

Digital Transition And Consumer Behavior. Study Of Small And Medium Enterprises (Smes) In The Provinces Of Zone 3 Of Ecuador

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ABSTRACT

Digital transformation is important for SMEs because it allows them to improve operational efficiency, customer experience, and demand, compete with larger companies, and face internal and external threats. Therefore, the main objective of this study was: To design a digital transition model based on post-pandemic consumer behavior concerning SMEs of Zone 3 in Ecuador. As a methodology, the approach was quantitative, field design, fundamental type, and descriptive level; inductive-deductive, documentary, and modeling methods were used. The selected population was the SMEs of Zone 3 in Ecuador, with a stratified random sample of 362 establishments, to whom a survey was applied, based on a Likert-type questionnaire of 27 questions, with a reliability of 0.901, classified as very high level by Cronbach's Alpha coefficient. Among the main results, three sections were presented: 1) the current diagnosis of the SMEs of Zone 3 in Ecuador after the pandemic; 2) the relevant factors in post-pandemic consumer behavior; and 3) the proposed digital transition model. It is concluded that the current market requires a model that allows a transition from traditional commercial management to a digital one to know the current preferences and define strategies for this public.

Keywords: digital transition; SMEs; Consumer behavior.

Introduction

¹The digital transition is defined as a system of structural transformations in the productive, social, and resource management model to adapt to the disruptive innovations of the technologies associated with the internet or the World Wide Web and social networks, among others, which have been driven by globalization and the new era of knowledge (European Regional Development Fund, 2020), (Trends and Innovations, 2022).

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In this sense, the incorporation of technologies in daily life has increased in areas and countries where they had not been fully managed; this is a response to mitigate the effects of the COVID-19 (2019) pandemic, both on health and in the social, political, economic and productive generated by the social and confinement restrictions that affected a large part of the world population, and that during the time that it remained, motivated to make significant changes in the productive development and diverse areas of the daily life (Laguna & Rivera, 2022).

In the seventh report of the Economic Commission for Latin America and the Caribbean (ECLAC, 2020), it is mentioned that teleworking was a fundamental tool to keep many companies running and refrain from social contact. Before the pandemic, 7.9% of the global workforce worked from home in craft and manufacturing occupations, but only a minority telecommuted. This proportion of teleworking varies in each country of the region for structural reasons of labor markets, production, levels of informality, and the quality of the digital infrastructure.

It was also possible to verify that the companies that adopted the partial or complete digital transition managed to position themselves and obtain a competitive advantage compared to those that did not. This is mainly due to the market experiencing a migration of its product marketing to technological platforms and networks that reach a more significant number of consumers worldwide. With the support of technologies, Small and Medium Enterprises (SMEs) can optimize, and improve production, dispatch, sales, collection and training processes to get more and better customers as well as expand (Castro, 2021), (Knight, 2015).

In this order of ideas, Ahmadi et al. (2017) and Guzman & Ruiz (2015) agree that in a digital transition, E-commerce platforms are of vital importance to expand the commercial area and the scope of sales, where virtual stores require various elements for their structuring such as a product catalog, shopping cart, means of payment, order form, product finder, aspects of customer service and after-sales services, report generation, marketing aspects, graphic design, and analytics. Aspects are of great relevance for an optimal transition and more so in SMEs that even the vast majority do not have this structure for their internal activities.

Currently, as a result of these changes, different proposals for the transition can be observed, such as that of Montenegro et al. (2019), who propose a model for a virtual store, focusing on the external and internal analysis of the environment, as well as aspects of technical support, marketing, commercialization, purchase and distribution and on the administrative-financial field, monitoring and control. Aspects that are necessary for SMEs to achieve the objective, but that require extrapolation to other marketing channels or media such as social networks, and aligning with the new consumer preferences after the pandemic.

Likewise, Díaz & Salguero (2021) propose a digital marketing guide for retailers focusing on selling through social networks, the virtual store, and aspects of digital marketing, such as SEO positioning and a website. However, the steps for an adequate digital transition must be established, considering administrative, support, control, and evaluation aspects.

In this sense, it is also important to know consumer behavior, where Sheth (2020) and Fernandez (2021) affirm that consumption habits are altered by changes in the contexts, in this particular, the use of the Internet, the emergence of smartphones and online purchases (technological field) and measures to combat the pandemic (regulations and government provisions). Cultural, personal, and psychological aspects should also be included (See Table 1).

Table 1 Factors Influencing Consumer Behavior

AUTHOR	FACTOR	DESCRIPTION
Kotler & Armstrong (2012); Donders et al. (2020); Rojas et al. (2022)	Cultural	Norms, customs, learned beliefs in society, and that finally lead to common behaviors. Cultural values constitute behavioral guides; each society has its culture and influence on purchasing behavior.
Kotler & Armstrong (2012); Helmet (2020); He & Harri (2020); Market et al. (2019)	Social	Influence of social groups, status, family, and their social roles, also called reference groups, with which the consumer will interact and identify.
Kotler & Armstrong (2012); Muniady et al. (2014); Wasteland (2022)	Personal	Personal characteristics such as age, stage of the life cycle, family life cycle, occupation, economic situation, lifestyle, personality, and Internet accessibility, among others.
Kotler & Armstrong (2012); Valaskova et al. (2015); Balderas & Patterson (2023)	Psychological	Motivation, perception, learning, beliefs, and attitudes.

Importance of the problem

Particularly in Ecuador, after the COVID-19 health crisis, sales during 2022 and 2023, sales through E-commerce platforms increased by 16.4% compared to 2021, highlighting the electronics, fashion, and food sectors, where the consumer profile is framed by 50.4% in women, between an age of 25 to 34 years (Del Alcázar, 2022).

