

Online food retail business and consumer behavior after the COVID-19 pandemic

Comercio minorista de alimentos en línea y comportamiento del consumidor después de la pandemia de COVID-19

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At the end of 2019 the world experienced a great unexpected change by the generation of the pandemic caused by the COVID-19, where companies and consumers experienced changes in order to face this situation. The objective of this research was to conduct a study of online food sales businesses and consumer behaviour derived from the pandemic COVID-19 in the state of Hidalgo, Mexico, in order to understand these changes, detect areas of opportunity and establish improvement strategies that strengthen this type of post-pandemic businesses. A quantitative, descriptive and cross-sectional methodology was used, a convenience sampling was carried out with 120 cases and the measurement instrument used was based on the survey conducted by Huaman, Nuñez and Untama using the Likert scale, with which information of a social, personal, labour income, quality of care and bio safety nature was obtained [20]. The main results of the study indicate that there is a significant change in consumer behaviour with respect to online food businesses, especially in the form of online and physical purchase, as well as in the bio safety factor.

Keywords:

Online business, consumer behavior, post-pandemic, COVID-19, food sales

Resumen:

A finales del 2019 el mundo vivió un gran cambio inesperado por la generación de la pandemia provocada por el COVID-19, donde empresas y consumidores experimentaron cambios para poder enfrentar esta situación. El objetivo de esta investigación fue realizar un estudio de los negocios de venta de alimentos en línea y el comportamiento del consumidor derivado de la pandemia COVID-19 en el estado de Hidalgo, México, con el fin de comprender estos cambios, detectar áreas de oportunidad y establecer estrategias de mejora que fortalezcan este tipo de negocios post-pandemia. Se utilizó una metodología cuantitativa, descriptiva y transversal, se realizó un muestreo por conveniencia con 120 casos y el instrumento de medición utilizado se basó en la encuesta realizada por Huaman, Nuñez y Untama utilizando la escala de Likert, con la cual se obtuvo información de se obtuvo un carácter social, personal, renta laboral, calidad de atención y bioseguridad [20]. Los principales resultados del estudio indican que existe un cambio significativo en el comportamiento del consumidor con respecto a los negocios de alimentos en línea, especialmente en la forma de compra en línea y física, así como en el factor de bioseguridad.

Palabras Clave:

Negocios en línea, comportamiento del consumidor, post pandemia, COVID-19, venta de alimentos.

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Introduction

Society underwent a drastic change due to the COVID-19 pandemic, which began to break out at the end of 2019, so adapting to it was very complex for most of the population. One of the health measures implemented to reduce the number of cases was mainly confinement, so consumer habits were transformed and people had to adapt to a new consumption system [1] [2].

The COVID-19 health crisis brought with it economic consequences in various aspects such as unemployment due to partial or total closure of companies, overflowing hospital capacity, emerging educational scenarios through remote technologies, supply chains interrupted by border closures, suspended national and international tourism services, and unsatisfied demand for products and services [3] [4] [5] [6] [7] [8]. These factors are also part of the purchasing behavior that has been changing on the part of consumers since the COVID-19 pandemic and beyond, using digital media to make grocery purchases primarily online [9].

Online food businesses have also been impacted by the pandemic one of the biggest changes seen has been the sudden shift to online shopping, with exponential growth in supply and demand in the virtual medium. Both organizations and individuals have found it difficult to adapt to this new way of shopping [10].

Pandemic generated by COVID-19

At the end of 2019 the way of life began to have a drastic change due to the pandemic caused by the virus now known as SARS-CoV-2, which began with the first cases in the city of Wuhan, located in China, spreading rapidly and worryingly in neighboring countries and other continents such as Europe and America, It was declared a global pandemic by the WHO (World Health Organization) at the beginning of 2020 and the first case was confirmed in Mexico in the first quarter of that year, reaching the municipality of Tulancingo de Bravo, state of Hidalgo, Mexico, where this study was carried out [11].

Although the worst of the COVID-19 pandemic is over, cases are still occurring frequently in some localities, although in number they are much lower than those that occurred during 2020-2021. Consequently, the business landscape has faced rapid transformations as the COVID-19 crisis accelerated the development of online commerce, giving rise to a new digitally immersed and more selective consumer [2] [12].

