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Consumer Preferences and its Importance in the Acquisition of Products in the 2021 Pandemic Period in Metropolitan Lima

JORGE NICOLÁS A. PAPANICOLAU DENEGRI 1

SERGIO ANTONIO JORDAN DE VIVERO 2

ALFREDO ÁNGEL ROSS ANTEZANA 3

CARLOS ROBERTO A. LA TORRE LÓPEZ 4

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ABSTRACT

The results of the research on consumer preferences and its importance in the acquisition of products during the critical period of the pandemic in Metropolitan Lima from March to December 2020, when emotional and cognitive relationships increased when purchasing products, are shown in this article. This makes it possible to understand the extent to which, at that stage, consumers were willing to modify their purchasing habits, depending on their rationality or emotions, so as not to be affected by the crisis that was experienced at that time.

Keywords: consumer behavior; cognitive aspect; emotional aspect; pandemic.

INTRODUCTION

Consumer preferences when selecting a product have changed as a result of the pandemic. Accordingly, different suppliers have had to reformulate their strategies and develop new sales and distribution channels to adapt to the situation, for brand prestige does not guarantee the successful commercialization of a product.

Decision-making processes are regarded as valid in the consumer's life, allowing people to reach achievements to strengthen their well-being. This context is based on en dos principios de información: a) la interna, enfocada con las preferencias, creencias u objetivos personales; y b) la externa, que es el entorno donde uno convive e influyen al momento de decidir y definir alternativas fáciles de elegir [two information principles: a) internal, focused on preferences, beliefs or personal objectives; and b) external, namely the environment where one lives and influences when deciding and defining easy-to-choose alternatives] (Muñeton et al., p. 1). These are part of a reasoning process in the selection of a product.

The purpose of this paper is to understand the relationship between cognitive and emotional aspects and the consumer's behavior when deciding to make a purchase during pandemic times.

Upon reviewing the literature, it became evident that e-commerce had not had the expected success before the pandemic due to,

Master's Degree. Economist. Currently working as professor at Universidad San Juan Bautista (Lima, Peru).

Orcid: https://orcid.org/0000-0002-0684-8542

Corresponding author: jorge.papanicolau@upsjb.edu.pe

PhD. Administrator. Currently working as professor at Universidad San Juan Bautista (Lima,

Orcid: https://orcid.org/0000-0002-6456-9154

E-mail: sergio.jordan@upsjb.edu.pe

Master's Degree. Economist. Currently working as professor at Universidad San Juan Bautista (Lima, Peru).

Orcid: https://orcid.org/0000-0002-5470-9870 E-mail: alfredo.ross@upsib.edu.pe

Master's Degree. Economist. Currently working as professor at Universidad San Juan Bautista

Orcid: https://orcid.org/0000-0002-1933-6028

among other reasons, distrust on the part of customers, who did not use it to perform exchanges.

All this changed when the Peruvian government imposed a strict quarantine, bringing about a cognitive and emotional change in consumer behavior, causing companies to learn to communicate with customers through this channel using various ways to attract them to their websites and social networks during the pandemic. A different way of developing and creating the exchange relationship between two or more parties emerged and, in turn, led to a growth in online purchases, as confirmed by the Cámara Peruana de Comercio Electrónico (Capece) reporting an increase up to 41.8% in 2020 and 55% in 2021 (as cited in El Economista, 2022); only 18.6% of customers made online purchases prior to the pandemic.

As a consequence of the new ways of acquiring goods or services, and because people have changed their behavior due to the covid-19 pandemic, companies have had to reinvent themselves to meet consumer demands through unconventional channels. Companies need to be aware that consumers, today and in the future, will increasingly prefer to exchange goods and services via this method.

Sellers have been forced to interact more in social networks and this has led to the emergence of different digital payment platforms, prompting the hiring of personnel for new positions. Due to the changes that have taken place in the last two years, the method of reaching out to customers has been redesigned to avoid losing sales.

