

**EFFECTS OF COVID-19 ON THE BEHAVIOR OF FOOD CONSUMER IN
SANTA CRUZ DE LA SIERRA (BOLIVIA)
EFECTOS DE LA COVID-19 EN EL COMPORTAMIENTO DEL CONSUMIDOR DE
ALIMENTOS DE SANTA CRUZ DE LA SIERRA (BOLIVIA)**

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Manuscript information:

Received/Recibido: 17/06/2023

Reviewed/Revisado: 20/11/2023

Accepted/Aceptado: 04/12/2023

ABSTRACT

Keywords:

COVID-19, consumer behavior,
online purchases, delivery.

Consumer behavior is a multidisciplinary research area of interest to various disciplines such as economics, management and marketing. It has been treated from different approaches that have emphasized the incidence of economic, social, psychological, demographic, cultural and contextual factors in the actions of consumers when choosing the goods and services they will consume. The objective of this article was to explain the main effects of the COVID-19 pandemic on the behavior of food consumers in Santa Cruz de la Sierra (Bolivia) who shop at the Los Pozos Municipal Retail Market. Methodologically, it was based on the postulates of a quantitative research based on the review of specialized literature and the application of a questionnaire to a group of consumers who shop at the Los Pozos Municipal Retail Market located in Santa Cruz de la Sierra (Bolivia). In the conclusions of the research, it was highlighted that the main effects of the COVID-19 pandemic were evidenced in: a) the emergence of a new factor in consumer purchasing choices, which, due to its sanitary nature, was reflected in the increase in purchases of antibacterial gel, alcohol, liquid soap, among other personal care items and; b) the importance acquired by online shopping and delivery. These effects are positive and have been incorporated into the culture of consumers, since they facilitate the satisfaction of their consumption needs.

RESUMEN

Palabras clave:

El comportamiento del consumidor es un área de investigación multidisciplinaria de interés para diversas disciplinas como la

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COVID-19, comportamiento del consumidor, compras en línea, servicio de reparto.

economía, la administración y el marketing. El mismo, se ha tratado desde distintos enfoques que han enfatizado en la incidencia de los factores económicos, sociales, psicológicos, demográficos, culturales y, del contexto, en las acciones de los consumidores al momento de elegir los bienes y servicios que consumirá. Este artículo, se planteó como objetivo explicar los principales efectos de la pandemia del COVID-19 en el comportamiento del consumidor de alimentos de Santa Cruz de la Sierra (Bolivia que realiza sus compras en el Mercado Minorista Municipal Los Pozos. Metodológicamente, se fundamentó en los postulados de una investigación cuantitativa sustentada en la revisión de literatura especializada y, en la aplicación de un cuestionario a un conjunto de consumidores que realizan sus compras en el Mercado Minorista Municipal Los Pozos ubicado en Santa Cruz de la Sierra (Bolivia). En las conclusiones de la investigación, se destacó que los principales efectos de la pandemia del COVID -19 se evidenciaron en: a) la emergencia de un nuevo factor en las elecciones de compra del consumidor, el cual, por su carácter sanitario, se reflejó en el incremento de las compras de gel antibacterial, alcohol, jabón líquido, entre otros artículos de cuidado personal y; b) la importancia adquirida por las compras en línea y el Delivery. Tales efectos, tienen un carácter positivo y se han incorporado en la cultura de los consumidores, dado que facilitan la satisfacción de sus necesidades de consumo.

Introduction

In today's society characterized by globalization, economic internationalization, free markets, trade agreements, among other aspects, it would seem that the consumer is an actor with the capacity to choose freely in the market the goods and services he will consume based on the utility they bring in satisfying his needs. The objective of this article was to explain the main effects of the COVID-19 pandemic on food consumer behavior in Santa Cruz de la Sierra (Bolivia).

The study was located in the line of research related to consumer behavior. Therefore, the review of specialized literature was related to the analysis of the main approaches used for the study of consumer behavior, the factors that, from economic theory, induce changes in the demand for goods and services, as well as the impact of the COVID-19 health crisis, which became a major world economic crisis with an impact on the behavior of food consumers. The fieldwork was based on the application of a survey to a group of food consumers residing in Santa Cruz de la Sierra (Bolivia) who shop at the Los Pozos Municipal Retail Market.

Regarding consumption, it is worth mentioning that the economic discipline has historically used the concept of utility to denote "the way in which consumers choose among different consumption possibilities" (Samuelson, p. 82). For economists, utility is not simply a subjective benefit or psychological feeling derived from the consumption of a good or service; it is a theoretical construct used "to understand how rational consumers divide their limited resources among goods that provide satisfaction" (p. 82).

In this context, the traditional economic model explains consumer behavior based on the following determinants: a) the price of the good; b) the price of related goods (substitutes and complementary goods); c) income; d) tastes; and, e) population size. This model bases the market analysis on the perfect competition approach, characterized by the fact that all actors (suppliers and demanders) have perfect knowledge of market conditions.

However, in the real field, consumers face conditions of imperfect competition, since they do not have complete and sufficient information on the behavior of markets, as well as information related to suppliers and, in particular, on the aspects that explain the inherent complexity of "modern" goods and services (Sampedro, 2002). Therefore, in addition to the factors broadly based on the traditional model, consumer choice is also conditioned by other aspects such as the qualities of the good or service, the characteristics of related goods and advertising.

Another factor that also determines consumption is identified by Quintanilla (2010) in terms of the social qualities of self-identification of the good or service, given that these "are not only material goods or physical objects, they are much more, a symbol impregnated with cultural meanings" (Quintanilla, 2010, p. 48).

Henao (2007), based on the traditional approach to consumer behavior, summarizes the external factors that determine purchase and consumption decisions as follows:

- The demand environment: made up of demographic and economic factors that determine the consumption of goods and services. With respect to the former, the size of the population, its age and sex distribution, migration and educational level are the most important; while with respect to the latter, income, interest rates, unemployment and savings are the most important.

