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Artículos científicos

Apps de entrega a domicilio en CDMX: estrategia restaurantera de ventas para sobrevivir a la pandemia

Food Delivery Apps in CDMX: Sales Strategy to Survive the Pandemic

Aplicativos de entrega em domicílio no CDMX: estratégia de vendas de restaurantes para sobreviver à pandemia

Juan Manuel Sandoval Damián
Instituto Politécnico Nacional, México
jsandovald0900@alumno.ipn.mx
https://orcid.org/0000-0002-9048-025X

José Leonardo Serralde Coloapa
Instituto Politécnico Nacional, México
jserraldec1700@alumno.ipn.mx
https://orcid.org/0000-0003-3968-2160

Elizabeth Acosta Gonzaga
Instituto Politécnico Nacional, México
eacostag@ipn.mx
https://orcid.org/0000-0001-5413-1063

Resumen

La industria restaurantera es uno de los sectores más productivos y representativos de la actividad turística en México, por el gran número de establecimientos que la componen. Debido al cierre de establecimientos a causa de la pandemia de COVID-19, se ha tenido que recurrir al uso de aplicaciones digitales, llamadas *food delivery apps*, las cuales habilitan la comunicación entre los restaurantes y sus clientes para entregar alimentos preparados a domicilio. Para describir el uso de estas aplicaciones por los restaurantes, se realizó una investigación de tipo cualitativa descriptiva que incluyó una entrevista a un grupo de MIPyMES restauranteras de dos alcaldías de la Ciudad de México. Los resultados muestran

que las ventas totales se redujeron de 20 % a 90 % después del cierre obligatorio de los establecimientos. También se encontró que 71 % de los restaurantes se encontraba en riesgo de cierre permanente. Sin embargo, debido al uso de las aplicaciones *food delivery*, los restaurantes lograron obtener incrementos en sus ventas de 20 % hasta 50 %, lo que indica que las aplicaciones digitales ayudaron a que los negocios pudieran seguir operando y sobrevivir a la pandemia causada por el coronavirus de 2019.

Palabras clave: COVID-19, food delivery apps, MIPyMES, pandemia, restaurantes.

Abstract

The restaurant industry is one of the most productive and representative sectors of tourist activity in Mexico. Due to the closure of establishments due to the COVID-19 pandemic, it has been necessary to resort to the use of food delivery apps, which enable communication between restaurants and their customers to deliver prepared food at home. To describe the use of these applications by restaurants, a descriptive qualitative research was carried out that included an interview with a group of restaurant MSMEs from two municipalities of Mexico City. The results show that total sales decreased from 20 % to 90 % after the mandatory closure of stores. It was also found that 71 % of the restaurants were at risk of permanent closure. However, due to the use of food delivery apps, restaurants managed to obtain increases in their sales of 20 % to 50 %, which indicates that these apps helped businesses to continue operating and survive the pandemic caused by the 2019 coronavirus.

Keywords: COVID-19, food delivery apps, SMES, pandemic, restaurants.

Resumo

A indústria da restauração é um dos setores mais produtivos e representativos da atividade turística no México, devido ao grande número de estabelecimentos que a compõem. Devido ao fechamento de estabelecimentos por conta da pandemia COVID-19, foi necessário recorrer ao uso de aplicativos digitais, chamados de food delivery apps, que possibilitam a comunicação entre os restaurantes e seus clientes para a entrega dos alimentos preparados em casa. Para descrever o uso desses aplicativos por restaurantes, foi realizada uma pesquisa qualitativa descritiva que incluiu uma entrevista com um grupo de MPMEs de restaurantes de dois municípios da Cidade do México. Os resultados mostram que as vendas totais caíram de 20% para 90% após o fechamento obrigatório das lojas. Também foi constatado que 71%

dos restaurantes corriam risco de fechamento definitivo. Porém, devido ao uso de aplicativos de entrega de comida, os restaurantes conseguiram obter aumentos de vendas de 20% a 50%, o que indica que os aplicativos digitais ajudaram as empresas a continuar operando e sobreviver à pandemia provocada pelo coronavírus de 2019.

Palavras-chave: COVID-19, aplicativos de entrega de comida, MPMEs, pandemia, restaurantes.