This study is significant because it builds on global, regional, and local views regarding this issue. Early in the pandemic, the use of digital solutions to maintain the exchange of goods and services emerged as a consequence of various social constraints, which boosted a trend that was just beginning before covid-19. Regarding the development of e-commerce, companies that discovered and strengthened the digitalization of their sales channels survived the worst moment of this pandemic crisis with greater solvency, which allowed them to remain in business and be profitable during the crisis (Naciones Unidas et al., 2021); businesses that migrated to these channels were able to stay in the market and offer their customers a purchasing alternative.

Digital transformation in Ecuador prior to the pandemic was regarded as yet another way to increase the prestige of organizations; today it is a condition for them to remain in business. According to

Rodríguez et al. (2020), organizations that begin to use digital platforms and are able to manage different activities on them will have the power to place themselves in a new favorable situation and gain market share. These companies followed these recommendations and overcame the challenges in different sectors; Rodríguez et al. (2020) stated that small and micro enterprises demonstrated the ability to adapt, therefore, at present, they use some e-commerce tool to remain in the market in which they operate. In Ecuador, for example, e-commerce is expected to be used on a larger scale in the future, which means that their use will increase progressively.

In Peru, the pandemic has accelerated the development of online sales. At the beginning of the pandemic, the circulation of transactions reached 10 million soles, then 700 million soles, thus creating an important demand for the satisfaction of consumer needs expressed in goods and services, resulting in a significant and recurring demand for companies and for those who were starting in e-commerce (Soler, 2021). Traditional businesses are confronted with new situations to exchange their products or services, and those that accept the challenge of evolving to digital will be able to expand their market at national and international level. This paper describes the above situation compared to other contexts.

The general hypothesis states that consumer preferences are related to the acquisition of products during the pandemic period in Metropolitan Lima. The specific hypotheses state that 1) there is a relationship between the cognitive aspect and the acquisition of products, and 2) there is a relationship between the emotional aspect and the acquisition of products.

Theoretical Framework

During these pandemic times, consumers have had to modify their product acquisition habits, forcing suppliers to use new sales and distribution schemes that allow them to remain in the market.

It is a known fact that until the sixties, the study of consumer behavior was a new topic that had no research area, marketing professionals had to rely on the principles or concepts of other disciplines, for instance, that customers tend to acquire products due to some stimulus or initiative, and that customers allow themselves to be influenced by their most intimate environment, as well as by advertising and by the different emotional states when acquiring a product (Schiffman & Kanuk, 2010).

Microeconomics studies the different purchasing behavior of consumers, which is related to their preferences based on their objectives and other personal variables. Microeconomics considera que los agentes económicos son racionales porque buscan optimizar recursos mediante las restricciones presupuestarias [regards economic agents as rational because they seek to optimize resources through budget constraints] (Pilay, 2015, p. 18), i.e., they choose their purchases rationally based on their income.

The distinctive feature is that individuals are the customers who will acquire a good or service. Aspectos como nuestra educación y nuestro entorno político, cultural o social son también factores que nos identifican; sin embargo, todos los seres humanos usamos o consumimos alimentos, ropa transporte, educación, cultura, recreación [Aspects such as our education and our political, cultural or social environment are also factors that identify us; however, all human beings use or consume food, apparel, transportation, education, culture, recreation] (Cárdenas, 2014, p. 43). As Maslow indicates in his pyramid, according to which motivation is essential to dignify a person as a being (as cited in Cárdenas, 2014).

At the beginning, economic theory proposed that rationality in the purchase of a product was driven by the maximization of its benefits and that it was directly related to the satisfaction of customer needs. Subsequent studies also showed that customers tend to acquire products due to some stimulus or initiative, and that they allow themselves to be influenced by their most intimate environment, as well as by advertising and by the different emotional states when acquiring a product (Schiffman & Kanuk, 2010). It was therefore demonstrated that cognitive and emotional aspects relate to consumer behavior.

Psychology focuses basically on the observation of the behavior of individuals and does not attribute a hierarchy to the interactions between people and groups of people, therefore, to analyze consumer behavior, marketing relies on psychology, sociology and other disciplines that provide an understanding of consumption. It also integrates aspects such as friendship, family, leadership, culture, social classes, among others.