- The family and the household: these terms are used synonymously to refer to the changes generated in consumption as a consequence of changes in family economic well-being, emotional support, lifestyle, and socialization.
- Reference groups: changes in values, as well as in the norms, rules or patterns of behavior of the individual in society, have a determining influence on purchasing decisions and consumer behavior.
- Culture: comprises the traits associated with the beliefs, customs, morals and habits that characterize societies, as well as the laws and norms that regulate their functioning. Thus, the culture of a society is expressed in consumption.
- Social strata: they are differentiated by the consumption patterns and purchasing decisions of the individuals that comprise them. Thus, consumption is determined by the characteristics of human beings, their quality of life, tastes, need to maintain a certain social status, desire for self-improvement, among other aspects.

In the context described above, economics, in order to address consumer behavior, has started from the premise that consumers select those goods and services that provide the highest level of satisfaction or utility. Therefore, the analysis of consumer behavior involves understanding the various activities performed by individuals during the process of searching for, selecting, purchasing, using and evaluating the goods and services with which they expect to satisfy their needs. It covers all aspects related to "what is consumed, why, when, where, how often and under what conditions, as well as the final result of the process and the subject's satisfaction" (Henaó & Córdova, 2007, p. 19).

Another approach that can also be used to understand consumer behavior is presented by Sheth (2020), which approaches consumption from both habitual and contextual perspectives. It has been shown that over time consumers develop habits related to the goods and services they will consume, places to make purchases, search for price and quality information, among other aspects. All of them underpin consumer behavior when making decisions about what goods and services to consume, when to consume and where to shop. Likewise, consumption is also determined by aspects of the context, especially those of a social nature (marriage, children, change of place of residence, place of work, among others); technological change (internet, e-commerce, online shopping); the rules and regulations of each particular country that regulate consumption (alcohol, tobacco, etc.); public policies that promote more sustainable consumption (solar panels, organic products, electric cars, etc.); and natural events (hurricanes, tsunamis, pandemics).

Precisely, the COVID-19 pandemic is one of the natural events that has induced important changes in consumer behavior. In fact, on March 11, 2020, the World Health Organization (WHO) declared the disease a pandemic, as it spread rapidly in different countries with considerable effects on the world population. Therefore, all countries, as a measure to protect the health of their population, declared a state of emergency (Pan American Health Organization, World Health Organization, 2020).

A study by the Economic Commission for Latin America and the Caribbean (ECLAC, 2020) warned about the socio-economic effects of the pandemic on the development of Latin American and Caribbean countries, highlighting the strong economic recession with an impact on the performance of the different sectors of the economy.

This worldwide crisis had considerable effects on both production and consumption, and the level of depth in each particular country was determined fundamentally by its economic conditions, the strengthening of companies, international trade relations, and the policies adopted to avoid contagion, among other aspects.

However, as Ortega (2020) states, regardless of the size of the economic sectors, industry, commerce, as well as tourism and educational activities, among others, were seriously "affected by the suspension of domestic productive activity, generating unemployment and lower economic growth" (p. 234).

With respect to the consumer, Nielsen (2020) highlights that the population, being aware of the existence of COVID-19 in their country and of the level reached by the pandemic, reacted quickly and established as a priority the supply of some basic necessities and biosecurity products to protect themselves from the disease (medicines for flu, cough, vitamin C, alcohol and anti-bacterial).

Likewise, Eriksson and Stenius (2020) express that the response of consumers to the effects of the pandemic was reflected in a change in their behavior, which may be temporary and may not necessarily be permanent. According to the authors, at the beginning of the pandemic, nervous purchases were made to stock up on food (hoarding) and, during its development, consumers became interested in new services such as online shopping and products with low environmental impact. In addition, some consumers took up culinary traditions, while others, as a consequence of isolation, found in the culinary practice the opportunity to share family experiences.

This behavior is explained by the fact that during crisis periods consumers can be classified into four categories: a) panicky, b) prudent, c) worried and d) rational (Amalia & Ionut, 2009). The first, reacts quickly to the crisis by drastically reducing spending; the second, plans spending and makes major purchases; the third, also plans spending, but while maintaining loyalty to certain brands, is willing to incorporate new products into consumption despite the crisis. Finally, the fourth quarter maintained its performance without significant changes.

From this perspective, the main changes that have occurred in consumer behavior since COVID-19 are summarized in Sheth's (2020) and Casco's (2020) terms as:

- The stockpiling of basic commodities such as toilet paper, water, meat, disinfectants and biosecurity products led to shortages of these goods and temporary shortages.
- The development of consumers' creativity to perform some activities, such as, for example, attending church services through technological platforms such as zoom, online medical consultations, virtual education, among others.
- Reduced consumption of high-priced durable goods (cars, homes, etc.), as well as some services that contribute to consumer entertainment (concerts, movie theaters, restaurants, bars, etc.)
- The adoption of digital technology advances for the development of some activities that previously had a face-to-face nature (family meetings, movies, medical consultations, etc.).
- The emergence of new needs related to the preservation of health and the environment.
- The introduction of improvised changes in the home, which integrated at the same time the space for work, education, gymnasium and distraction.

Based on the analysis of the changes described above, Sheth (2020) states that as a result of COVID-19, technological advances have facilitated the development of an important part of the daily activities carried out by the consumer (work, education, family) and, in particular, the consumption of goods and services (online shopping, home or delivery). All this has induced significant changes in consumer behavior, as they have become aware of the need to better manage resources and of the importance of the home as a space "where people work, study and relax" (Casco, 2020, p. 103).

On the other hand, in terms of food consumption, a study conducted by the World Food and Agriculture Organization (FAO, 2020) reveals that in low-income countries, consumers during the pandemic substituted the consumption of fruits and vegetables for that of basic carbohydrates and non-perishable foods.

Other major changes in food consumer behavior are summarized by Acevedo and Osorio (2022) in: a) the increase in food purchases, home consumption and online shopping; b) the increase in consumption of processed, frozen, long-life and healthy foods; c) the decrease in food waste; and, d) consumers to make decisions about the place of purchase in addition to the price and quality of goods, also considered the logistics efficiency and supply chain of stores, as well as digital marketing strategies.