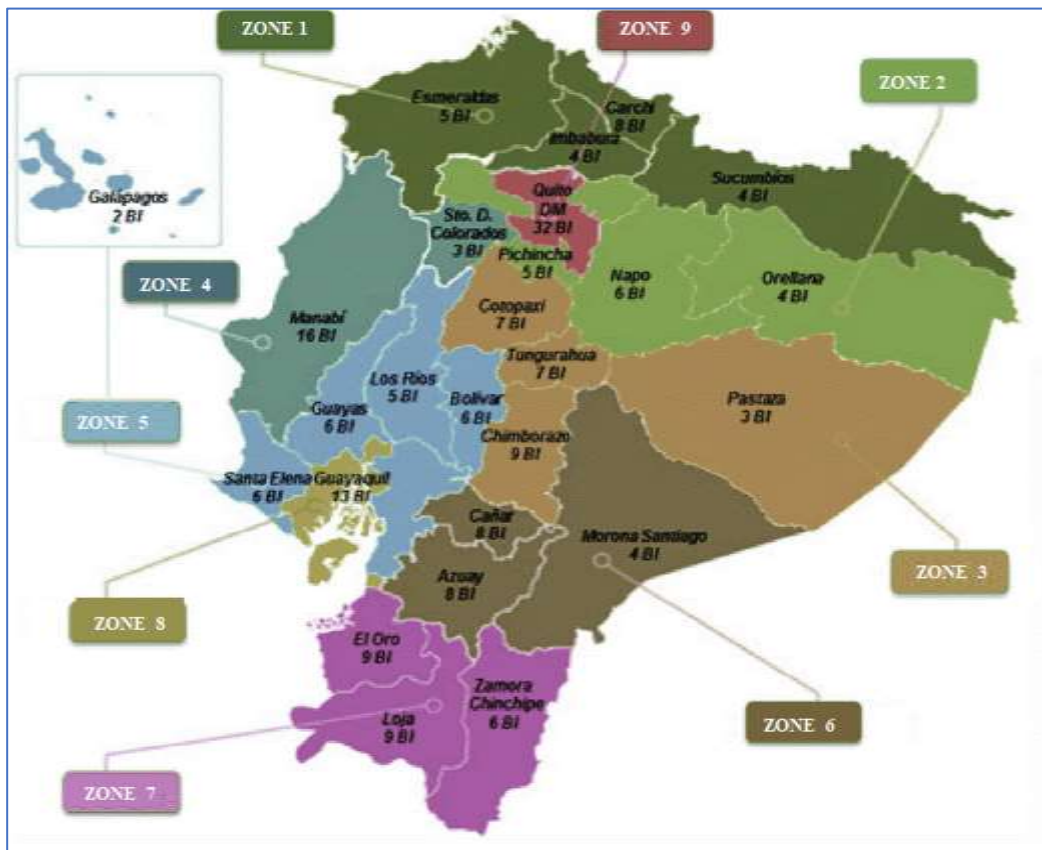
It has also been possible to verify that there is an Ecuadorians' preference for social networks such as Facebook, Instagram, and TikTok, the latter being the social network that has achieved the most growth, with more than 9 million users, evidencing that the consumer profile in the country has registered changes at the level of connectivity, digital media, and consumer preferences.

Companies have invested 26.6% in marketing technology and platforms during 2022; 20% have focused on generating brand strategies and 25% on data management, handling, and analysis (From the Alcazar, 2022). The importance of both technological tools focused on marketing, staff training, and updating their knowledge is denoted.

However, in Ecuador, the issue of the incorporation of information and communication technologies in the life system to which it has been accustomed continues to be a challenge in all areas, particularly for the productive system, where companies such as SMEs need to make changes to enjoy the benefits of the technological transition.

Particularly, in Ecuador, SMEs are a significant source of creating jobs and boosting the economy. But the productive demography of these companies is unstable, due to their productive capacity and resource costs, which means that situations of external or internal threats can very effortlessly weaken the structure that is normally designed in a family and craft environment.

Figure 1 Map of Ecuador by its division into territorial political planning zones



Note: Adaptation of (National Secretariat for Planning and Development [SENPLADES], 2015)

An example of this is the figure 1, issued by the Ministry of Production, Foreign Trade, Investment and Fisheries (MPCEIP, 2020) where they indicate that during the first quarter of 2020 compared to 2019 (beginning of the pandemic crisis), 41% of the companies reduced their staff. In Zone 3 of Ecuador, made up of the provinces of Pastaza, Chimborazo, Tungurahua, and Cotopaxi, there are approximately 6,018 SMEs (National Institute of Statistics and Censuses [INEC], 2023), these companies are dedicated to different areas productive that range from agricultural, livestock, artisanal to services, transport and commerce. They have an active and majority participation in the economic development of the region and the country.

Likewise, approximately 28% of the companies opted for a combined and semi-face-to-face modality, including teleworking as a strategy not contemplated in their usual operation but necessary to continue operations during the confinement restrictions caused by the pandemic (MPCEIP, 2020). This forced some of them to establish technological mechanisms as resources and the purchase, design, and installation of web pages, communication platforms, Internet servers with greater capacity and technological equipment.

However, for many SMEs, there are barriers by-product of their organizational structure, size, demand for their products, and the investment costs in technological platforms, depending on the product or service to which they are dedicated. A study conducted by Estrada, Cano & Aguirre (2019) highlights the reality of SMEs in most countries and recognizes that they represent growth in the Gross Domestic Product (GDP), which is why they are considered important for the economy; however, the chances of

success in the market are on average between 25% and 30%, well below the world average of 40%.

This is due, in most cases, to a low strategic perspective, deficient administration of resources, few management practices, and limited training of human talent capacities, with low standards in quality, design, and production practices, which translates into a variable performance in its profitability, growth, and survival. Therefore, in innovation, research, and technological development fields, SMEs are affected because they do not have the necessary resources to start projects (Estrada, Cano & Aguirre, 2019).

Likewise, SMEs are not only affected by the digital transition but also by the preferences and actions of customers when requesting the product or service and the channels used to do so. To achieve effective adaptations, it is necessary to consider consumer behavior in the face of changes and the demand for the products offered, change the paradigm of traditional marketing, and incorporate both technological and marketing aspects into consumer preferences.