In the study by Moretti et al. (2021), the results of relating attitudes towards the covid-19 pandemic and its effect on purchasing behavior were grouped into "skeptical" (36.7%), "concerned" (50.1%) and "indifferent" (13.2%). As for the sociodemographic data,

after grouping by class, the ratings were found to be balanced, with the exception of the "age group" category (p. 308-314). It was observed from the results of the attitudes and sociodemographic data that the "skeptics" class is comprised of the youngest respondents.

Likewise, in a study on on-line purchases, it was observed that

garantizó la identificación de factores clave como la motivación, la experiencia y el comportamiento, los cuales se obtuvieron a partir de una reflexión crítica que permitió relacionar temas de interés para el estudio de comportamiento del consumidor a partir de la realidad observada [key factors such as motivation, experience and behavior were identified, all of which were obtained from a critical reflection that allowed relating topics of interest for the study of consumer behavior from the observed reality]. (Mercado et al., 2019 p. 114)

Based on the data obtained from the study, analyze consumer behavior leads to create strategies to determine the best choice in the construction of online shopping platformsOK, the same that will be useful to improve marketing and sales strategies.

Today, consumers are influenced by a variety of logos and symbols, thus, Vivimos rodeados de marcas que nos ayudan a definirnos y a relacionarnos con los demás. El consumidor toma decisiones de compra y crea vínculos con las marcas, al mismo tiempo que las marcas tratan de generar una comunicación persuasiva [We live surrounded by brands that help us define ourselves and relate to others. Consumers make purchasing decisions and create bonds with brands, at the same time that brands try to create persuasive communication] (Pretel et al., 2018, p. 233). Based on this, it is important to highlight that brand building processes are oriented to advertising in communication with customers, aiming to awaken in them positive feelings towards the brand that translate into an experience at the time of purchase.

Also, the direct or indirect influence of the web and networks changes the behavior of consumers in their final decisions and can be seen in small and specific population groups.

In turn, Núñez, director de planificación estratégica de la agencia de publicidad SCPF, observa que la atención de los consumidores no se capta mediante argumentos racionales, sino a través de imágenes que emocionen [Núñez, director of strategic planning of the advertising agency SCPF, observes that consumers' attention is not captured through rational arguments, but through images that evoke emotion] (Vilaseca, 2007, as cited in Pretel, et al., 2021, p. 231). Visual communication comes into play, so that the image captures you before purchasing the goods.

Likewise, las campañas de publicidad deben reforzar estas redes neuronales, ya que son las que finalmente motivan la compra impulsiva de determinados productos [advertising campaigns must reinforce neural networks, as they are the ones that ultimately motivate the impulsive purchase of certain products] (Vilaseca, 2007, as cited in Pretel, et al., 2021, p. 231), they must be ingenious in order to appeal to the user's attention and seduce him/her to purchase.

Typically, consumer marketing research has focused on the rationality of the behavior of buyers, who act by weighing the positives and negatives of the different options to choose from. Such activities include a number of choice processes that are influenced by emotional factors in the process of choosing and purchasing an item, which analyzes both the cost-benefit approach of la clásica teoría de la utilidad, como las reacciones afectivas y emocionales que pueden matizar ese análisis. El estudio de las preferencias y el comportamiento de los individuos ha sido abordado desde tres enfoques diferentes: cognitivo, afectivo y afectivo-cognitivo [traditional utility theory, as well as the emotional reactions that may influence this analysis. Preferences and the behavior of individuals have been studied from three different approaches: cognitive, emotional and emotional-cognitive] (Ruiz & Munuera, 1993, p. 26). Our research has focused on the first two and their relationship.

At the time the customer is deciding to purchase goods, he/she is also subject to mental processes between emotions and rationality, which enable the buyer to purchase or consume products that have a minimal impact on the environment, exhibiting an honest and lucid behavior when purchasing a product (Sánchez et al., 2017). People currently regard the environment as another important aspect when purchasing a product, and therefore prefer products that do not possess components harmful to it.