On the other hand, Sudriá, Andreatta and Defagó (2020), in a study conducted in Argentina, found that even when during quarantines the kitchen became a favorable place to promote healthy eating, consumers maintained a high tendency to consume ultra-processed foods, particularly bread, cookies, cakes, soft drinks, cold cuts and sausages, and a low tendency to consume healthy foods such as fruits and vegetables. This may have induced a shift from a traditional diet based on the consumption of fresh foods to a diet characterized by heavy consumption of ultra-processed foods.

The situation described coincides with the findings of Almendra, Baladia, Ramírez, Rojas, Vila et al. (2021), which show that significant changes in food consumption by all population groups were reported during confinement. In general, unhealthy eating patterns were adopted, such as increased consumption of snacks, high glycemic index foods and ultra-processed foods. This eating behavior associated with reduced physical activity and sedentary lifestyles has negative effects on the health of the population. In addition, a significant proportion of the latter reported having suffered problems of depression, anxiety and stress during quarantine; symptoms associated with eating, sleeping and physical activity.

Likewise, a study conducted in Mexico by Jiménez, Martínez, López, Quero and Carrillo to evaluate the effects of COVID-19 on the purchase and consumption of food by university students revealed that the main changes that occurred in the food consumption of this population group were: a) the positive relationship of the consumption of ultra-processed foods with the individual's moods (depression, anxiety and boredom); and, b) the increased tendency to consume food at home and a greater interest in the consumption of healthy foods. The latter may be linked to the interest of a group of consumers in strengthening their immune system as a preventive mechanism against the possibility of a resurgence of COVID-19, as well as the tendency to cook at home to ensure a healthy diet (Fernandez, Agnetti, Baez, Caetano and Medrano, 2020).

Method

Epistemologically, the research was based on the inductive empiricist (positivist) approach, which conceives the generation of knowledge as the result of "patterns of regularity from which the interdependencies between different classes of factual events are explained" (p. 33).

This approach is based on the assumption that the behavior of material and human events and occurrences, even when they are distinct and isolated, can be evaluated based on the observation of their regularity patterns (number of repetitions), which allows inferring their behavior or future trends.

In this orientation, the quantitative approach was adopted, whose postulates are summarized in the terms of Schettini and Cortazzo (2015) and, Hurtado and Toro (1998) in:

- The variables that explain the behavior of the object of study analyzed are limited.
- Emphasis on the establishment of cause-effect relationships between variables and their measurement or quantification.
- The objectivity of the subject-object relationship.
- The static approach to the data that explain the behavior of the variables, whose analysis is carried out using statistical techniques.
- The objectivity of scientific knowledge.
- The use of the hypothetical deductive method.
- The formulation of hypotheses to explain the relationships between variables.
- The use of theory for the recruitment of hypotheses.
- The selection of a population and a sample as the basis for collecting information.

Methodologically, the research had a descriptive and explanatory scope, since the review of specialized literature revealed a lack of studies that explain the main effects of COVID-19 (independent variable) on the behavior of food consumers in Santa Cruz de la Sierra (Bolivia) (dependent variable). For this reason, the Los Pozos Municipal Retail Market, located in District 5 of the Department of Santa Cruz de la Sierra, was selected as the empirical field.

A documentary and field strategy was adopted for data collection. The first was based on the theoretical understanding of the dependent and independent variables, a fundamental aspect for its operationalization (Table 1), while the second was based on a questionnaire applied to food consumers in Santa Cruz de la Sierra who shop at the Los Pozos Municipal Retail Market.

Table 1
Operationalization of variables

Objective: to analyze the effects of covid-19 on the behavior of food consumers in Santa Cruz de la Sierra (Bolivia) who shop at the Los Pozos Municipal Retail Market.

Dimension	Indicators	Techniques and instruments
Changes in food consumer behavior as a result of the effects of COVID-19	<ul style="list-style-type: none"> • Factors affecting consumer behavior in times of pandemic: economic and social; health; psychological; among others. • Consumer behavior before and after the pandemic. 	Technique: survey Instrument: questionnaire

The questionnaire was structured in three sections. In the first, the socioeconomic aspects of the respondents were addressed; in the second, the level of incidence of economic-social, health, and psychological factors, among others, in their behavior as food consumers in times of the COVID-19 pandemic in Santa Cruz de la Sierra (Bolivia) was investigated; and finally, in the third, their behavior as consumers before and after the COVID-19 pandemic was investigated. The questions were formulated using the following Likert scale: a) very low, b) low, c) high and d) very high. It should be noted that the data

collection instrument was subjected to validation by the expert judgment mode, which consisted of two professors from the Universidad de Los Andes, Mérida-Venezuela and a professional in the area with extensive knowledge and experience in the area of food consumption and agri-food economics.

The execution of the fieldwork was based on the selection of a representative sample, which is defined by Kerlinger & Lee (2000) as the selection of individuals or elements of a population that accurately and reliably reflects its characteristics and properties. In this context, the sample was formed using the information provided by the administration of the Los Pozos Municipal Market. The choice of this source is due to the fact that they handle data revealing an influx of approximately 600 people between 6:00 a.m. and 6:00 p.m. on Saturdays, considered the busiest time of the week for shopping.

In addition, information was obtained that the influx of consumers is concentrated mainly between 7:00 a.m. and 12:00 p.m., with a participation of about 300 people. Consequently, we chose to select a sample equivalent to 10% of those who attended on Saturday, May 13, 2023 to make their purchases during that time slot, which is equivalent to 30 people. It is important to note that the sampling process was carried out randomly, a technique defined as the selection of a sample so that each element of the population has a known, non-zero probability of being included in the sample. This approach ensures that the sample is unbiased and representative of the total population, as described by Levin, Fox, and Forzano (2018).