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Introduction

Human beings have faced various challenges to ensure the survival of their species. One of them, without a doubt, has been contagious diseases. According to the World Health Organization [WHO] (October 11, 2018, September 25, 2017, April 16, 2019), Mexico has faced, in recent years, three major epidemic outbreaks: infection with resistant Pseudomonas aeruginosas carbapenems in 2019, Zika virus infection in 2015 and cholera in 2013. In 2019, the type 2 coronavirus that causes severe acute respiratory syndrome (SARS-CoV-2) was detected for the first time in China. It causes the coronavirus disease of 2019 (COVID-19) and since then it has spread throughout the world at great speed and has caused great effects on a global level (United Nations [UN], March 16, 2020). Of course, this virus was unknown to the Mexican population before the outbreak began in China (Universidad Nacional Autónoma de México [UNAM], 2020).

On March 11, the director general of the WHO, during a press conference on COVID-19, spoke of 118,000 cases in 114 countries and 4,291 deaths (WHO, 2020). In Mexico, days before this intervention, on February 28, 2020, the first case of COVID-19 had already been detected, and the transmission phases of the coronavirus were beginning to be discussed at the national level (Miranda and Morales, 2020). According to the Ministry of Health [SS] (March 12, 2020), during phase 1 it was not necessary to suspend national or international trips, close ports or borders.

Like the rest of the countries, Mexico faced an unprecedented situation (Ministry of Health, March 24, 2020), much more severe than that experienced in 2009, when the influenza A H1N1 pandemic, which, According to the National Center for Disease Control and Preventive Programs [CENAPRECE] (2018), it required the participation of various agencies for the creation of plans and strategies to contain the spread of the virus and minimize the damage in the various sectors of the country.

On March 24, 2020, phase 2 was started by COVID-19 (Ministry of Health, March 24, 2020), phase of community dispersal, for which the Government of Mexico implemented a series of strategies; It began with the hiring of medical personnel, the improvement of hospital infrastructure and the elaboration of economic strategic plans to be able to face the number of infections that was growing exponentially.

On April 21, 2020, the Ministry of Health decreed the start of phase 3. The National Sana Distancia Day and the temporary suspension of non-essential activities were part of the strategy to reduce the spread of the virus in the Mexican population. It is worth emphasizing the closure of non-essential economic activities for the survival of the human species, this in both the public and private sectors at the national level.

With the start of phase 3, the main strategy to reduce the spread of the virus consisted of the mandatory closure of commercial establishments, especially those that led to meetings or crowds, among which theaters, cinemas, restaurants, bars, cafeterias and others stand out. (Konfío, 2020a). This situation represented various problems in Mexico. One of the most affected industries was the restaurant industry, one of the most important for the country since it represents, according to the National Institute of Statistics and Geography [INEGI] (2019), 1.8% of the total gross product (PBT) and 1.9% of consumption intermediate, which in turn represents 1.1% of the country's total gross domestic product (GDP). It is also important to emphasize that the restaurant industry had employed a total of 1,475,981 people in 2019, which gave it the second place in job creation.

The mandatory closure directly affected 2.14 million jobs, which generated a 90% reduction in sales and 30% of economic units that have had to close (Fernández, March 26, 2020).

This research analyzed how the use of food delivery technology applications has served to maintain the sales of Mexican micro, small and medium-sized companies (MIPyMES) and survive the order to close businesses and mandatory confinement.

Theoretical framework

Two months after the declaration by Dr. Tedros Adhanom Ghebreyesus, director of the WHO (March 11, 2020), of COVID-19 as a pandemic, the Mexican government ordered the massive closure of commercial establishments, a situation that affected various industries and economic sectors, among which the restaurant industry stands out. Following the National Chamber of the Spiced Food Products Industry [CANIRAC] (2015), in Mexico

there are 568,866 economic units belonging to temporary accommodation services and the preparation of food and beverages; of that total, 97%, corresponding to 544,937 units, belongs to the food preparation services subsector. In addition, there are 515 059 establishments that are dedicated to the preparation of food and alcoholic and non-alcoholic beverages. It should be noted that 58 of these economic units form 4.5% of the annual growth rate of establishments in the industry. Table 1 shows the number of economic units for their activity.