These days, consumer decisions have gained transcendence to understand how a buyer or several buyers think and make decisions. There are studies that show that emotions are an important aspect of human beings. We cannot currently state that the

emotional dimension of a buyer is a non-rational factor and/or is exclusive to a relative personal circumstance. Nevertheless, emotions are essential components of the rational dimension of the individual, therefore, they must be examined (Gutiérrez & Reyna, 2015).

Emotion-related matters are relevant because they convey the perceptions and beliefs of consumers; the emotional aspect is always present in the daily activities of people in a practical way in their actions. It is a very strong component that intervenes in the behavior and habits of individuals (Gutiérrez & Reyna, 2015). The acquisition of a product is influenced by the emotional state of that moment; in other words, the state of mind is part of the decision-making process.

Currently, economics and psychology are not mutually exclusive areas; psychology penetrates deeply into economic matters as it attempts to examine what drives the individual to spend part of his or her income, to reserve it or to acquire a certain product (Gill et al., 2014). A relationship has already been established between economics and psychology, subjects of knowledge that are intimately intertwined.

METHODOLOGY

This is a quantitative, non-experimental (no deliberate manipulation of variables), cross-sectional (measured in a specific moment), descriptive-correlational (describing the events, it also allowed to analyze if the variables are related) research study on consumer preferences and product acquisition in the period of pandemic in Metropolitan Lima 2021. A Likert scale survey was used, and it was administered online for a period of 15 days. Cronbach's alpha test was used to determine the reliability of the questions, all of which exceeded 0.994 on average.

Variables

V₁: Consumer preferences.

Dimensions:

Cognitive

Emotional

V₂: Product acquisition.

Unit of Analysis

Districts of Metropolitan Lima.

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Population

The population was comprised of all 121 respondents (47 men and 74 women).

Inclusion Criteria

Individuals over 18, of any sex and living in the study districts.

Exclusion Criteria

Individuals under 18. Visitors who were present at the time the survey was sent and who did not reside in the study districts.

RESULTS

For hypothesis testing, we first used the Kolmogorov-Smirnov normality test for the 121 participants' survey data; then, in accordance with the data obtained, we used Spearman's Rho statistic.

General Hypothesis Testing

H_g: There is a relationship between consumer preferences and product acquisition during the pandemic period in Metropolitan Lima.

H_o: There is no relationship between consumer preferences and product acquisition during the pandemic period in Metropolitan Lima.

The first step was testing for normality, as shown in Table 1, where the significance results of the variables were found to be below 0.05; Spearman's Rho was then used as observed in Table 2.

Hypothesis testing results are shown in Table 2.

Validity Method

If p > 0.05, H₀ is accepted; whereas, if p < 0.05, H₀ is rejected and H₁ is accepted.

A high positive correlation of .722 with a significance level of .000 was found; therefore, the alternative hypothesis stating that there is a relationship between consumer preferences and the acquisition of products during the pandemic period in Metropolitan Lima is accepted.

Specific Hypothesis 1 Testing

 H_g : There is a relationship between cognitive dimension and product acquisition.

H₀: There is no relationship between cognitive dimension and product acquisition.

The results of the normality test, which made it possible to determine the statistic to be used to test the specific hypothesis, are shown in Table 3.

Hypothesis testing results are shown in Table 4.

Table 1. Normality Test.

	Kolı	mogorov-Smirr	10V ^a	Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Consumer Preferences	.085	121	.032	.985	121	.202
Product Acquisition	.119	121	.000	.972	121	.014

Source: Prepared by the authors.
a. Lilliefors Significance Correction.

Table 2. General Hypothesis Testing.

			Consumer Preferences	Product Acquisition
Spearman's Rho	Consumer preferences	Correlation Coefficient	1.000	.722**
		Sig. (2-tailed)		.000
		N	121	121
	Product acquisition	Correlation Coefficient	.722**	1.000
		Sig. (2-tailed)	.000	
		N	121	121

Source: Prepared by the authors.