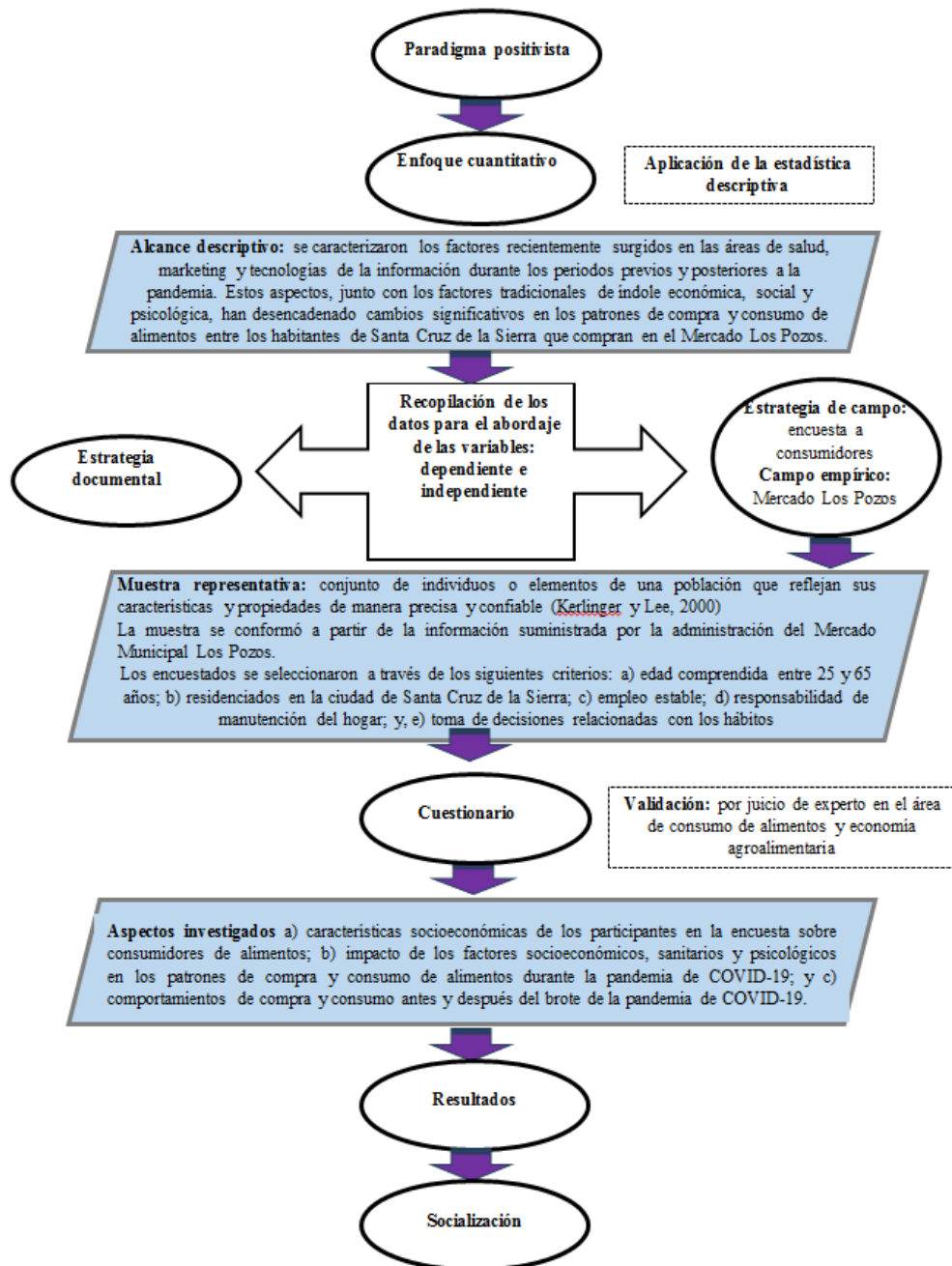
In addition, the selection of respondents was based on the following criteria: a) age between 25 and 65 years old; b) residing in the city of Santa Cruz de la Sierra; c) stable employment; d) responsibility for household maintenance; and, e) decision making related to food purchase and consumption habits.

On the other hand, the design of the questionnaire applied to the study subjects comprised the following aspects: a) socioeconomic traits of the food consumers surveyed; b) incidence of socioeconomic, health and psychological factors on food purchase and consumption habits in times of the COVID-19 pandemic; and, c) purchase and consumption habits before and after the COVID-19 pandemic. The following Likert scale was used to design the questions: a) very low, b) low, c) high and d) very high.

Finally, the data were processed using IBM® SPSS® version 27 as special software for statistical analysis and Microsoft® Excel®. Figure 1 shows the general methodological aspects of the research:

Figure 1

Methodological aspects of the research



Results

Based on the application of the survey to the study subjects, it was found that 40% are men and 60% are women, aged between 25-35 years (60%), with a university education (76.7%) and with the capacity to make purchasing decisions in their family nucleus (90.0%).

With respect to the main factors that influenced food consumer behavior in times of COVID-19 pandemic in Santa Cruz de la Sierra (Bolivia), the findings revealed that for the respondents:

- Economic and social factors fluctuated between medium (70%), high (13.3%) and very high (6.7%).
- Health factors showed trends with fluctuations between medium (43.3%), high (30.0%) and very high (16.7%).

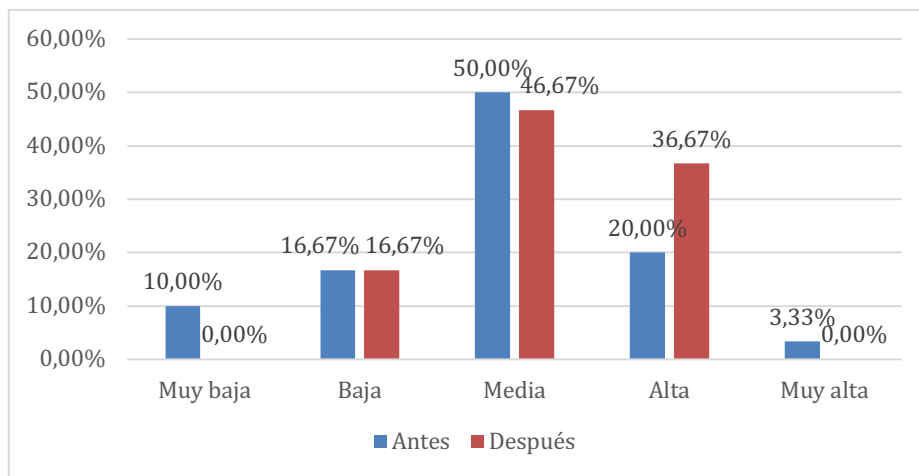
- The psychological factors were distributed between medium (40.0%), high (33.3%) and very high (10%) trends.
- Other factors revealed a behavior with fluctuations between a medium (56.7%) and high (10%) trend.

