionnaire administered during our survey of a sample of 'e-commerce

^{††} [https://www.agenceecofin.com/gouvernance/2507-120590-l-algerie-a-finalise-sa-strategie-de-transformation-numerique#:~:text=\(Agence%20Ecofin\)%20%2D%20Le%20gouvernement,claire%20pour%20atteindre%20ses%20objectifs.](https://www.agenceecofin.com/gouvernance/2507-120590-l-algerie-a-finalise-sa-strategie-de-transformation-numerique#:~:text=(Agence%20Ecofin)%20%2D%20Le%20gouvernement,claire%20pour%20atteindre%20ses%20objectifs.) of 25 July 2024.

user consumers' in order to better understand the effect of the Covid-19 pandemic on the adoption of the technology.

1.1. First - State of the art:

The Covid-19 pandemic that emerged at the end of 2019 in Wuhan has profoundly altered our lifestyles and accelerated the digital transformation of our societies. Containment measures have encouraged people to adopt new behaviors, particularly in terms of consumption. E-commerce has grown exponentially, with a 16% increase in online sales, while the use of social networks has also intensified. Although this digital transformation was accelerated by the health crisis, it continued to develop in the following years (Sayyida et al., 2021), Arzhanova et al., 2020). The Covid-19 pandemic also triggered a profound transformation of societies. The containment measures imposed by governments radically altered lifestyles, forcing people into isolation and increased use of digital technologies. While this period has been a source of stress for many, it has also given rise to new forms of solidarity and encouraged the development of individual skills. The significant increase in time spent online, particularly on social networks, is evidence of this adaptation to new constraints (Naveen & Anders, 2020).

Changing lifestyles

Changes in our lifestyles have led us to adopt new digital behaviours. Confinement and social distancing have led to a significant increase in the amount of time spent online, particularly on social networks. This increased exposure to information has led to cognitive overload for many people, making them more vulnerable to anxiety and misinformation. The phenomenon of 'cyberchondria', characterised by compulsive online searches for health information, intensified during the pandemic. This information overload contributed to an exacerbated perception of the seriousness of the situation (Sayyida et al., 2021; Samuli et al., 2020).

Changing consumer habits

Several studies have shown that the pandemic has profoundly changed consumer habits. More and more people are using the internet to prepare their purchases, whether to find out about a product before going into a shop (webrooming) or to buy directly online. Although e-commerce has grown significantly, physical shops remain important. Consumers are now adopting more hybrid purchasing behavior, combining the virtual and the physical, in order to compare prices, check product quality and benefit from a personalized purchasing experience. Before the health crisis, webrooming was already common practice, but the pandemic accelerated this trend and gave rise to new buyer profiles (Sayyida et al., 2021).

The pandemic has accelerated the digitalization of purchasing behavior, with significant growth in online purchasing. However, physical shops remain attractive, particularly for products requiring sensory evaluation. Webrooming, which consists of searching for information on the internet before going to the shop, illustrates this trend. Consumers want to combine the convenience of digital with the in-store experience, so that they can touch, try out and compare products before they buy. This combination of sales channels meets a need for personalization and reassurance, and is part of a wider shift in purchasing behavior (Sayyida et al., 2021).

According to Statista^{††}, home meal delivery has grown exponentially worldwide since the start of the pandemic. Indeed, digital platforms specializing in this sector have seen their activity increase by 67% worldwide. The United States,

^{††} The ‘Statista.com’ platform contains several databases used in the study. overview and data for more than 170 sectors and 150 countries used by the authors for this studyoverview and data for 170 sectors and more than 150 countries used by the authors for this study.

Russia and Canada are among the countries where this growth has been most marked, with rates of increase of 123%, 117% and 113% respectively. This boom has propelled the US market to a value of \$22 billion in 2020, with promising prospects for the coming years (Bentameur, 2022).