That is why a study was proposed that will allow as a central objective: Design of a digital transition model based on the post-pandemic behavior of the consumer, with respect to SMEs in Zone 3 of Ecuador. This will allow an overview of emerging consumer actions when they are interested in a product or service and the way in which SMEs can incorporate these preferences for greater profitability.

METHODOLOGY

Research focus

The research approach was quantitative due to the use of techniques that allowed measuring the study variables by collecting data that was quantified to obtain results that allowed constructing the interpretation of the reality of SMEs in the provinces of Zone 3 of Ecuador regarding the digital transition and consumer behavior after the pandemic.

Design, type, and level of investigation

Likewise, the design was framed in a field investigation of a fundamental type and a descriptive level. Techniques were used that managed to collect information directly from the source of the SMEs involved; with these data, a theoretical-practical contrast was established, where the prior documentary consultation was important, which allowed obtaining knowledge on the subject, regarding the phenomenon studied, without interfering, nor modify the variables involved, only a descriptive practice has been carried out of what has been verified of consumer behavior after the pandemic in SMEs in the provinces of Zone 3-Ecuador.

Research Methods

We used the inductive-deductive method to analyze the digital transition of SMEs from the general to the particular and vice versa; similarly, the analysis-synthesis method with which the conclusions were obtained from the different bibliographical contributions consulted. In turn, the modeling method was used to propose a digital transition model based on post-pandemic consumer behavior.

Population and sample

According to the INEC Business Directory (2023), there are 6,018 SMEs in Zone 3, that involve the provinces of Tungurahua, Cotopaxi, Chimborazo, and Pastaza, assuming the total population for this research. However, given time constraints, a random stratified sample was used, where type A SMEs were considered, as they present similar characteristics with small companies in terms of sales level and number of employees (INEC, 2014).

Table 2 Stratified sample

	Tungurahua	Cotopaxi	Chimborazo	Pastaza	ZONE 3
Small company	133	78	84	16	310
Medium company "A"	20	26	4	2	52
TOTAL	153	103	88	18	362

The sample was obtained by applying the finite formula, with a margin of error of 5% and a confidence level of 95%, obtaining a total of 362 small and medium-sized companies. From the percentage of representativeness, the sample stratified by province and company size was determined (See Table 2).

Data collection techniques and instruments

To collect the data, the survey technique was designed based on an online questionnaire structured using Google Forms, with 27 multiple-choice questions, Lickert scale type, with 5 response options that focused on consumer behavior after the pandemic and aspects of vital importance for an optimal digital transition. Subsequently, this questionnaire was submitted to a reliability analysis to verify its validity and applicability, obtaining a result of 0.901, which qualified as a very high level of reliability under Cronbach's Alpha coefficient.

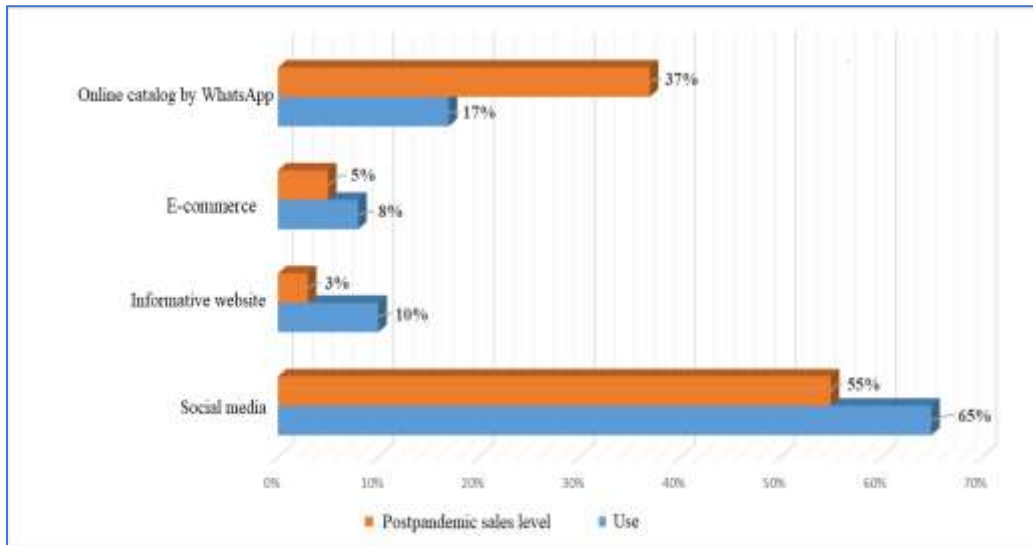
Then, the Bivariate Pearson Correlation Coefficient was used to obtain those relevant factors in consumer behavior after the pandemic in SMEs in Zone 3-Ecuador. With these results, the relationships between these factors were determined using neural networks multivariate analysis with the Multilayer Perceptron (MLP) algorithm, which allowed the definition of the model in question. These data were processed in the IBM SPSS Statistics V-23 Software.

RESULTS

This study broke down three sections in which the following were addressed: 1) the current diagnosis of SMEs in Zone 3 in Ecuador after the pandemic, 2) the relevant factors in post-pandemic consumer behavior, and 3) the proposed digital transition model.