Online food business from the COVID-19

Businesses in general have undergone major changes due to the pandemic, among them one of the sectors where it has generated a greater impact has been in online food businesses, since the restrictions of leaving

home, as well as avoiding attending places with greater concurrence of people, have changed the roles between the consumer and businesses, although it has gradually returned to normality some food companies combine their services of selling food and beverages in a hybrid way [13].

As a result of the pandemic, online food businesses have had to develop new strategies to combat the crisis. There were many organizations that disappeared because they did not want to adapt to the digital world; therefore, the ability to adapt to change and how to react to a crisis is a valuable virtue to maintain and modify companies [14]. Online businesses have excelled in the face of the pandemic, but it is not enough to stay as they are, they must continue to innovate and motivate consumers to choose them among the large amount of supply that now exists. Food safety and healthy handling today influences customer decision making and is a moderator in the food purchasing context of consumers [15].

These alterations can occur due to the passage of time, some crisis, the consumer's own characteristics and, in general, the environment in which he/she lives [16]. Therefore, as shown in Table 1, different theories of consumer behavior are developed in order to analyze them and to know the particularities they show.

Table 1 Consumer theories

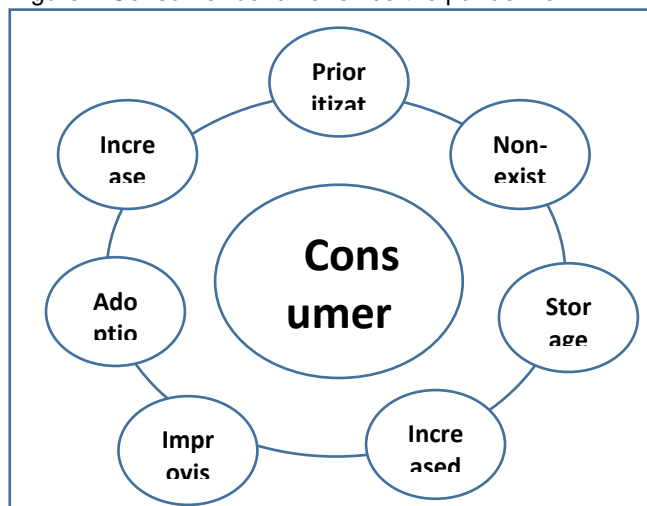
Author(s)	Theory	Description
Hamilton et al. (2019)	Consumer behavior is affected by financial constraints.	Financial constraints are economic limitations of behavior, it shows three temporal stages: reaction, coping and adaptation.
Kirk and Rifkin (2020)	Consumer behavior presents different stages in the face of a pandemic	Consumer behavior presents different stages in the face of the pandemic, which are as follows: -Consumers defend against the threat and seek to regain control. -Coping with the situation by adopting new behaviors. -Adaptation and resistance
Sheth (2020)	Impact of consumer behavior on consumer behavior	Changes in consumption habits are affected by various contexts, which are: Social context, technological context, rules and regulations related to public and shared spaces, and natural disasters and regional conflicts.

Source: Own elaboration, 2022.

According to the aforementioned theories, it is possible to visualize the changes in consumer behavior in the face of different causes however specifically in the face of the COVID-19 pandemic the consumer has demonstrated specific behaviors. In figure 1, information is compiled about the practices that according to [17], the consumer

has exercised during the pandemic however some of these acquired practices are still maintained even after the end of the pandemic, such as the adoption of digital technology, increase in the number of home deliveries, among others.

Figure 1 Consumer behavior since the pandemic.



Source: Own elaboration based on Sheth (2020)

Methodology

The present research is quantitative in nature, since a numerical measurement was made, which was subsequently processed statistically. It is a descriptive, observational and cross-sectional study, since it shows the characteristics, properties and frequencies of the data obtained by the sample of participating subjects, it does not show an intervention in this phenomenon and the measurement is performed on a single occasion [18].

Sixty online food businesses in the municipality of Tulancingo de Bravo, state of Hidalgo, Mexico, were selected through the Facebook platform, subsequently, a sample of 120 people, who are customers of these same companies (2 for each of them), was integrated. A convenience sampling was hand-led to focus on those subjects with accessibility to the study, who agreed to participate in the research, on the basis of a convenient proximity and accessibility of the cases to the researcher [19].