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A high positive correlation of .979 with a significance level of .000 was found; therefore, the alternative hypothesis stating that there is a relationship between cognitive dimension and products acquisition during the pandemic period in Metropolitan Lima is accepted.

Specific Hypothesis 2 Testing

H_g: There is a relationship between emotional dimension and product acquisition.

H₀: There is no relationship between emotional dimension and product acquisition.

The results of the normality test, which made it possible to determine the statistic to be used to test the specific hypothesis, are shown in Table 5.

Hypothesis testing results are shown in Table 6.

A low positive correlation of .242 with a significance level of .000 was found; therefore, the alternative hypothesis stating that there is a relationship between emotional dimension and products acquisition is accepted.

DISCUSSION

This research study had a quantitative approach involving descriptive and inferential statistics. It was also a basic research study, consistent with Naupa et al. (2018) and Hernández and Mendoza (2018), making it possible to obtain the correlational results of the two study variables. In addition, it was cross-sectional.

Two variables were analyzed, "consumer preferences" and "product acquisition", and for the former, dimensions "cognitive aspect" and "emotional aspect" were considered. The first dimension is more relat-

Table 3. Normality Test.

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Cognitive Dimension	.117	121	.000	.974	121	.017
Product Acquisition	.119	121	.000	.972	121	.014

Source: Prepared by the authors.

Table 4. Specific Hypothesis 1 Testing.

			Cognitive Dimension	Product Acquisition
	Cognitive Dimension	Correlation Coefficient	1.000	.979**
Spearman's Rho		Sig. (2-tailed)	•	.000
		N	121	121
	Product Acquisition	Correlation Coefficient	.979**	1.000
		Sig. (2-tailed)	.000	
		N	121	121

Source: Prepared by the authors.

Table 5. Normality Test.

Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Emotional Dimension	.091	121	.015	.979	121	.051
Product Acquisition	.119	121	.000	.972	121	.014

Source: Prepared by the authors.

a. Corrección de significancia de Lilliefors.

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Table 6. Specific Hypothesis 2 Testing.

			Emotional	Product
			Dimension	Acquisition
Spearman's Rho	Emotional Di- mension	Correlation Coefficient	1.000	.242**
		Sig. (2-tailed)		.008
		N	121	121
	Product Acquisition	Correlation Coefficient	.242**	1.000
		Sig. (2-tailed)	.008	
		N	121	121

Source: Prepared by the authors.

ed to issues of rationality at the time of purchase and the second is linked to emotions, which are the desires and affections experienced by the consumer at the time of purchase. According to Schnettler et al. (2015) consumers base their choice on different qualities before choosing and purchasing an item. Goods are conceived as sets of attributes which influence consumer preferences.

In the research by Moretti et al. (2021), consumers were segmented into three groups, as follows: the first was the "skeptical", who purchased their products as usual during the pandemic; the second group was the "concerned", which represented half of them, who did change their purchasing habits; and finally, the "indifferent", who did not listen to any recommendation.

Upon comparing the results obtained in the research, a relationship was established between the cognitive and emotional dimensions and the acquisition of products during the pandemic. In other words, people were concerned about the pandemic and changed their consumption habits, purchasing processes, as well as the delivery and payment of products.

CONCLUSIONS

A relationship was found between the cognitive dimension and consumer behavior at the time of purchase of products at the peak of the pandemic. Furthermore, there is a relationship between the emotional dimension and consumer behavior at the time of purchase of products at the time of the peak of the pandemic.

The pandemic phenomenon is affecting the macro-environment in people's relationship with cognitive and affective processes. As a result of the pandemic, technological solutions have been implemented to carry out business processes, prompting several companies to migrate to web-based and/or social media platforms.