Current diagnosis of SMEs in Zone 3 in Ecuador after the pandemic

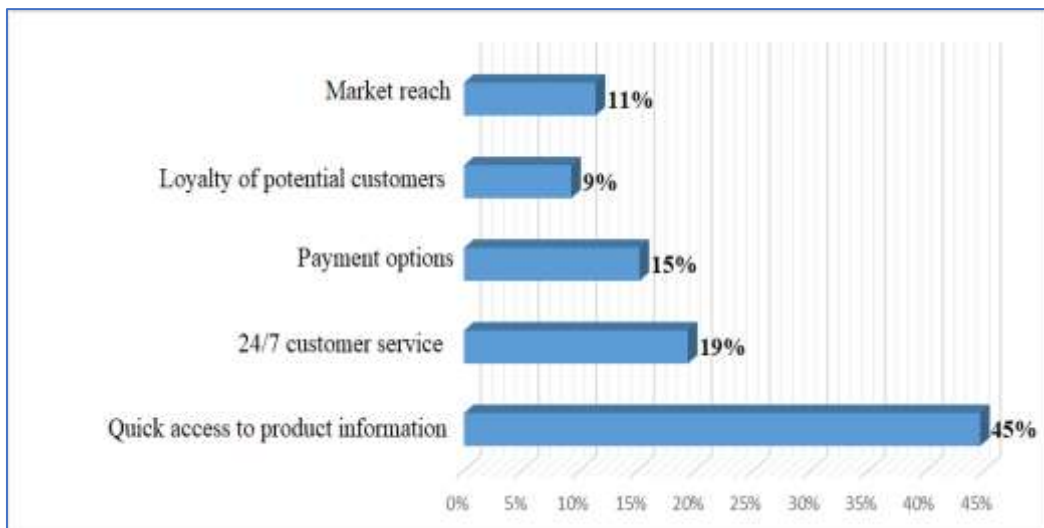
Among the results, it was obtained that most of the SMEs in Zone 3 of Ecuador are run by people between 20 and 29 years of age (42.3%), and many of the current ventures are run by young people who have recently graduated from university (66%), which allows them to manage with up-to-date knowledge in technology management, marketing, and migration from a traditional model to a digital one. This allowed them to have an openness and response to the changes brought about by the pandemic, which motivated them to implement mechanisms with digital media (See Graph 1).



Graph 1. Comparative use of digital media with respect to post-pandemic sales

In Graph 1, it can be seen that 65% of the SMEs analyzed have a high presence in social networks, which allowed them to invoice 55% of their products using that medium, which shows the effectiveness of this technological tool in reaching more people. It can also be noted that the use of an Online Catalog via WhatsApp, although it represents the use of 17%, allows a level of sales that doubles its use, which permits us to deduce that if practices are established that allow increasing the use of this tool, you can expect more sales.

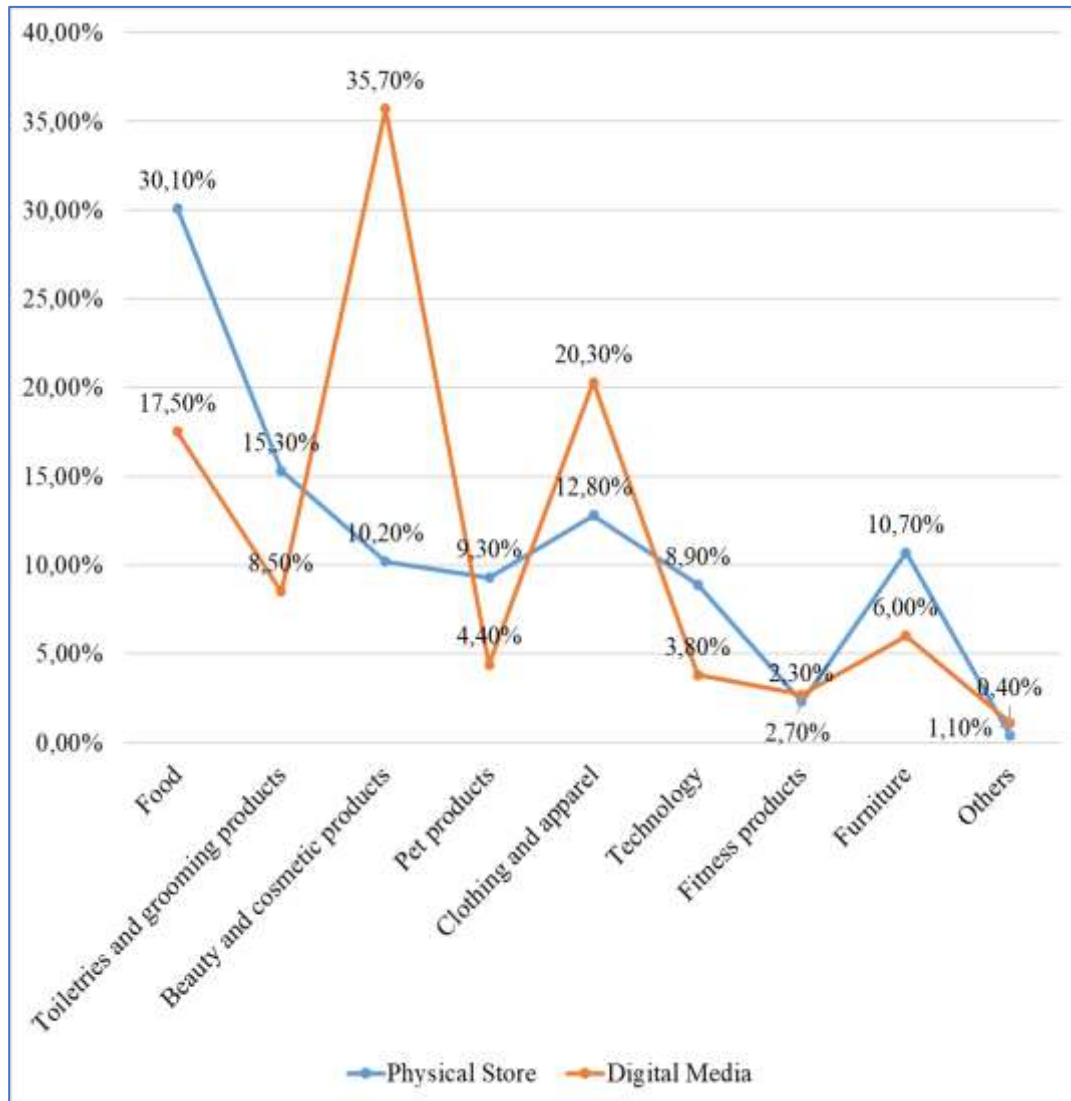
An associative trend between these aspects is maintained, it is pertinent to establish a model that includes these media according to the behavior that the consumer currently has, with the aim of maximizing the level of sales in them. The SMEs studied experienced the potential that technological support can have for their development and increase in sales (See Graph 2).