The example of Romania shows that the transition to online banking and purchasing is accelerating. To limit the risks of exposure, consumers have massively adopted home shopping deliveries. This new situation has favored the large supermarkets equipped with e-commerce platforms, which have been able to adapt quickly to this growing demand. On the other hand, small shops and local producers have faced many challenges in digitalizing and offering delivery services. Traditional grocery shops have had to rethink their business models, while local producers have looked for ways to sell their products online (Baicu, 2020). This health crisis has highlighted inequalities in the face of digitalization and underlined the importance of supporting small shops and local producers to guarantee high-quality food that is accessible to all (Lucia et al., 2020).

We note that the pandemic has revealed the complexity of the factors that influence our consumer choices. Life events, technological advances, regulations and crises have all played a part in reshaping our shopping habits. Confinement has accelerated this evolution, encouraged the development of online commerce and transforming our homes into consumer spaces (Jagdish, 2020).

Today's digital consumer is a demanding, hyper-connected individual in search of novelty. They can be distinguished by a multitude of profiles, among which the explorer stands out in particular. These consumers, influenced by online word-of-mouth, are particularly sensitive to the quality of arguments, visual impact and the opinions of other consumers. To win

them over, brands must therefore take care with their digital communications and offer personalised customer experiences. (Chikhi, 2020; Berrached & Cherchem, 2020)

In Algeria, the motivation for online purchasing, the perception of the associated risks and digital marketing strategies are the main determinants of consumers' intention to buy, according to a survey of 360 people carried out in 2021 (Hammache, 2022). Paradoxically, although the health context has encouraged the use of e-commerce, another qualitative study of 105 Algerians reveals that the majority still do not buy online. This reluctance may be explained by psychological obstacles or concerns about the security of transactions (Chanoune & Boukrif, 2021).

1.2 Second - Methodology and presentation of the empirical study:

We began by examining the food e-commerce environment in Algeria using the PESTEL tool. We then conducted a quantitative survey of consumers.

This survey, carried out in 2022 using a questionnaire, reached a sample of 200 Algerian consumers. However, after checking the responses, only 150 questionnaires were retained and analysed for the purposes of this research paper.

We opted for a convenience sample, and the four-part questionnaire was distributed via social networks.

The first part is devoted to analyzing purchasing behavior before the Covid-19 pandemic, while the second focuses on the same behavior during the pandemic and the containment period. The third part examines the behavioral changes after the quarantine. Finally, the last part of the questionnaire collects the socio-demographic characteristics of the consumer interviewed.

The results were analyzed using R software, in 3 stages: a univariate analysis, a bivariate analysis and finally the chi-square test.

2. RESULTS and DISCUSSION:

We will first present a summary of the PESTEL analysis, then present the results of the empirical study, which we will discuss.

2.1. Summary of the strengths and weaknesses of the PESTEL analysis

Strengths

Online trade in agri-food products has significant market potential, thanks in particular to a young and increasingly connected population that represents a potential consumer base. In addition, the government's political support for the development of this type of commerce creates a favorable environment for its growth. Finally, e-commerce allows businesses to make economies of scale by reducing storage and travel costs, which makes it even more attractive.

Weaknesses

Despite the potential of e-commerce, a number of challenges remain, particularly with regard to digital infrastructure, which remains limited in some regions, affecting access to a broadband connection. In addition, the lack of consumer confidence in online transactions, particularly for food purchases, is a major brake on the development of this sector. Furthermore, the legal framework surrounding e-commerce is still in the construction phase, which makes some consumers reluctant to use it. Finally, logistics represent a major challenge, especially for the distribution of fresh produce, given the vast size of the country.

2.2. Presentation of the sample and study results:

Our study sample is composed mainly of women (58%), young subjects (46% are aged between 18 and 24) and working people (57% of the sample are employees).

According to the survey results, more than half of our sample (64%) had already used e-commerce before the pandemic, but the proportion devoted to food purchases represented only 10% of total online purchases.

2.2.1 Bivariate analysis:

Table 2. Results of the bivariate analysis

Before covid	During confinement	After confinement
Around two-thirds of respondents (64%) bought products online, of which 30% ^{§§} bought food products online (i.e. 19% of respondents).	Three quarters (75%) of respondents said that food was the second area most affected by confinement, after entertainment (90%). More than half of respondents (56%) said that the Covid 19 pandemic had encouraged them to buy food products online.	Around half of respondents (48%) said that their frequency of online purchases had decreased after decontamination, and just over a third (37%) said that they had maintained their frequency of online purchases.