On the other hand, with respect to the predominance in purchases of staple goods, ultra-processed, frozen, healthy, basic carbohydrates and non-perishable foods, the following trends were found:

- A. The purchasing trend for basic necessities before the pandemic fluctuated between medium (50%), high (20%) and very high (3.3%); while post-pandemic the trend ranged from medium (46.67%) to high (36.67%) (see Figure 2).

Figure 2

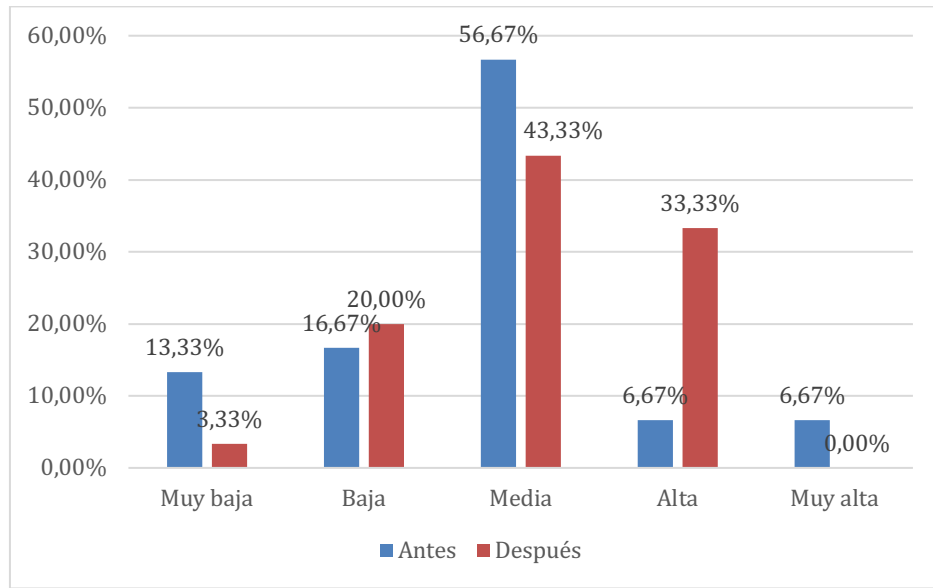
Predominance in the purchase of basic necessities (food and hygiene) - Before and after the pandemic



- B. Ultra-processed foods, before the pandemic, showed a trend between medium (56.67%), high and very high (6.67%) respectively. Subsequently, the average trend decreased to 43.33%, while the high trend increased to 33.33% (see Figure 3).

Figure 3

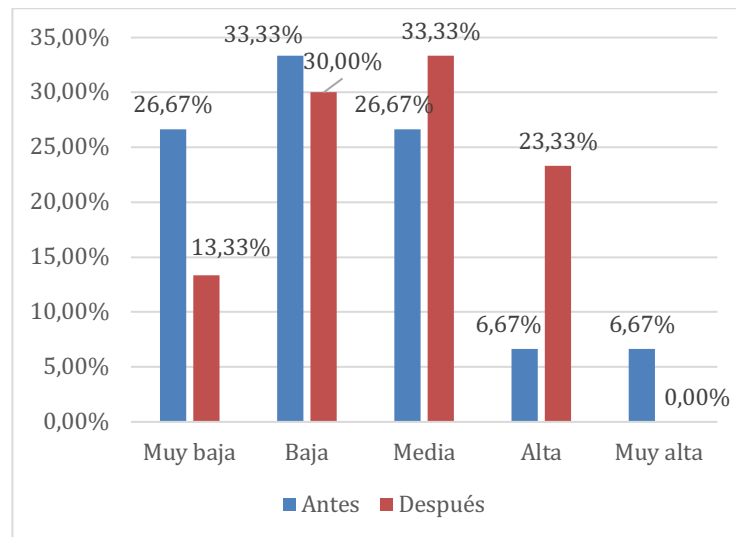
Predominance in the purchase of ultra-processed foods (bread, cookies, cakes, soft drinks, cold cuts and sausages) - Before and after the pandemic



- C. Frozen foods, before the pandemic, presented a purchase trend with variations between medium (26.67%), high and very high (6.67%) individually; while, after the pandemic the medium and high trends increased to 33.33% and 23.33% respectively (see Figure 4).