Graph 2. Importance of a digital transition SMEs Zone 3-Ecuador

Graph 2 shows that 45% of the SMEs analyzed consider that a digital transition in their companies is significant due to the rapid access that the client has to product information. Therefore, they consider that it would be of great help to a model that supports these perceived aspects and that includes the behavior, as well as the preferences of consumers, for an improvement in the business management of SMEs.

In this sense, regarding the form of payment, 44.8% of consumers have a preference for the use of a debit card to purchase their products online; therefore, it is necessary to minimize the risks of theft of data from the platforms, and all measures are taken to counter cyberattacks, relevant aspects to be considered in the proposed model. In this way, SMEs will be prepared to face these possible eventualities.



Graph 3. Post-pandemic purchase frequency of SMEs

Likewise, in Graph 3, the frequency of purchase through digital media is observed, compared to the physical store after the pandemic, it has registered a downward trend, except in beauty products and cosmetics with 36% and clothing or apparel with 20%, which denotes that these products are more welcomed by the consumer. However, in the physical store, the frequency of consumption is framed in 30% food, 13% clothing or apparel, and 11% furniture. Therefore, a behavior similar to the months before the pandemic is observed in physical stores, but the usefulness of digital media is maintained.

Similarly, 67% of the companies analyzed consider that friends, family, or others influence the purchase decision, being a decisive factor for consumers to choose one product over another without forgetting the consumer emotions at the time of purchase. In addition, they mention that clients currently use social networks as a direct communication channel with the company, where Facebook predominates by 64%, Instagram at 21%, and

TikTok by 15%, which determines which social media companies should use to promote their products. products.

During 2022, small and medium-sized companies used different digital marketing strategies, to potentiate their businesses and increase their sales levels. The results showed that 91% of campaigns were carried out on social networks, and 8% were viral marketing. For this reason, it is observed that they still maintain investment in advertising in digital media, which denotes a change in the traditionalist paradigm and, obviously, changes in consumer behavior.

In turn, SMEs provided post-sale services, 67% intending to guarantee customer satisfaction and loyalty. With an interest in knowing aspects or characteristics of consumers at the time of their companies' digital transition, which is why a digital transition model based on consumer behavior after the pandemic is pertinent, which will allow the consolidation of these management processes.

Relevant factors in post-pandemic consumer behavior

A Bivariate Pearson Correlation analysis was used, in which the social factors and control aspects (0.987), marketing and planning and research aspects (0.982), technical and support aspects that influence marketing and distribution (0.977), psychological and personal factors (0.965), social factors with administrative aspects (0.963), personal factors with marketing aspects (0.948), social and personal factors (0.931), as well as personal factors and control and evaluation (0.911) aspects stand out (See Table 3). In this way, it is evident that consumer behavior is framed by certain factors that must be taken into account in the proposed model for an efficient digital transition.

Table 3 Pearson Correlation

		DIGITAL TRANSITION							CONSUMER BEHAVIOR			
		Planning and Research	Technicians and Support	Administrative	Marketing and Distribution	Marketing	Control and Evaluation	Social Factors	Psychological factors	Cultural Factors	Personal Factors	
DIGITAL TRANSITION	Planning and Invest.	Pearson Correlation	1	.811**	.623**	.722**	.982	.712**	.705	.831**	.802	.894*
		Next (bilateral)		.000	.000	.001	.000	.000	.001	.001	.001	.001
		No.	362	362	362	362	362	362	362	362	362	362
	Tech. and Support	Pearson Correlation	.811*	1	.877**	.977**	.888	.772**	.853	.847**	.824	.716**
		Next (bilateral)	.000		.001	.000	.000	.000	.000	.000	.000	.000
		No.	362	362	362	362	362	362	362	362	362	362
	Administrative	Pearson Correlation	.623*	.877**	1	.514**	.637	.846**	.963*	.874	.715**	.777**
		Next (bilateral)	.000	.001		.000	.000	.000	.000	.000	.000	.000
		No.	362	362	362	362	362	362	362	362	362	362
	Mkt. and Distr	Pearson Correlation	.722*	.977**	.514**	1	.625*	.784**	.895	.687**	.458	.813**
		Next (bilateral)	.001	.000	.000		.000	.001	.000	.000	.000	.000
		No.	362	362	362	362	362	362	362	362	362	362

CONSUMER BEHAVIOR	Mkt	Pearson Correlation	.982	.888	.637	.625*	1	.806*	.743*	.902	.855	.948*		
		Cont. and Eve.	Next (bilateral)	.000	.000	.000	.000		.001	.001	.001	.001	.001	.001
			No.	362	362	362	362	362	362	362	362	362	362	362
	Pearson Correlation		.712*	.772**	.846**	.784**	.806*	1	.987*	.901	.822	.911*		
	Social factors	Next (bilateral)	.000	.000	.000	.001	.001		.001	.001	.001	.001	.001	
		No.	362	362	362	362	362	362	362	362	362	362	362	
		Pearson Correlation	.705	.853	.963*	.895	.743*	.987*	1	.805	.782	.931*		
	Psychological factors	Next (bilateral)	.001	.000	.000	.000	.001	.001		.001	.001	.001	.001	
		No.	362	362	362	362	362	362	362	362	362	362	362	
		Pearson Correlation	.831**	.847**	.874	.687**	.902	.901	.805	1	.784	.965		
	Cultural Factors	Next (bilateral)	.001	.000	.000	.000	.001	.001	.001	.001	.001	.001	.001	
		No.	362	362	362	362	362	362	362	362	362	362	362	
Pearson Correlation		.802	.824	.715**	.458	.855	.822	.782	.784	1	.731			
Personal Factors	Next (bilateral)	.001	.000	.000	.000	.001	.001	.001	.001	.001	.001	.001		
	No.	362	362	362	362	362	362	362	362	362	362	362		
	Pearson Correlation	.894*	.716**	.777**	.813**	.948*	.911*	.931*	.965	.731	1			

** . The correlation is significant at the 0.01 level (bilateral).

* . The correlation is significant at the 0.05 level (bilateral).