REFERENCES

- [1] Cárdenas, R. (2014). *Análisis del consumidor.* Editorial Digital UNID.
- [2] El Economista. (2022). E-commerce en Perú creció 55% en el 2021. https://www.eleconomista.com.mx/empresas/E-commerce-en-Peru-crecio-55-en-el-2021-20220309-0127.html
- [3] Gill, A., Feliu, J., Borrás, V., y Juanola, E. (2014). Psicología económica y del comportamiento del consumidor. Barcelona, España: Editorial UOC
- [4] Gutiérrez, S. y Reyna, M. (2015). El Papel de las emociones en la incitación al consumo. Análisis de un programa radiofónico de corte religioso. *Comunicación y sociedad*, (23), 125-147. http://www.scielo.org.mx/pdf/comso/ n23/n23a6.pdf
- [5] Hernández, R. y Mendoza, C. (2018). Metodología de la investigación: Las rutas cuantitativas, cualitativas y mixtas. Ciudad de México, México: Mc Graw Hill.
- [6] Mercado, K., Pérez, C., Castro, L., y Macías, A. (2019). Estudio cualitativo del comportamiento del consumidor en las compras en línea. *Información tecnológica*, 30(1), 109-120. https://dx.doi.org/10.4067/S0718-07642019000100109
- [7] Moretti, S., Gabriel, M., Do Prado, R., y Fagundes, A. (2021). Comportamiento del consumidor durante la pandemia por COVID-19: análisis de clases latentes sobre actitudes de afrontamiento y hábitos de compra. Estudios

- *Gerenciales*, 37(159), 303-317. https://doi. org/10.18046/j.estger.2021.159.4433
- [8] Muñeton, G., Ruiz Martínez, A., y Loayza, O. (2017). Toma de decisiones. Explicaciones desde la ciencia aplicada del comportamiento. Revista Espacios 38(13) 1-12.
- [9] Naciones Unidas, Konrad-Adenauer-Stiftung e.V y Banco Interamericano de Desarrollo. (2021). Recuperación económica tras la pandemia covid-19. https://repositorio.cepal. org/bitstream/handle/11362/47308/S2100678_ es.pdf?sequence=1&isAllowed=y
- [10] Ñaupa, H., Valdivia, M., Palacios, J., y Romero, H. (2018). Metodología de la investigación. Cuantitativa-cualitativa y redacción de tesis. Bogotá, Colombia: Ediciones de la U.
- [11] Pilay, F. (2015). Microeconomía en la toma de decisiones gerenciales. *ECA Sinergia*, 6(2), 18-28. https://dialnet.unirioja.es/servlet/articulo?codigo=6197631
- [12] Pretel, M., De Frutos B., y Sánchez, M. (2018). Relación entre marca y consumidor en las redes sociales: estudio del vínculo afectivo de los jóvenes con dos marcas tecnológicas. *Revista de Comunicación*, 17(2), 229-245. https://doi.org/10.26441/RC17.2-2018-A10
- [13] Rodríguez, K., Ortiz, O., Quiroz, A., y Parrales, M. (2020). El e-commerce y las Mipymes en tiempos de Covid-19. Revista Espacios, 41(42), 100-118. https://doi.org/10.48082/espaciosa20v41n42p09

- [14] Ruiz, S. y Munuera, J. (1993). Las preferencias del consumidor: estudio de su composición a través del análisis conjunto. Estudios sobre Consumo, 28, 25-42.
- [15] Sánchez, A., Andrade, E., Zambrano, C., y Cornejo, A. (2017). Procesos cognitivos y afectivos en la conducta del consumidor. Revista psicología UNEMI 1(1), 33-44. http:// ojs.unemi.edu.ec/index.php/faso-unemi/article/ view/578/589
- [16] Soler, S. (2021). Comercio electrónico y marketingdigitalentiemposdeCovid-19.Análisis en una empresa privada peruana. Gestión en El Tercer Milenio, 24(48), 59-66. https://doi. org/10.15381/gtm.v24i48.21819
- [17] Schiffman, L. y Kanuk, L. (2010) Comportamiento del consumidor. Naucalpan de Juárez, México: Pearson Educación.
- [18] Schnettler, B., Lobos, G., Miranda, H., Orellana, L., y Grunert, K. (2015). Influence of information about the benefits of consuming fruit on consumer preferences in Temuco, region of the Araucanía. Revista Brasileira de Fruticultura, 37(4), 883-892. https://doi.org/10.1590/0100-2945-201/14