Tabla 1. Cantidad de unidades económicas por su actividad

Tipo de establecimiento	Cantidad
Restaurantes con servicio de preparación de alimentos a la carta o de comida rápida	58 195
Restaurantes con servicio de preparación de pescados y mariscos	18 365
Restaurantes con servicio de preparación de antojitos	117 594
Restaurantes con servicio de preparación de pizzas, hamburguesas, *hot dogs* y pollos rostizados para llevar	55 029
Restaurantes que preparan otro tipo de alimentos para llevar	45 204
Servicios de preparación de otros alimentos para consumo inmediato	44 005
Restaurantes con servicio de preparación de tacos y tortas	113 526
Cafeterías, fuentes de soda, neverías, refresquerías y similares	58 639
Restaurantes de autoservicio	4502

Fuente: CANIRAC (2015)

The Mexican Restaurant Association [AMR] (January 4, 2019) and CANIRAC (2015) emphasize that in the Mexican Republic the restaurant industry is the second largest employer nationwide. Furthermore, it ranks first in terms of self-employment generation: a total of 1,725,000 direct jobs, 3,763,000 indirect jobs and 5,488,500 formal jobs. According to the aforementioned data, the restaurant industry is considered an important part of the Mexican economy.

For its part, Konfío (2020b) mentioned that the restaurant industry would be one of the most affected by the pandemic. Throughout 2020, restaurants nationwide faced declines from January and continued through March; In the last week of that month, there was already a 40% drop in income with a decrease of -60% month after month since the pandemic began.

According to the president of CANIRAC, Germán González, the restaurant industry during March 2020 had losses of 70% and it was estimated that close to 300,000 jobs would be lost at the end of the pandemic (AMR, April 24, 2020; Forbes Staff , March 19, 2020). This amount includes formal and informal jobs generated by the industry. During said interview, he highlighted that the only restaurants that had been able to survive the crisis up to that moment were those that had developed a food delivery application strategy and that had rapidly migrated there, that were urgently trained and adapted to the system to the business. However, it should be considered that of the total businesses in the country only 10% used this service.

According to what González mentions, who is also president of Directors of Restaurant Chains, A.C. (DICARES), 70% of restaurants in Mexico were at risk of disappearing. Of the more than 600,000 restaurants, 97% are micro-businesses, and of that total, at that time, 90% were closed due to the pandemic; Only 10% continued with operations, this thanks to the fact that they had established commercial alliances for home delivery, including the use of food delivery apps, however, this strategy only generated sales for an amount ranging from 10% to 15% (AMR , April 24, 2020).

It is worth mentioning that various companies dedicated to food delivery applications in Mexico released statements in which they announced support for restaurants, such as daily payment, instead of weekly, implement free shipping for small and medium-sized companies (SMEs) and support with the marketing so that the visibility of the local restaurants out of reach. These actions were very supportive at the time for an estimated more than 30,000 restaurants (AMR, April 24, 2020). These actions helped the MSMEs in the sector reduce the economic burden and prevented the permanent closure of the establishment.

Food delivery apps are conceptualized as the service that is responsible for delivering food, they can be prepared or not, ordered online (Statista, 2020). Likewise, there are two variants: a) delivery of restaurants to consumer, this being the main one in Mexico, with a market value of 1077 million dollars in 2020, and b) delivery of platform to consumer. Also, according to Statista (2020), revenues from this activity during 2020 in Mexico exceed 1832 million dollars. And these revenues are expected to have an annual growth rate of 9.76%. (Statista, 2020).

There are a number of food delivery applications on the market today. The main ones in Mexico are Sin Apron, Uber Eats, Rappi, Postmates, Cornershop and Mercadoni (Flores, 2018).

And according to data from Escamilla (April 8, 2020), the use of these applications has been increasing and will reach a value of 1,478 million dollars during 2021, due to the increase in demand and popularity.

Galeano (2019) explains that Uber Eats (with an average ticket of 210 pesos), Rappi (180 pesos) and Without Apron (with an average ticket of 110 pesos), are the applications that are most used among Mexicans: an average of four times a month with a range of spending according to age. People under the age of 25 spend on average a total of 140 pesos, people who are in a higher age range, between 25 and 34 years, have an average consumption of $ 180, while people with a Age over 45 years old spend an average of $ 340 each time they make use of the services offered by the applications.

Now, according to Nabor (May 13, 2020), the plan to reactivate the national economy included in the middle of last year that restaurants could return to operate as of June 15, 2020 and only at a third of their capacity, in addition to following hygiene and social distancing measures.

Although it is a very difficult time for microentrepreneurs who own restaurants, Giles (2020) and Konfío (2020b) point out that this moment represents an opportunity not only for establishments to survive, but also to change and evolve traditional paradigms about their sales and service they currently offer.

Although the opportunities to act are scarce and not without barriers, the restaurants that still survive consider e-commerce as an escape route by adopting innovative practices such as the use of food delivery apps and dark kitchens that offer economic benefits for restaurants (Fernández, 2020).