Note: IBM Statistics SPSS Software V-23

Subsequently, the Multilayer Perceptron (MLP) algorithm was used to describe the main relationships between consumer behavior factors and relevant aspects for a digital transition, obtaining a neural network multivariate analysis. In the data processing, 59.39% were selected for training, 29.01% for tests, and 11.60% as reserves, as observed in Table 4.

Table 4 Case Processing Summary

		No.	PERCENTAGE
Example	Training	215	59.39%
	Tests	105	29.01%
	Reserves	42	11.60%
Valid		362	100.0%
Excluded		0	
Total		362	

Note: IBM Statistics SPSS Software V-23

The digital transition model based on post-pandemic consumer behavior for SMEs in Zone 3-Ecuador was defined as the dependent variable and as independent variables, the four factors of consumer behavior (1.- social factors; 2.- psychological factors; 3.- cultural factors; 4.- personal factors) and the six components of an efficient digital transition (1.- planning and research; 2.- technical and support; 3.- administrative; 4.- marketing and distribution; 5.- marketing; 6.- control and evaluation), which were previously defined (See Table 5).

Table 5 Network information

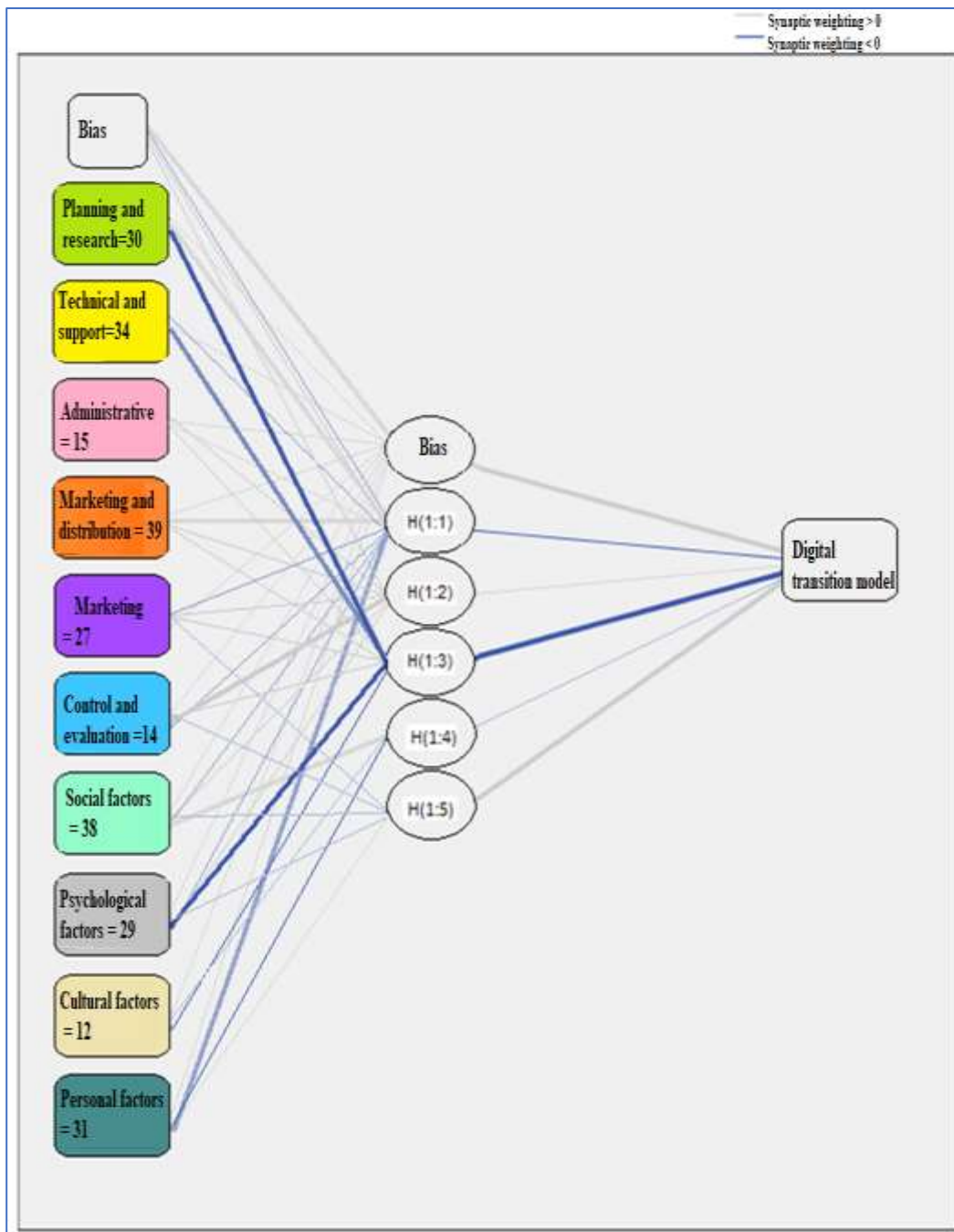
Input layer	Factors	1	Planning and Research
		2	Technicians and Support
		3	Administrative
		4	Marketing and Distribution
		5	Marketing
		6	Control and Evaluation
		7	Social factors
		8	Psychological factors
		9	Cultural Factors
		10	Personal Factors
	Number of units ^a		67
Hidden layers	Number of hidden layers		1
	Number of units in hidden layer 1 ^a		3
	Activation function		Hyperbolic tangent
Output layer	Dependent variables	1	Digital transition model based on post-pandemic consumer behavior for SMEs in Zone 3-Ecuador
	Number of units		1
	Scale change method for scale dependents		Standardized
	Activation function		Identity
	Error function		Sum of squares

a. Unit bias is excluded

Note: IBM Statistics SPSS Software V-23

Figure 2 shows that between the training data and the hidden layers, there is a precision of 59.39% between the factors analyzed, evidencing a strong relationship between them to achieve an efficient digital transition, and that is based on consumer behavior after the pandemic.