^{§§} the proportion of people who buy food products among those who shop online (19%/64%)

	The most common underlying reasons given were: closure of sales outlets and restaurants (57%); security measures (distance) (30%). More than two thirds (69%) say they are moderately satisfied with the services provided by online retailers of food products. 61% say they pay for online services by hand, 27% by Algerian Post card.	
Summary of the main findings		
E-commerce was already growing, particularly for non-food products. While the online purchase of food products was less common.	Confinement has led consumers to turn to e-commerce, particularly for food. The main reasons given were shop closures and	Some consumers have reduced their frequency of online purchases, preferring to return to the shop. The main reason given for this is the desire to check the

	security measures. Consumer satisfaction with food delivery services was average. Payment methods were mainly cash and Algerian Post cards.	quality of products on the spot.
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Source: Compiled by the authors from survey data

Data Analysis and Implications:

- Acceleration of digitalization: Containment has accelerated the digital transformation of consumer habits in Algeria. Food e-commerce, although less mature, has grown significantly.
- Factors: The key factors influencing the adoption of food e-commerce are necessity (closure of shops) and health safety.
- Barriers to adoption: Average consumer satisfaction with food delivery services suggests that improvements are needed in terms of service quality, delivery times and product range. In addition, the predominance of cash and Algérie Poste card payments shows that the development of online payments is essential to facilitate transactions.
- Post-confinement behaviour: The return to the shop after confinement shows that the act of buying is still strongly influenced by the desire to check the quality of products. E-tailers therefore need to implement strategies to boost consumer confidence and encourage them to continue buying online.

2.2.2 Testing the operational hypotheses:

Five operational hypotheses were put forward in order to test the dependence between the factors.

H1: The Covid 19 crisis has a positive impact on online purchasing.

H2: The closure of physical outlets (restaurants, fast food outlets, etc., as well as public transport) encourages consumers to opt for online purchasing of their food products.

H3: Online purchasing behavior during the Covid-19 crisis varies according to age.

H4: Online purchasing behavior during the Covid-19 crisis varies by gender.

H5: Online food purchasing varies by income.

To test these hypotheses, two qualitative variables had to be crossed for each hypothesis:

H1: Purchasing on the internet and the presentation of the Covid-19 pandemic as the cause of the adoption of e-commerce: our survey indicates that almost half of the respondents (48%), buy online because of the spread of the pandemic, on the other hand 42%*** [64/150 (buy on the web but not because of the Covid)] of our sample buys on the web independently of the spread of the pandemic.

H2: The reason for buying on the internet and buying food products online; the consumer survey reveals that 57.31% buy via the internet because sales outlets and restaurants are closed.

H3: Age and buying food online: this time the survey results show that 48% of respondents who buy food online are relatively young, aged between 18 and 34.

H4: Gender and the online purchase of food products: our survey shows that 41% of our sample consists of women who

buy food products online compared to 8% of men [41%: 62/150 who buy food products online, 8%: 12/150].

H5: review and online purchase of food products: for this last hypothesis, 22% of our sample who say they buy food products online have a salary of between 30-60k DZD.

Table 2. Chi-square test

Operational assumptions	The variables tested	Chi-square test (value)
H1: the Covid 19 crisis is having a positive impact on online purchasing	Internet purchasing/ the Covid-19 pandemic presented as the cause of the adoption of e-commerce.	7.3881
H2: Closure of physical outlets encourages consumers to buy food online	Reason for purchase/ online food purchasing (yes)	18.639
H3: Online purchasing behaviour during the Covid-19 crisis varies according to age	Age/online food purchasing (yes)	18.366
H4: Online purchasing behaviour during the Covid-19 crisis varies by gender	Gender/online food purchasing (yes)	39,659
H5: Online food purchasing varies according to income	Online income/food purchasing (yes)	19.233

Source: Compiled by the authors using R software analysis results

The table shows a significance level of less than 0.05 for the 5 operational hypotheses, indicating the existence of a relationship between each of the two variables and a possible mutual influence.