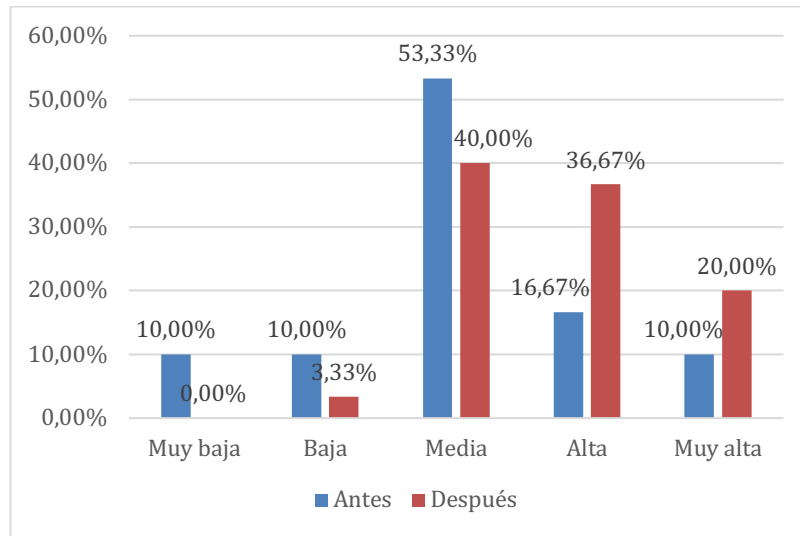
Figure 4

Prevalence of Frozen Food Purchases - Before and After the Pandemic



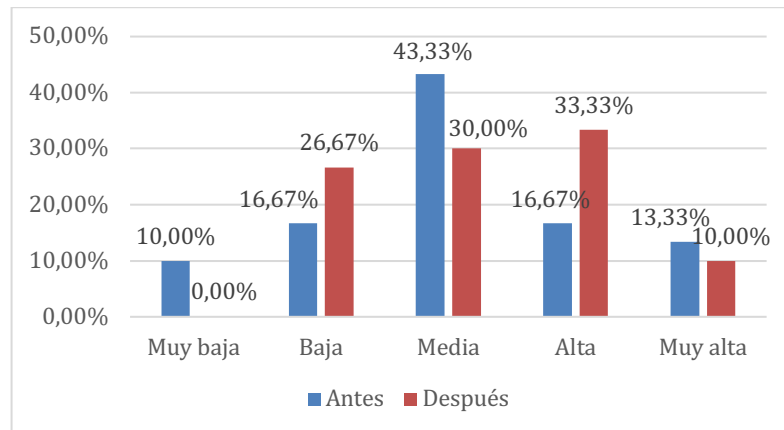
- D. Healthy foods, before the pandemic, experienced a trend with fluctuations between medium (53.33%), high (16.67%) and very high (10%). Subsequently, after the pandemic, the average trend decreased to 40.0%, while the high and very high trends increased to 36.67% and 20.0%, respectively (see Figure 5).

Figure 5
Prevalence of Healthy Food Purchasing - Before and After the Pandemic



E. Basic carbohydrates and non-perishable foods reflected a pre-pandemic trend of medium (43.33%), high (1.67%) and very high (13.33%) purchasing trends; whereas, post-pandemic, the medium trend decreased to 30%, the high trend increased to 33.33% and the very high trend decreased to 10.0% (see Figure 6).

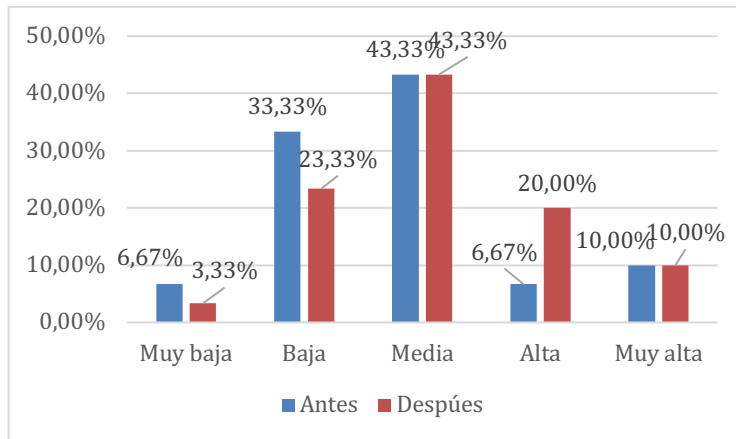
Figure 6
Predominance in the purchase of staple carbohydrates and non-perishable foods - Before and after the pandemic



On the other hand, with respect to the levels of compulsiveness and rationality in purchases by consumers, it was found that:

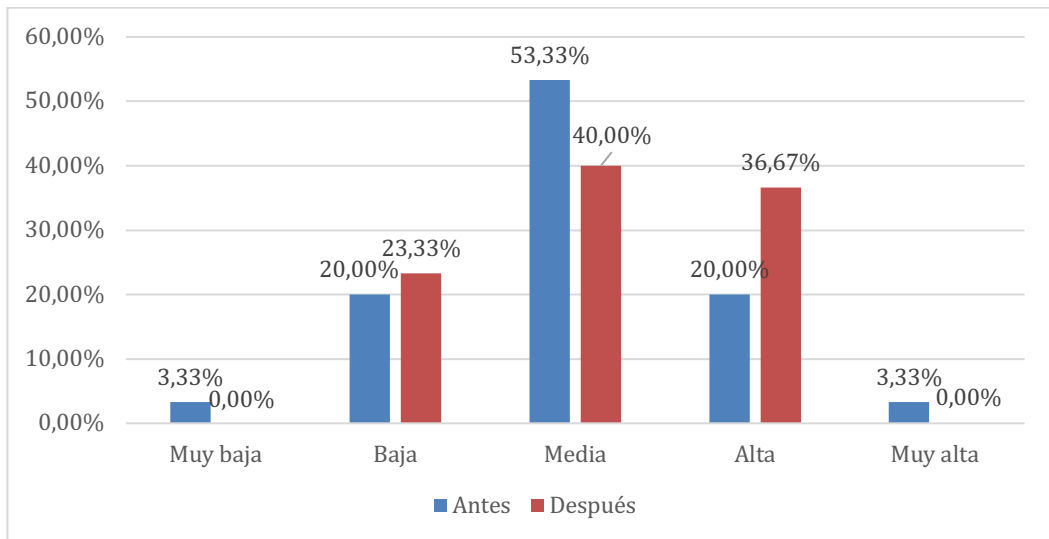
A. Before the pandemic, the level of consumer compulsiveness in purchases showed a trend that fluctuated between medium (43.3%), high (6.67%) and very high (10.0%). Likewise, after the pandemic there were no changes in the medium and very high trends, but the high trend increased to 20.0% (see Figure 7).

Figure 7
Level of compulsivity in food purchases - before and after the pandemic



- B. The level of consumer rationality in purchases presented before the pandemic a trend that fluctuated between medium (53.33%), high (20.0%) and very high (3.33%); while after the pandemic the medium trend decreased to 40.0% and the high trend increased to 36.67% (see Figure 8).