According to the aforementioned, it is a valid non probabilistic strategy to carry out data collection in samples of this size, which are limited to a generalization and has attributes with great potential for the selection of cases with valuable and abundant information so that they can be studied in depth.

This research has the corresponding support of what it is intended to measure since it used the research instrument validated and applied at international level, designed and based on [20]. The questionnaire consisted of 37 questions that were generally evaluated using a Likert

type scale and grouped into five dimensions: social (4 items), personal (18 items), labor income (4 items), quality of care (7 items), and bio safety (4 items). Thus, the reliability of the measuring instrument used obtained a value of .838, which was measured by Cronbach's Alpha coefficient. This result, as shown in table 2, is statistically acceptable.

Table 2 Reliability of the measuring instrument.

Cases valid N	Cronbach's alpha	Cronbach's alpha based on standardized items	N of elements
100	0.838	0.838	32

Source: Own elaboration, 2022.

Results

The research was based on five dimensions, so the results obtained are divided table 3, the section referring to the personal area is addressed, in which it was observed that most of the participants are in an age range of 18 to 29 years and also that the percentage of gender between male and female is similar, so that the answers given will have a balance between the opinion of both sexes.

Subsequently, the dimension referring to the personal factor was analyzed, in which the results indicate that since the pandemic generated by the COVID-19, more than 50% of the population makes food purchases, whether sweet or salty, in online food businesses, which is demonstrated by the sum of percentages from occasionally to always.

Table 3. Gender, age and shop on line

Gender	Female (%)		Male (%)		
	52		48		
Age	18 to 29 years old (%)	30 to 39 years old (%)	40 to 49 years old (%)	50 or more (%)	
	65	27	3	5	
Shop at online grocery stores	Never	Occasionall y	Usual l y	Frequentl y	Alway s
	31%	30%	19%	15%	5%

Source: Own elaboration, 2022.

Likewise, as shown in table 4, the platforms that consumers use most for their purchases in online food businesses were identified, the results showed that WhatsApp, Facebook and phone calls are the most used by the participants, leaving the TikTok and Instagram applications in the lowest percentages.

Another point to address within the personal dimension is the form of payment that the consumer prefers, since

online food businesses should take into account these customer preferences to provide a better service, since as mentioned by [21] "the consumer experience according to the perceived performance of the brand, product or service, can positively or negatively affect loyalty".

As can be seen, the result obtained in this area is that cash is the most preferred by the consumer, however, card and mobile application also have a significant percentage, although lower, so online food businesses should consider embracing these different forms of payment in order to give greater options to consumers and help generate a good shopping experience.

The third dimension corresponds to labor income, which is relevant to address in this area because the pandemic has wreaked havoc on people's economy, so it is necessary to identify what percentage of the population has sufficient income to make online purchases of food. The results indicate that approximately half of the participants contemplate this type of expenses within their monthly budget. Subsequently, within the same dimension, as shown, we analyzed the average monthly expenditure that the consumer spends on food purchases in online businesses, obtaining as a result that in general the monthly expenditure ranges between 200 and 600 pesos per month, as indicated by the higher percentages in the table.

Table 4. Use of platforms, payment methods, shopping online and Monthly expenditure.

Means used to make purchases in online food businesses					
Likert Scale	Facebook (%)	Instagram (%)	Tik Tok (%)	WhatsApp (%)	Telephone Movil (%)
Never	48	67	87	21	18
Occasionally	17	17	6	12	15
Usually	17	6	3	26	24
Frequently	10	7	3	22	26
Always	8	3	2	19	17
Payment methods in online food businesses					
Likert Scale	Cash (%)	Card (debit or credit) (%)	Mobile application (%)		
Never	19	44	49		
Occasionally	14	13	15		
Usually	20	13	8		
Frequently	22	18	17		
Always	25	12	11		
Use of a portion of monthly income for online food purchases					
Likert Scale	Strongly Disagree (%)	Disagree (%)	Neither agree nor disagree (%)	Agree (%)	Strongly Agree (%)
	29	21	30	10	10
Average monthly expenditure consumed in online food businesses					
Likert Scale	Less than \$200.00 (%)	\$201.00 to \$400.00 (%)	\$401.00 to \$600.00 (%)	Greater than \$600.00 (%)	

	35	33	21	11
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Source: Own elaboration, 2022.