To delve further into the use that food delivery apps have had in restaurants, a review was made of the Web of Science database, which included the period from 1980 to 2020. A total of 30 records were found, of which Four investigations that are outlined below were delimited, for reasons of space.

Research by He, Han, Cheng, Fan and Dong (2019) analyzed the competitiveness of restaurants within the growing food delivery market. In this study, three factors were analyzed and it was found that customer judgment had an influence on restaurant decisions.

Likewise, Cho, Bonn and Li (2019) studied the evolution in the way of buying food in China and how food delivery applications have taken advantage of this opportunity to establish themselves in the market and produce their own income for food and beverage establishments. Here it was found that households with only one person have preferences

about the quality of food options, price and reliability, and that households that are composed of more than one person have preferences and interests towards design, to the coexistence and reliability.

For their part, Chung, Choi and Choi (2017) observed that it is increasingly easier to access the market for applications dedicated to food delivery. In this work, the objective was to analyze the effects of perceived risk and benefits on food purchases by apps in Seoul and Gyeonggi-do. He also analyzed what companies must do to become competitive in the market.

Finally, Kim, Tang and Bosselman (2019) analyzed the co-creation of value by the service delivered by restaurants and how this influences customer loyalty and loyalty. The researchers propose that the innovation that the customer perceives is an important element in predicting their behavior, which, in turn, influences their satisfaction and loyalty.

Materials and methods

Within Mexico City, the Cuauhtémoc and Miguel Hidalgo mayors were elected, because they are areas with a high tourist flow, and also because of the number of restaurants that are in operation. The research was qualitative descriptive, since the use of this approach is appropriate when the phenomenon to be studied is made up of various factors, behaviors and concepts. It seeks to understand the situations as they exist, through the collection of data congruent with the environment and the phenomenon to be studied (Hernández and Mendoza, 2018) and, in this way, obtain a considerable approach to the problem of current social reality (Sarduy, 2007; Ugalde and Balbastre, 2013).

The chosen restaurants were in operation only under the home delivery modality and making use of food delivery applications to comply with the new operation modality proposed by the Government of Mexico City. An online work methodology was adopted for the application of the structured interview. This way of working derived from the voluntary confinement and the closure of establishments for physical sales that were experienced throughout the country. Facebook, WhatsApp and also phone calls and emails were used. These tools were used to establish contact with the participating restaurants and to interview them. Anonymity, responsible and ethical use of the data obtained was guaranteed.

For the design of the interview, a logic of variables was not chosen, but was delimited by main themes (Yin, 2003): sales of establishments before and after the pandemic and use of food delivery applications, including the type of platform and its characteristics. So the

interview was divided into two sections. The first section collected information on sales, and the second section focused on the use of the apps. In this section, the restaurateurs were also asked directly if they considered that they could continue operating under this modality (see annex).

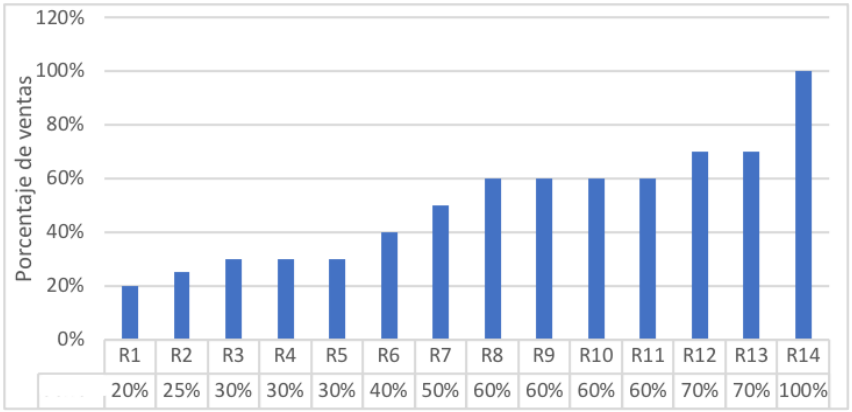
The sampling was for convenience, not probabilistic, based on the accessibility and proximity of the study subjects (Hernández and Mendoza, 2018). The selection and collection of data was carried out at the beginning of the COVID-19 pandemic, at the beginning of the confinement and mandatory closure of establishments, so few restaurants were in operation. A group of restaurateurs was identified, contacted and interviewed during the months of April to June 2020 and 14 interviews were obtained. During the data analysis, it was detected that several of the responses included figures, so the data was graphed for better understanding.

Results

This study analyzed the opinion of various restaurateurs from two municipalities of Mexico City to understand the impact of the COVID-19 pandemic on their sales to the public, and showed that the use of food delivery applications has been a very useful tool so that they could continue to operate.