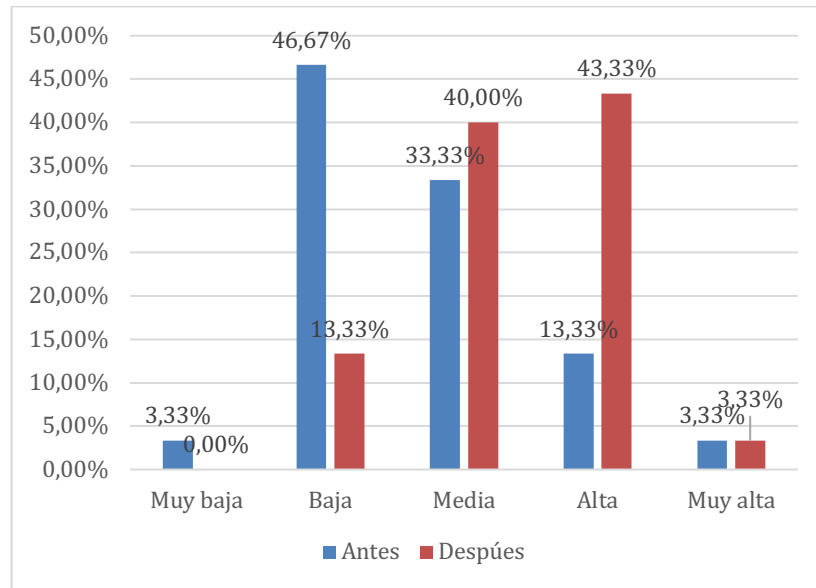
Figure 8
Level of rationality in food purchases - Before and after the pandemic



On the other hand, the following results were found regarding food storage, frequency of online shopping and use of the home for grocery delivery:

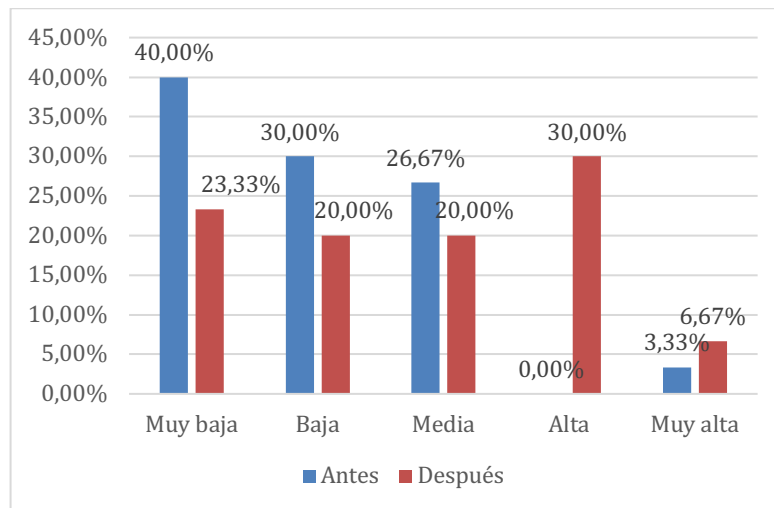
- A. The stockpiling of food to meet their present and future needs as consumers, before the pandemic, presented a trend with important variations between low (46.67%), medium (33.33%) and high (13.33%). After the pandemic, these trends underwent significant changes, with the mean increasing to 40.0% and the high to 43.33% (see Figure 9).

Figure 9
Tendency to stockpile food to meet present and future needs - Before and after the pandemic

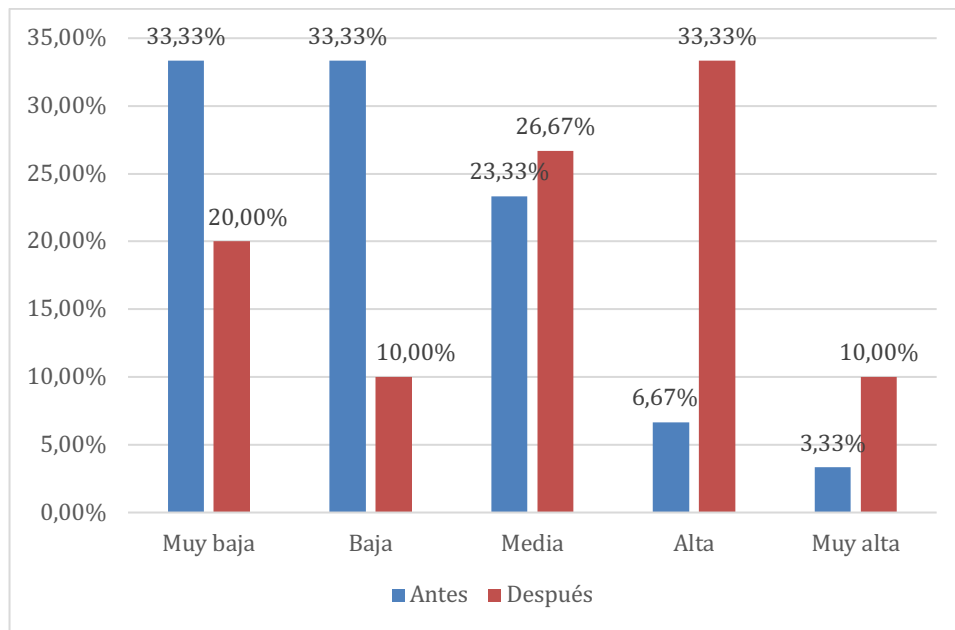


- B. The frequency of online food purchases showed before the pandemic, a trend with fluctuations between very low (40.0%), low (30.0%) and medium (26.67%); while post-pandemic the very low trend decreased to 23.33%, low and medium decreased to 20.0%, while high increased to 30% (see Figure 10).

Figure 10
Frequency of online food shopping - Before and after the pandemic



- C. The frequency of home use for food delivery was characterized by very low and low trends of 33.33% and 23.33%, respectively, while the average trend was 23.33%. After the pandemic, there was a decrease in the very low (20.0%) and low (10.0%) trends, as well as an increase in the medium (26.67%) and high (33.33%) trends (see Figure 10).

Figure 11*Frequency of home use for food delivery - before and after the pandemic*

Discussion and Conclusions

According to the results obtained, as a consequence of the appearance of the COVID-19 pandemic, social economic factors had an average level of incidence of 70% in consumer behavior. This finding coincides with economic theory, since, as Henao (2010) states, the demand for goods and services is directly related to the social economic dimension, which includes variables associated with the price of the good, the prices of other substitute and complementary goods, economic policy, income, unemployment, inflation, discounts and promotions, among other aspects. The factors described above, together with confinement and quarantine, were decisive in the selection of the goods consumed.