Consequently, it is necessary to reject the null hypothesis H_0 , which states that there is no relationship between the two variables, for the five tests carried out.

Conclusion of the tests

By analysing the results in the table, we can draw the following conclusions:

- All the hypotheses are validated: The p-value associated with each hypothesis is less than 0.05, which means that we can reject the null hypothesis (i.e. there is no association) and accept the alternative hypothesis (there is a significant association).
- Impact of the COVID-19 crisis: The health crisis has had a significant impact on consumers' online purchasing behaviour. The closure of physical outlets, age, gender and income were all factors that influenced this decision.
- Consumer segmentation: The results show that consumers do not all react in the same way to the crisis. Age, gender and income are variables that can be used to segment consumers according to their online purchasing behaviour.

Implications for business

These results have important implications for businesses:

- Accelerate digital transformation: The crisis has shown the importance of having a solid online presence to reach consumers.
- Personalise the buying experience: Companies need to tailor their offers and communications to the socio-demographic characteristics of their customers.
- Focus on digital marketing: Digital marketing is an essential tool for attracting and retaining customers in an increasingly competitive online environment.

Overall, the results obtained are similar to those obtained by various studies such as Samuli et al (2020), Makoudi et al (2023), United Nations Conference on Trade and Development, Sayyida et al (2021), Hammache (2022), Chanoune & Boukrif (2021), Arzhanova et al (2020). Four key points should be emphasised: the acceleration of e-commerce, where the role of the pandemic in accelerating the adoption of e-commerce is clearly noted; the adoption of new consumer behaviour; the adaptation of companies' offerings by improving the customer experience to better meet the expectations of online consumers; and finally, the predominant role of digital platforms and their players in purchasing decisions.

3. CONCLUSION

Influenza pandemics are recurrent phenomena caused by the emergence of new viruses, and are difficult to prevent. The Covid-19 pandemic is a perfect illustration of this. The containment measures and travel restrictions put in place to minimise the risk of contamination have led to an unprecedented global economic crisis, particularly affecting the industrial, distribution and consumer sectors. It is therefore essential to develop effective prevention and response strategies to deal with future pandemics (Naveen & Anders, 2020).

The potential for e-commerce development in Algeria has been considerably strengthened by the COVID-19 crisis. The PESTEL analysis has identified the opportunities and challenges for the success of this sector. Players need to develop robust digital transformation strategies to attract an increasingly demanding customer base. The results of our study underline the importance of understanding the specific needs of Algerian consumers in order to adapt offers and services accordingly.

This research enabled us to confirm our initial hypotheses:

H1: The Covid 19 crisis had a positive impact on the online purchasing behaviour of the Algerian consumer;

H2: Online purchasing behaviour during the Covid 19 pandemic depends on socio-demographic variables such as age, gender and income.

As well as the general hypothesis that enabled us to answer our research problem: 'The measures taken by the State to limit the spread of Covid-19, in particular containment, played an important role in the massive adoption of e-commerce of food products by the Algerian consumer'.

Our research has also enabled us to draw out various implications for businesses, such as the need to accelerate the digital transition, personalise the shopping experience and focus more on digital marketing.

4. RECOMMENDATION

To overcome these challenges and seize the opportunities, e-commerce players in Algeria could consider the following strategies:

- Consumer education: Set up awareness campaigns to inform consumers about the benefits of e-commerce and make them feel more secure.
- Partnerships with local stakeholders: Work with local players (banks, telecoms operators, logistics providers) to develop solutions tailored to the Algerian market.
- Investing in logistics: Developing innovative logistics solutions for fresh produce, such as regional refrigerated warehouses and deliveries in less than 24 hours.
- Adapting offers: Offer products and services tailored to the specific characteristics of the Algerian market, taking into account consumer habits and cultural constraints.
 - Promoting digital transition

At micro level:

- Improving the customer experience: E-tailers must invest in the quality of their services (fast delivery, fresh products, responsive after-sales services) and offer a wide choice of products.
- Developing online payment options: It is essential to facilitate online payments by offering a variety of secure payment methods (international bank cards, e-wallets).
- Communicating product quality and freshness: e-tailers need to implement communication strategies to reassure consumers about the quality and freshness of the products delivered.