Figure 2 Output and hidden layer activation function. Hyperbolic Tangent - Identity



Note: IBM Statistics SPSS Software V-23

The evaluated model had a 99.9% accuracy percentage since the training data achieved a sum of squares error of 0.102 and a relative error of 0.001, similar to the test and reserve base. Consequently, having a minimum error for a neural network analysis that represents 1%, the model is viable (See Table 6).

Table 6 Model Summary

Training	Sum of squares error	.102
	Relative error	.001

	Stopping rule used	1 consecutive step(s) without error decrease ^a
	Training time	0:00:00.10
Tests	Sum of squares error	.074
	Relative error	.001
Reserves	Relative error	.001

Note: Dependent variable: Digital transition model based on post-pandemic consumer behavior for SMEs in Zone 3-Ecuador. a. The error calculations are based on the check sample. IBM Statistics SPSS Software V-23

Likewise, in Table 7, it can be seen that when analyzing the factors individually, the order of importance is: technical and support (100%), social factors (100%), personal factors (92.1%), psychological factors (88.2%), planning and research (72.8%), marketing and distribution (72.4%), administrative (66.1%), marketing (65.4%), control and evaluation (53.9%) and cultural factors (45.3%).

Table 7 Relevance of the independent variables

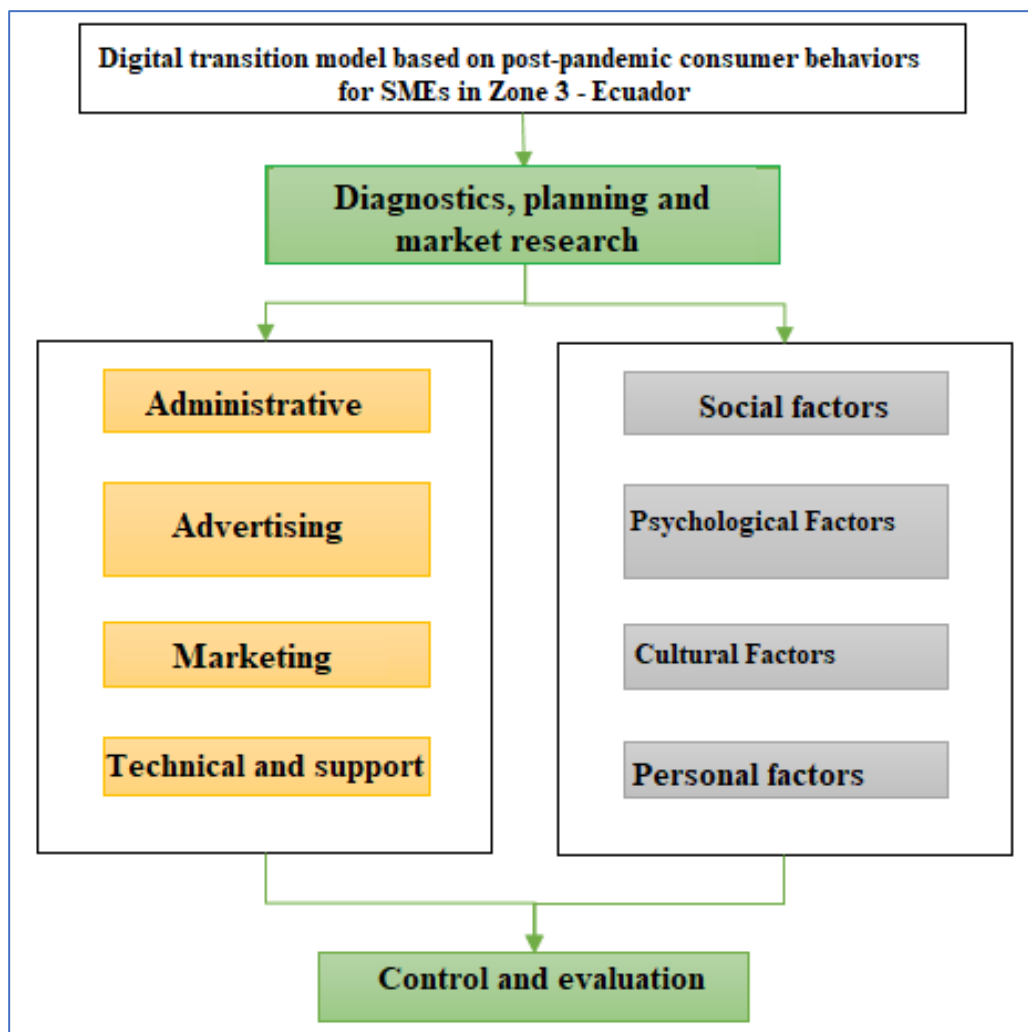
	Importance	Normalized importance
Planning and Research	.169	72.8%
Technicians and Support	.532	100.0%
Administrative	.154	66.1%
Marketing and Distribution	.168	72.4%
Marketing	.152	65.4%
Control and Evaluation	.125	53.9%
Social Factors	.625	100.0%
Psychological Factors	.425	88.2%
Cultural Factors	.110	45.3%
Personal Factors	.547	92.1%

Note: IBM Statistics SPSS Software V-23

Digital transition model based on post-pandemic consumer behavior for SMEs in Zone 3-Ecuador

After the previous sections, Figure 3 details the proposed model with ten vital importance factors for an efficient transition based on consumer behavior after the pandemic.

Figure 3 Digital transition model based on consumer behavior



The proposed model begins with the diagnosis, planning, and research factors, where SMEs must analyze the sector in which they carry out their economic management, determining both positive and negative aspects of their administration, which allows focusing efforts to achieve the proposed objectives, mitigate threats, and take advantage of growth opportunities for the company.

The administrative aspects focus on the appropriate hierarchical structure to meet business objectives, policies and procedures creation, and the implementation of effective communication systems. Similarly, budgets and project financing are added, generating strategic agreements with other companies or even with private or government entities.

Marketing and distribution refer to how the company's products and services reach customers; this includes the selection of appropriate distribution channels to reach customers effectively, including direct sales, sales through distributors, e-commerce, and other channels. Inventory management helps maintain effective inventory control to ensure having enough products or available services to meet customer demand. At the same time, it includes transportation logistics and supply chain management to ensure that products or services reach customers on time and efficiently.