We continue with the dimension of quality of service, where we covered different problems that are presented in table 5, in order to identify which are the most common and be able to solve them, since as mentioned by [22] "consumers have become more rational, preferring homemade food, watching their expenses, worrying about the future and missing the experience of buying in physical stores favoring online sales and home delivery service".

The result obtained indicates that late and follow-up deliveries are the most common, so online food businesses can take the necessary measures and implement strategies to avoid causing these inconveniences to customers, so they can have a better customer service.

Finally, the bio security dimension was analyzed, in which data were collected associated with the importance for the consumer of the hygiene protocols to be followed to prevent the spread of the COVID-19, whose results indicate that the majority of the population takes strict care that the virtual food company where they buy performs the necessary hygiene protocols in different areas such as processing, packaging and delivery of food.

Although the highest crisis of the pandemic has already ended, consumers are still in favor of maintaining such bio security measures, since sudden out-breaks of contagion continue to appear in some localities.

In addition to the above, when consumers identify that online businesses have the correct hygiene measures with respect to COVID-19, they feel that their health is safer when buying food in this way, as opposed to in person. Therefore, as shown in figure 10, almost 50% of the population has this feeling of safety, so they are more likely to make purchases in a virtual food business rather than in person.

Table 5. Problems shopping, sanitary measures and health security

Problems in online grocery shopping					
Likert Scale	Wrong order delivery (%)	Virtual scams (%)	Delayed delivery (%)	Poor customer service (%)	Delivery tracking (%)
Strongly Disagree	24	35	17	23	24
Disagree	27	19	13	19	18
Neither agree nor disagree	22	22	27	34	23

Agree	16	13	25	16	17
Strongly Agree	11	11	18	18	18
Importance of sanitary measures in online food businesses					
Likert Scale	Product processing with adequate sanitary protocol (%)		Hygienic packaging (%)	Delivery of the product with adequate sanitary protocol (%)	
Strongly Disagree	3		3	3	
Disagree	3		0	0	
Neither agree nor disagree	13		11	9	
Agree	11		7	8	
Strongly Agree	70		79	80	
Sense of consumer health security when shopping at online food businesses.					
Likert Scale	Strongly Disagree (%)	Disagree (%)	Neither agree nor disagree (%)	Agree (%)	Strongly Agree (%)
	12	11	32	21	24

Source: Own elaboration, 2022.

Conclusions

The present research indicates that there is a significant change in consumer behavior with respect to online food businesses in the wake of the pandemic caused by the COVID-19, so it can be seen that the consumption of food purchased virtually is growing.

Like several studies, the analysis of the use of social networks has shown that from the COVID-19 era not only affected people's lives offline, but also online, having different opportunities to buy the things they need, even when retail stores were closed, innovating the way companies interact with their customers online, generating new ideas for their marketing [23].

The literature on consumer behavior during the COVID-19 pandemic has expanded significantly in the recent period [24], so the present research provides insight into the use of social networks by consumers in the municipality of Tulancingo de Hidalgo, Mexico, from the COVID-19 pandemic and the mechanism of influence of social networks on consumer behavior.

It is identified that the labor income of people is a key factor regarding the potential market of online food businesses, so it is suggested that these companies keep in mind the average monthly consumer destination for this sector, and thus have the price of their products within these ranges to have greater likelihood of sales. Similarly, the main problems with respect to the quality of service are delimited so that the companies can establish the corresponding strategies to try to reduce them or, in the

best case, avoid them and be able to provide a more satisfying shopping experience for the customer.

Subsequently, it can be established that within the consumer trend in the era of the COVID-19 it is of utmost importance that online food businesses develop the correct hygiene practices throughout the process, it is also observed that the consumer evidently feels safer when shopping in this way, so the trend of this form of purchase prevails in the market, with or without pandemic it is observed that online commerce is growing.

The study presented, like others like it, demonstrates the immense power of social networks and their impact on consumer behavior, which only underscores the need for more research on this phenomenon in the coming years, especially to develop an understanding of the mechanisms of trust in the digital environment, beyond the situation experienced during the pandemic [25].

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