The first section of the interview collected data on the decrease in sales that the restaurateurs had after the announcement of the mandatory closure of the establishments and their operation only by home delivery. The data is shown in figure 1.

Figura 1. Ventas (en porcentaje) de los restaurantes después del cierre obligatorio



Fuente: Elaboración propia

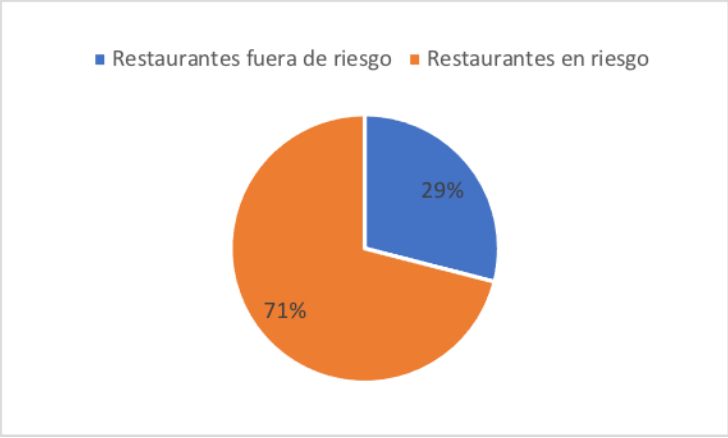
Of the total of the restaurants, seven of them suffered damages that led to a decrease in their sales from 80% to 90%.

Along the same lines, 43% of the restaurants interviewed had a reduction in their sales between 60% and 75%. And only in one restaurant a reduction in sales of less than 20% was observed, this due to the fact that it was already using food delive and apps as a way of working. Therefore, it was observed that after the closure of restaurants, sales were drastically reduced, which put the operation of most of the establishments in jeopardy.

Figure 2 shows the way in which the use of food delivery applications positively influenced restaurant MSMEs to continue to pay operating expenses, keep working personnel, either partially or totally within their payroll, and be able to continue working. Thanks to these digital tools, 29% of the establishments were without risk of closing their operations. It is worth mentioning that various aspects also had an influence so that they were out of danger of the closing, such as a high position in the market, accessible prices and that they were adapted to the payment capacity of the habitual diners.

Most restaurants did not have alternate operating strategies to continue working. Some of them copied other forms of work, such as advertising on the facades of establishments; Other restaurants adjusted their sales prices, modified their products, however, this did not represent a significant benefit for the survival of the establishments, which was reflected in the data obtained, since 71% were at risk of definitive closure.

Figura 2. Porcentaje de restaurantes en riesgo de cerrar sus operaciones



Fuente: Elaboración propia

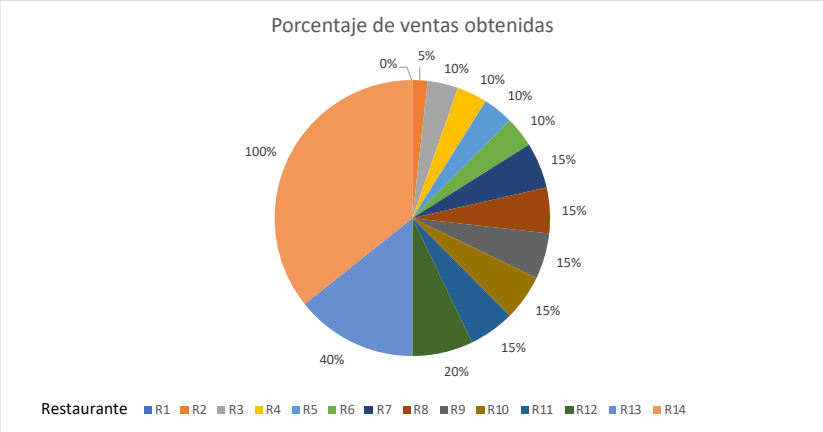
The restaurants at risk, 71%, mentioned that they were already adapting some digital strategies to attract customers and obtain more sales, while the remaining 29% commented that they were out of risk of closure and that it was due to their presence in the restaurant. digital market.

During the interview, the restaurateurs commented that even two months after the definitive closure of the establishments was ordered, and their mode of operation was changed to only home delivery, they continued to think that the situation they were experiencing would be momentary and that the establishments that they led and owned they would survive.

However, with the passage of time, they began to realize that this was not the case, and that the closure of establishments each day lasted longer, an indefinite period of time, and that working under the new modality became more difficult. With each passing week his sales dropped dramatically.