With respect to the sanitary factor expressed in the use of masks, antibacterial gel and disinfection of the products purchased (in person or at home), the behavior ranged from a medium (43.3%) to a high (30.0%) level of incidence, since consumers had not experienced situations that regulated their mandatory use.

In this sense, the findings revealed that the sanitary factor is a new variable that induced important changes in consumer behavior, given that, as expressed by Espinoza, Motta and Acevedo (2021), as well as Rodríguez and Gamboa (2021), the pandemic generated uncertainty in consumers who made nervous purchases of some personal hygiene products, especially antibacterial gel, alcohol, liquid soap and masks. The demand for all of them increased, as they were recommended worldwide as a preventive and protective measure against the virus. As a result, new consumer habits emerged, as the demand for personal care products from a health perspective began to play a more important role in consumers' purchasing choices.

On the other hand, the psychological factors related to emotional intelligence as a consumer; self-management in mood (stress, depression, boredom); and, emotions, had an average trend of 40.0%, which coincides with the approaches of Henao (2010) in highlighting the incidence of factors associated with thinking, motivation and, consumer attitudes in their choices to purchase goods and services.

Finally, other factors expressed in eating habits, tastes, advertising, online shopping, culture, customs, beliefs and context, showed an average incidence level of 56.7%. Of these factors, it is worth highlighting the importance acquired by online shopping, which has positioned itself as a new factor that has induced important changes in consumer behavior, since consumers consider it as a "comfortable" and "trustworthy" activity that facilitates the purchase of goods (Rodríguez & Gamboa, 2021).

This argument corresponds to the results of a study by the World Trade Organization (2020), which show that, as a consequence of the pandemic, there was a worldwide increase in electronic commerce of goods both between companies and consumers, as well as between companies themselves. Therefore, it can be stated that the effect of the changes in the context was evidenced in the increase of online shopping, which became a new factor that began to form part of the consumer's culture and habits to the extent that it facilitates the choice and purchase of goods that will be used to meet their needs.

In another order of ideas, making comparisons with respect to the two moments, i.e., consumer behavior before and after the COVID 19 pandemic, it was found that the trend of purchase of:

- Consumer staples (food and hygiene) before the pandemic peaked at 73.33%. However, after the pandemic, these items became more important to consumers, since their purchase predominance was 83.34%, which shows that consumers are more concerned about keeping basic necessities at home and better distribute their income level.
- Ultra-processed foods (bread, cookies, cakes, soft drinks, cold cuts and sausages); before the pandemic it was approximately 86.67%; after the pandemic, it increased to 96.66%.
- Frozen food, before the pandemic reached 40.01%; while after the pandemic it increased to 56.66%. This may have occurred because consumers, given the confinement and purchasing restrictions, substituted some fresh foods for frozen foods in order to ensure a balanced diet high in protein and fruit.
- Healthy food stood at 80% before the pandemic; after the pandemic it increased to 96.67%. This can be explained by the fact that consumers are now more concerned about the consumption of foods low in sugars and carbohydrates.
- Basic carbohydrates and non-perishable foods, before and after the pandemic, stood at 73.33%.

With respect to the tendency to purchase basic necessities, the findings are in line with Sheth (cited by Casco, 2020), since in periods of crisis, consumers generally tend to prioritize purchases of basic necessities and postpone the consumption of non-essential goods.

On the other hand, the trend recorded for ultra-processed and frozen goods after the pandemic coincides with the findings of Acevedo and Osorio (2022), given that due to their non-perishable nature (long shelf life) their acquisition allowed consumers to have them available to meet their consumption needs, in a crisis situation characterized by shortages, hoarding, price increases, purchase restrictions and confinement.

Likewise, the increase in the consumption of healthy foods also coincides with the arguments of Acevedo and Osorio (2022), as consumers are now more careful about their health. They have begun to learn about the importance of a healthy diet and its contribution to strengthening the immune system, a fundamental aspect to avoid Covid-19 infection.

Finally, other factors that also reflect a change in consumer behavior at the time of making the purchase choice before and after the pandemic are summarized as follows:

- The level of compulsiveness in food purchases increased from 60% to 73.33%, due to consumers' need to stock up in times of pandemic and ensure their food security. Likewise, the level of rationality in food purchases practically remained between 76.66% and 76.67%, which reflects the priority that consumers give to satisfying their food needs. In addition, as a result of compulsive purchases, the tendency to stockpile food increased from 49.99% to 86.66%, which provided consumers with a level of security to meet present and future needs.
 - This finding corresponds to that found by Orellana & Orellana (2021), whose results show that, as a consequence of the pandemic, consumers adopted a compulsive behavior associated with a panic buying choice, characterized by an increase in the quantities and types of food. All of this stemmed from the stress, panic and uncertainty experienced during the pandemic. According to these authors, the level of compulsiveness was the result of various factors and processes of a rational, irrational, motivational, cognitive and emotional nature, which, together with the effects of the generalized economic and health crisis, created an atmosphere of uncertainty that characterized the pandemic at the global level.
- The frequency of online food purchases increased significantly, from 30% to 56.67%, as the measures of confinement and restrictions led to the positioning of online purchases; an aspect that was finally incorporated into the consumer's culture. This coincides with the findings of Acevedo and Osorio (2022), whose findings reveal the increase in online shopping in Colombia during the pandemic through the use of various digital channels and social networks.
- The trend in the use of the home for food delivery showed a significant increase from 33.33% to 70%. This finding is related to the findings of Casco (2020), given that businesses have rethought their marketing strategies to deliver their products to the consumer's home through the delivery service, which has made it possible to satisfy the need to purchase some fresh, ultra-processed and healthy foods.

Finally, by way of conclusion, it should be noted that the main effects of COVID-19 on the behavior of food consumers in Santa Cruz de la Sierra can be explained by the following changes in their behavior: (a) emergence of the health factor as a new variable that influences the choice of purchase; (b) increased demand for staple goods and, especially for ultra-processed and healthy foods; (c) positioning of online shopping as a mechanism that through digital channels and social networks facilitates the purchase of food goods; and, (d) incorporation of Delivery as a new service for the delivery of products to the consumer's home.

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