- Customise offers: e-retailers can use customer data to personalise offers and recommendations, thereby improving the purchasing experience and building customer loyalty.
- Focus on omnichannel: Consumers appreciate the flexibility of being able to buy online and collect in shop or have it delivered. Companies therefore need to develop an omnichannel strategy to meet customer expectations.

4. Bibliography List:

- Anonymous (2020), Une enquête montre que le COVID-19 a changé à jamais les achats en ligne, <https://unctad.org/fr/news/une-enquete-montre-que-le-covid-19-change-jamais-les-achats-en-ligne>, 08 octobre 2020, consulté le 20 septembre 2024.
- Arzhanova K.A., Beregovskaya T.A., Silina S.A. (2020), The Impact of the COVID-19 Pandemic on Consumer Behavior and Companies' Internet Communication Strategies, *Advances in Social Science, Education and Humanities Research*, volume 486. *Proceedings of the Research Technologies of Pandemic Coronavirus Impact (RTCov 2020)*, Atlantis Press, pp 50-57
- Aurier Philippe et Sirieix Lucie (2016), *Marketing de l'agro-alimentaire, environnement, stratégies et plan d'action*, Dunod, France.
- Baicu, C.G., Gârdan, I. P., Gârdan, D.A., Epuran, G., (2020), "The impact of COVID-19 on consumer behavior in retail banking. Evidence from Romania", *Management & Marketing. Challenges for the*

Knowledge Society, Vol. 15, No. Special Issue, pp. 534-556, DOI: 10.2478/mmcks-2020-0031

- Bensalem Kamel (2021), Impact de la pandémie sur le marché du travail algérien, Revue du droit du travail, Vol 06 numéro 1, janvier 2021, PP 345-361
- Bentameur Keltoum (2022), The Repercussions of The Covid-19Crisis on The Development of E-Service- Case Study of Food Delivery Services in the USA- , Journal of Contemporary Economic Studies, Volume: 07/ N°: 01, p 665-682.
- Berrached Sara, Cherchem Mohamed (2020), L'influence des avis en ligne sur le comportement d'achat du consommateur Algérien, Cas de la restauration, , Revue des Reformes Economiques et Intégration En Economie Mondiale Vol 14N°.1. EISSN 2600- 6502 , Pp 330-342
- Brégeon de Saint-Quentin Virginie et Lemerancier Brian (2019), Le grand Livre du Marketing cilinaire, Dunod, France.
- Chanoune Nadjat , Boukrif Moussa (2021), Revue Algerienne d'Economie et gestion Vol. 15, N° : 02, pp 898-910, L'effet de confinement cause par la pandémie du COVID-19 sur le secteur de e-commerce en Algerie.,
- Chikhi Kamel (2020), Le comportement des consommateurs face au e-commerce en Algérie: quelles stratégies marketing digital? , Revue internationale du Marketing et Management Stratégique, Volume 2, N°3, juillet-Septembre 2020, p32
- Hammache Souria , Brahimi Mohamed, Djoudi Zina (2022), Revue Le Manager / Special edition about the International scientific conference draft Digital platforms economy – opportunities and challenges – Vol. 09, Special edition, ISSN 2392-5345/E-ISSN 2661-7129, P.P : 365-392,