They were also asked about the percentage of sales that restaurants obtained through food delivery applications before the mandatory closure was ordered. These data are shown in figure 3.

Figura 3. Ventas realizadas mensualmente (en porcentaje) por medio de las aplicaciones *food delivery*



Fuente: Elaboración propia

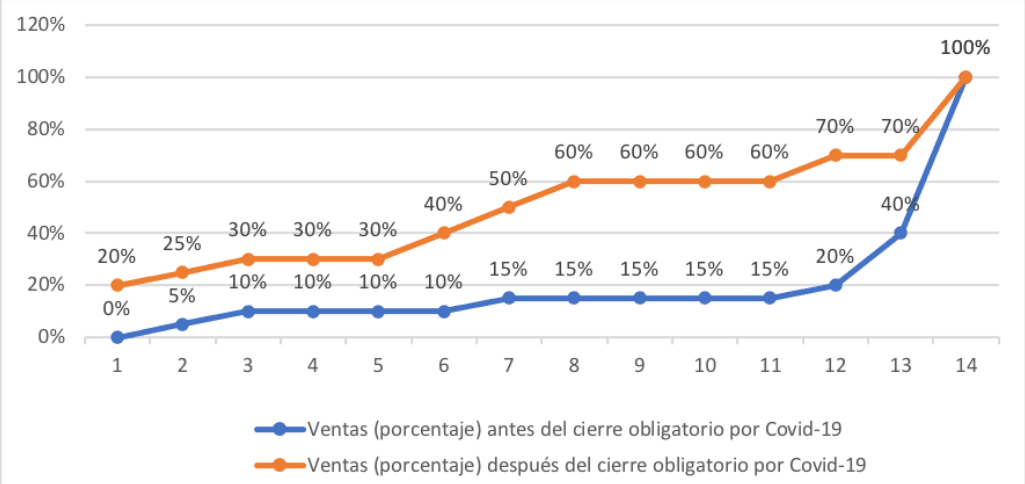
The answers indicate that 43% of the restaurants obtained from 0% to 10% of sales by applications before they had to close to the public; another 43% mentioned that their sales were 15% to 20% through this channel. It is worth mentioning that restaurateurs argued that sales by applications were not very common, and they were not given too much importance, they only used applications to have a presence in the market.

Only 7% of the restaurants, whose sales were mostly through apps, had sales of 40%. And in the particular case of a restaurant that operated solely through applications, its sales were not affected and remained at 100%.

After analyzing the information obtained, it was observed that the sales obtained through food delivery applications were mostly insignificant. The restaurateurs and managers interviewed mentioned that, although they were given attention to sales by applications, they were not their main objective, they were auxiliary tools, their attention was mainly focused on physical sales for consumption within the establishment. But, with the events already discussed, they found it necessary to make modifications and adaptations to the type of service provided to continue in the market.

The interview also asked about the percentage of growth in sales that establishments were able to obtain through the use of food delivery applications after the closure of restaurants to the public and delivery "only to home" were ordered. Figure 4 shows the comparison between the sales (in percentage) obtained by the restaurants through these applications before and after the mandatory closure.

Figura 4. Comparativa entre las ventas (en porcentaje) de las *food delivery apps*



Fuente: Elaboración propia

As can be seen, 43% of the restaurants interviewed presented an increase of between 20% and 40% in their sales. Likewise, another 43% of the restaurants presented a significant increase between 50% and 70% in sales by applications after the operation began under the new modality; while the remaining 14% obtained a very considerable increase between 80% and 100%. All these figures show an increase in sales obtained by food delivery applications after the closure of establishments due to the pandemic.

Likewise, restaurateurs were surveyed about the characteristics that a food delivery application should have, which are shown in table 2.

Tabla 2. Características que debe tener una aplicación *food delivery*

Porcentaje de restaurantes	Observaciones mencionadas
14 %	• Diseño atractivo • Fácil de acceder desde cualquier dispositivo • Diversificación de productos
58 %	• Fácil uso
14 %	• Fotos llamativas y publicidad • Comisiones accesibles • Promociones
14 %	• Popularidad

Fuente: Elaboración propia

Thus, 14% of restaurateurs consider that an application should have a good design, have fast loading, in addition to having a great variety of products; 58% consider that the application should be easy to use for both the restaurant and the customers; 14% mentioned that it is of great importance to include attractive photos, that commissions must be accessible and contain promotions; 14% mentioned that it is also important to decide which application to use and take into account their popularity. During the interview, the restaurateurs mentioned that due to the use of applications they have been able to expand and diversify their market and approach a younger and more demanding audience.