The marketing aspects that allow a defined strategy to understand potential customers and market needs include conducting surveys, evaluating the competition, trend research, and analyzing demographic data. They also include market segmentation that

allows SMEs to tailor their marketing strategies to reach specific customer groups more effectively.

Similarly, brand positioning is considered, including defining brand values, creating a coherent visual identity, and developing key brand messages. In turn, this factor includes the pricing strategy that includes the evaluation of production costs, the comparison with the prices of the competition, and the determination of the value perceived by the client. In addition, there is the use of social networks, email, and search engines; this includes the creation of relevant and attractive content, online reputation management, and the implementation of SEO and SEM strategies.

The technical and support aspects are a solid technological infrastructure that companies must achieve through servers, network devices, security software, etc. This will help the business ensure data and systems are protected and secure. In addition, the business should have a dedicated Information Technology (IT) team to provide technical support and resolve hardware and software issues; this will ensure that the business has a reliable and running system.

In turn, cybersecurity measures must be in place to protect critical systems and data against cyber threats; this includes the use of firewalls, data encryption, and user authentication, among others. Also, reliable technical support to solve technical problems and ensure regular maintenance of systems and applications.

Within the social factors, reference groups are included, which are those to which people belong or with which they identify and can influence their purchasing behavior; they can be family, friends, colleagues, or larger social groups, such as religion or the community. In addition, social class can influence consumer behavior since people of different socioeconomic levels may have different needs, tastes, and purchasing preferences.

Cultural factors are important in consumer behavior, as cultural beliefs, values, customs, and norms influence how people perceive and use products and services. For example, in some cultures, beef consumption is frowned upon, while in others, it is an important part of the diet.

Psychological factors include motivation, which is the internal drive that leads people to search for and purchase products or services and may be driven by physiological needs, such as food or water, or psychological needs, such as status or self-esteem. The perception of each person is the process by which people organize and give meaning to sensory stimuli where they perceive products and services differently based on their previous experiences and expectations.

In turn, it includes learning where consumers learn through association, where personality can also be related to the choice of products and services. Also, emotions can influence consumers' purchasing decisions because they may be drawn to products that make them feel happy, excited, or emotional in some other way.

Among the personal factors, the consumer's age and stage of life should be considered, as well as gender and marital status, characteristics that are also defined in marketing aspects to focus efforts on strategies. Similarly, the personality of consumers can influence their purchasing decisions, as well as lifestyle: Lifestyle refers to consumers' activities, interests, and opinions, as well as their values or beliefs. Consumers may have different lifestyles depending on their hobbies, work, family, etc., which can influence their purchasing decisions.

Finally, the control and evaluation factors include all those efforts to measure the application of the model in question; for this, it is necessary to define indicators in each area that allow efficient monitoring of the same and that allow corrective actions to be established if required.

DISCUSSION

In Ortega's investigation (2020), a structural model of consumer behavior during the pandemic was proposed, finding that among the most relevant factors are social factors (0.316), cultural factors (0.215), and personal factors (0.1485). While in the present study, it was found that, for SMEs, the following aspects are essential: technical and support (100%), social factors (100%), personal factors (92.1%), psychological factors (88.2%), planning and research (72.8%), commercialization and distribution (72.4%), administrative (66.1%) and marketing (65.4%). In this way, it is evident that after the pandemic, the behavior of consumers has changed and depends on the sector in which they operate.

In reference to Quiñones (2022), knowing the tastes and preferences of the consumer is of vital importance because any company, regardless of the activity it carries out, its main objective is to achieve economic benefits, to build the profile of the segment to whom the products or services are directed. In addition, he states that behavior changes depending on environmental conditions, according to his experiences, recommendations or previous knowledge.

In this sense, in the present investigation, the authors coincide with these criteria since, after the pandemic, a notable change in the consumption of products or services was evidenced, where the frequency of purchase through digital media, compared to the physical store after the pandemic, has registered a downward trend, except in beauty products and cosmetics (35.70%) and clothing or clothing (20.30%).

On the other hand, Cajo et al. (2022) showed in their study that online advertising influences the purchase decision (58.88%) of millennials, frequently finding ads on social networks, where ratings and opinions are of vital importance at the time of purchase. Criteria shared by the authors Chango & Lara (2020) and Días & Monteiro (2020) since the perceived value makes the consumer define expectations regarding the offer and the benefits and contributes to the experience and trajectory. That is why, after the pandemic, they began to use digital media as marketing channels, and after it (77%), 65% of the SMEs analyzed currently have a presence on social networks, 17% have a catalog of products, 10% have a web page, and 8% have an E-commerce, inferring the relevance of these media for the commercialization of products or services.

CONCLUSIONS

Digital transformation has become a necessity for both small and medium-sized companies because it supports greater operational efficiency by automating manual processes, reducing costs, and increasing internal management. For example, the use of business management software can help SMEs manage their daily operations more efficiently, allowing them to spend more time on value-added activities.

SMEs can take advantage of digital technology to improve the customer experience through an online customer service system, chatbots, and the use of social networks; it can allow SMEs to interact with customers faster and more effectively and provide better service.

It should be noted that the use of digital marketing and advertising platforms, social networks, and the creation of a website can help SMEs increase their visibility online and reach customers regardless of geographical area. In addition, technological tools support a better level of competitiveness in the sector in which they are developed.

In this sense, in Zone 3 in Ecuador, after the pandemic, there have been significant changes in their activities, including the use of digital media as marketing channels, which have contributed to the level of sales thanks to them. In addition, the frequency of purchases

through digital media, compared to the physical store after the pandemic, has registered a downward trend, except for beauty products and cosmetics.

Among the relevant factors in consumer behavior after the pandemic are technical and support, social, personal, and psychological factors, planning and research, marketing and distribution, administrative, marketing, control and evaluation, and cultural factors. These factors are present in the proposed digital transition model based on the consumer and their current preferences.

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