- Jagdish Sheth (2020), Impact of Covid-19 on consumer behavior: Will the old habits return or die?, Journal of Business Research 117, Goizueta Business School, Emory University, 280–283
- Korkusuz Mehmet Refik , Korkusuz Ammar Yasir (2020), Social protection measures by governments during covid-19 pandemic according to iot standarts, Afak For Science Journal , Volume: 05/ N°: 03, p 441-449 ,
- Lucia A. Leone , Sheila Fleischhacker , Betsy Anderson-Steeves , Kaitlyn Harper , Megan Winkler , Elizabeth Racine , Barbara Baquero and Joel Gittelsohn (2020), Healthy Food Retail during the COVID-19 Pandemic: Challenges and Future Directions, International Journal of Environmental Research and Public Health Int. J. Environ. Res. Public Health , 17, 7397; Pp 2-14, doi:10.3390/ijerph17207397
- Makoudi Abderrahman, Al moutaoualkil Oumaima, et Abaaoukide Kamar (2023), Comportement d’achat du consommateur pendant la crise Covid- 19 : Contribution à la compréhension de l’essor du circuit virtuel : Cas du Maroc, Revue Internationale des Sciences de Gestion, ISSN: 2665-7473, Volume 6 : Numéro 4 pp1175-1197.
- Nora Mareï, Anne Aguiléra, Leslie Belton-Chevallier, Corinne Blanquart et Saskia Seidel (2016), Pratiques et lieux du e-commerce alimentaire, nouvelles logistiques, nouvelles mobilités?, Commerce connecté et territoires, 30-1/2, Pp. 119-138.
- Naveen Donthu, Anders Gustafsson (2020), Effects of COVID-19 on business and research, Journal of Business Research 117, 284–289, <https://doi.org/10.1016/j.jbusres.2020.06.008>

- NjoyaSamira (2024), [https://www.agenceecofin.com/gouvernance/2507-120590-l-algerie-a-finalise-sa-strategie-de-transformation-numerique#:~:text=\(Agence%20Ecofin\)%20%2D%20Le%20gouvernement,claire%20pour%20atteindre%20ses%20objectifs](https://www.agenceecofin.com/gouvernance/2507-120590-l-algerie-a-finalise-sa-strategie-de-transformation-numerique#:~:text=(Agence%20Ecofin)%20%2D%20Le%20gouvernement,claire%20pour%20atteindre%20ses%20objectifs), consulté le: 25 juillet 2024.
- Samuli Laato a , A.K.M. Najmul Islam a,e , Ali Farooq a , Amandeep Dhir b,c,d, (2020), Unusual purchasing behavior during the early stages of the COVID-19 pandemic: The stimulus-organism-response approach, Journal of Retailing and Consumer Services, Journal of Retailing and Consumer Services 57 (2020).pp1-12, <https://doi.org/10.1016/j.jretconser.2020.102224>.
- Sayyida, S., Hartini, S., Gunawan, S., & Husin, S. (2021). The Impact of the Covid-19 Pandemic on Retail Consumer Behavior. Aptisi Transactions on Management (ATM), 5(1), 79-88. ATM, Vol 5, No. 1, January 2021, e-ISSN: 2622-6804 p-ISSN: 2622-6812. <https://doi.org/10.33050/atm.v5i1.1497>
- Sheid François, Vaillant Renaud et De Montaigu Grégoire (2012), Le marketing digital, Développer sa stratégie à l'ère numérique, Eyrolles, France
- Singler Eric. (2012), Les processus de choix et de décision de l'acheteur : apports de l'économie comportementale et des neurosciences, Comportement alimentaire : les leviers du changement, Colloque du Fonds français pour l'alimentation et la santé - décembre 2012.
- Toomas Timpka, Juan-Manuel Alonso, Jenny Jacobsson, Astrid Junge, Pedro Branco, Ben Clarsen, Jan Kowalski, Margo Mountjoy, Sverker Nilsson, Babette Pluim, Per Renström, Ola Rønsen, Kathrin Steffen, Pascal Edouard (2014), Injury and illness definitions and data collection

procedures for use in epidemiological studies in Athletics (track and field): Consensus statement, British journal of sports medicine, volume 48, issue 7, pp 483–490, <https://doi.org/10.1136/bjsports-2013-093241>

- Zekraoui Salah (2022), Digital marketing as a key approach to reduce COVID-19's commercial consequences. Case study; A group of Algerian companies, Journal of Advanced Economic Research / V: 07 (ISS: 02), PISSN: 2572-0198 / EISSN: 2676 - 1572,