The restaurants interviewed used an average of three apps each. The most used were Uber Eats, Rappi and Sin Apron; the least used were Didi Food and Postmates. It is worth mentioning that there was a restaurant that operated specifically for Facebook and WhatsApp.

In addition to this, 36% of the sample mentioned that it is possible to continue the operation under this modality, however, it was also mentioned that for the restaurant to continue operating under the modality of home-only in the long term and that it is also profitable, You have to modify the business, make adaptations in terms of the organizational structure, reduce service personnel, increase production capacity and heavy use of food delivery apps.

On the other hand, 36% of them mentioned that they do not see it possible to continue with this mode of operation for a long time, that, if they continue like this, they would have to close their doors permanently; while 29% said that they do see it as possible. It is worth

mentioning that these restaurants are more solid and take longer to operate, so they could evolve to the new mode of operation without danger of closure.

Regarding the inconveniences that entrepreneurs mentioned about the use of food delivery applications, 21% consider that commissions are an important point to analyze before starting to use an application, since there are some that charge very high commissions, therefore They recommend doing a comparison before choosing to make it profitable. Likewise, 7% mention that the only problem they have had using applications is that sometimes delivery drivers make mistakes with deliveries, which compromises the restaurant's image and generates costs for the restaurant (some decide to have their own delivery drivers registered in applications to avoid this type of event). And 29% did not mention any inconvenience, they commented that they are working optimally. It is worth mentioning that they are the establishments that have been in the market the longest, are well positioned and have high sales, even in times of pandemic. Finally, 7% do not use food delivery applications, they advertise on social networks, so they are responsible for making shipments with staff from the establishment itself, and 36% of those interviewed mention that sometimes the demand is so high that the applications are they saturate, generate arrears and monetary losses.

For establishments, the use of applications has been a viable strategy to continue in operation, since they are popular tools that work to attract customers, expand the market, obtain popularity without paying too much for an advertising campaign, sales are obtained, influence in a way Important in the adaptation and improvement of products, jobs are preserved and the establishment continues in operation in the face of this new panorama that compromises the future of the restaurant MIPyMES of Mexico City.

After analyzing the data obtained, it was observed that the use of food delivery applications is totally related to the ability to continue in operation for restaurants, because, in addition to offering an alternative to continue generating sales, it influences the approach to more clients and different audiences and the staff in service areas is reduced, as mentioned by some restaurants. But it is also important to take into account that the use of these applications implies supervising that the delivery people deliver the package correctly, supervising orders and avoiding saturation so as not to reach overselling, the restaurateurs also mentioned.

Discussion

The data obtained reflected that the restaurants were in moments of uncertainty due to the risk of closing permanently due to the fact that they had to continue operating under the new modality. However, they found in the use of food delivery applications an alternative strategy to continue operating. The data obtained shows that there was a decrease in their sales, but, even so, they could continue working.

Maintaining the operation of the establishment was the most important thing for the restaurateurs, generating sales that were enough to pay for the payment of salaries and services, in addition to continuing to offer products with safety and quality to the diners. In this regard, Kim et al. (2019) point out that it is the obligation of restaurateurs to ensure that there is a good relationship between restaurant and customer, and that it is vitally important to take care of it to promote the creation of value for those involved. The use of these tools and the care of their content helped restaurants to position themselves within the new form of competition and sales exclusively by applications; It also helped to keep clients and increase its potential clients, and with this its status in the market.

The restaurateurs mentioned that it is vitally important that the application is easy to use, contains promotions, is accessible regarding payment methods and generates a feeling of well-being and trust in customers. In this sense, Arellano and Acosta (2020) suggest, to support restaurants, an alliance between the Government and businessmen to create new applications that are free to use, and that do not cause excessive economic costs to restaurants. This initiative would be appropriate during this time of pandemic. Without a doubt, the permanence in the market of the establishments would be increased.

Mitali (2019) explains that making a satisfactory food delivery encourages customer loyalty to restaurants, and generates promotion to reach new customers and generate more sales. The restaurants in this study, by making use of the applications, generated sales, and met new customers and regular customers, in addition to serving as a strategy to develop new products. The restaurateurs believe that when everything returns to normal, customers will be able to have a more personalized service, which can generate greater profits for them.

The results of this investigation are also in agreement with the findings of He et al. (2019), who mention that applications of this type provide benefits not only to customers, who can buy food without having to leave the place where they are, at a good price, quality, speed and with different ways of carrying out the pay; It also represents a benefit for

restaurants, since they generate online sales without having to expand capacity, hire more staff or adapt the facilities, therefore, the profit also increases.

Conclusions

Restaurants consider that before using food delivery applications it is important to analyze the options available in the market, make a comparison of commission costs, design and ease of use for both restaurants and customers. In addition, it is useful to take into account that applications are not saturated, which leads to overselling and, by extension, a bad reputation for the establishment.

After analyzing the data obtained, it was observed that the use of food delivery applications in restaurant MSMEs in Mexico City has worked as a sales strategy, which allowed them to continue operating to pay salaries and services.

And although several restaurants already had a digital medium as a form of communication with their customers, either through the applications in question or through social networks, they only used it as a form of presence in the market and not as a means of obtaining sales, so the process of adaptation and change they underwent had to be quick and not free of difficulties. And although the process was arduous, the food delivery applications have functioned as a means to meet the essential expenses of the restaurants and continue with their operation.

Future lines of research

The results of this research showed that there are other factors involved so that restaurant entrepreneurs want to adopt and use food delivery apps. Therefore, investigating what these factors are and the impact they have on their adoption would be the next step after this work. Likewise, the findings showed that for a restaurant to continue operating with digital applications, it requires making modifications to its business model, which is an opportunity to conduct future research on innovative business models for the restaurant industry.

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Rol de Contribución	Autor (es)
Conceptualización	Elizabeth Acosta-Gonzaga - principal Juan Manuel Sandoval-Damián – que apoya
Metodología	Elizabeth Acosta-Gonzaga - principal Juan Manuel Sandoval-Damián – que apoya
Software	No aplica

Validación	Juan Manuel Sandoval-Damián – igual Elizabeth Acosta-Gonzaga – igual José Leonardo Serralde-Coloapa - igual
Análisis Formal	Juan Manuel Sandoval-Damián – igual Elizabeth Acosta-Gonzaga – principal José Leonardo Serralde-Coloapa - igual
Investigación	Juan Manuel Sandoval-Damián – principal Elizabeth Acosta-Gonzaga – igual José Leonardo Serralde-Coloapa - igual
Recursos	Juan Manuel Sandoval-Damián – igual Elizabeth Acosta-Gonzaga – igual José Leonardo Serralde-Coloapa - igual
Curación de datos	Juan Manuel Sandoval-Damián – igual Elizabeth Acosta-Gonzaga – principal José Leonardo Serralde-Coloapa - igual
Escritura - Preparación del borrador original	Juan Manuel Sandoval-Damián – principal Elizabeth Acosta-Gonzaga – igual José Leonardo Serralde-Coloapa - igual
Escritura - Revisión y edición	Juan Manuel Sandoval-Damián – igual Elizabeth Acosta-Gonzaga - igual
Visualización	Juan Manuel Sandoval-Damián – principal Elizabeth Acosta-Gonzaga – que apoya
Supervisión	Elizabeth Acosta-Gonzaga
Administración de Proyectos	José Leonardo Serralde-Coloapa
Adquisición de fondos	No aplica

Anexo

Guía de entrevista

La presente entrevista tiene como objetivo indagar sobre el uso de plataformas de *food delivery* en las MIPyMES restauranteras de la CDMX y cómo les han servido para sobrevivir al confinamiento causado por el SARS-CoV-2. Las preguntas a contestar son las siguientes:

- ¿En qué porcentaje se redujeron las ventas después de que se ordenara el cierre de establecimientos al público y se dictaminara la entrega "solo a domicilio"?
- ¿Actualmente el restaurante se encuentra en peligro de cierre permanente?
- De las ventas estimadas mensualmente antes de que se ordenara el cierre de restaurantes, ¿qué porcentaje de ventas se adquirían por medio de las aplicaciones de *food delivery*?
- ¿Considera que ha crecido, y cuál es el porcentaje de ventas por aplicaciones de *food delivery* durante la pandemia?
- ¿Cuántas y cuáles plataformas de *food delivery* usa el establecimiento?
- ¿Cuáles considera que son las características de la plataforma que más ventas genera al establecimiento?
- ¿Considera que el restaurante podría seguir siendo rentable bajo la modalidad de envío a domicilio?
- ¿Ha detectado algún inconveniente con el uso de las aplicaciones *food delivery* durante esta pandemia?
- En sus propias palabras, cómo diría que le benefició el uso de las aplicaciones de *food delivery*: