

“Indirect determinants of online purchase decisions: A case study of different generations in Peru”

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INDIRECT DETERMINANTS OF ONLINE PURCHASE DECISIONS: A CASE STUDY OF DIFFERENT GENERATIONS IN PERU

Abstract

This study aims to analyze the mediation effect of subjective norms and perceived behavioral control on the linkage between online consumer attitude and online purchase decisions of generation X, generation Y (millennials), and generation Z (centennials) in developing countries, particularly Peru. This empirical investigation surveyed 121 respondents of generation X, 200 millennials, and 200 centennials in Peru. The data were processed through structural equation modeling approach. This study demonstrates that online consumer attitude positively and significantly influences online purchase decisions; this relationship is enhanced through the mediation effect of subjective norms and perceived behavioral control. Furthermore, the results indicate that the effect of the proposed variables is improved progressively in each generation, showing a greater willingness of centennials to purchase online, followed by millennials and generation X. This study assessed online consumer attitudes of different generations in Peru toward the online purchase decisions and the mediation effect of subjective norms and perceived behavior control on the mentioned relationship, which showed improved results when incorporated into a single model.

Keywords

consumer attitude, subjective norms, perceived behavioral control, millennials, centennials

JEL Classification

M31, M37

INTRODUCTION

The development of technology has changed consumer behavior (Peña-García et al., 2020). Nowadays, consumers are motivated to use digital channels in increasingly dynamic online markets (Huang & Benyoucef, 2017). In addition, the Covid-19 pandemic hastened e-commerce development in response to the need to buy products and services in a confined situation. This environment generates a new way of shopping: customers have more information obtained through the web and can make a more accurate purchase decision; on the other hand, sellers have more opportunities to offer their products, sell more, and reduce costs (Nevárez et al., 2021).

Company management is eager to determine the precedents of purchase decisions in digital environments, considering that they are different for each generation (Thomson & Laing, 2003). This analysis targets three generations: Generation X, generation Y (millennials), and generation Z (centennials). Moreover, it aligns with the proposed theory of planned behavior (TPB) (Ajzen, 1991).

Following Humbria (2010), a purchase decision is choosing an option from different alternatives, using the information stored in different media configuring e-commerce. Consumer behavior is analyzed with

TPB variables. First, attitude determines an individual's predisposition in front of a stimulus; a positive or negative response can result in a purchase behavior (Yang & Ahn, 2020). Second, subjective norms reveal the social pressure exerted by the community that conditions the individual's performance and is caused by normative beliefs (Ajzen, 1991). Finally, perceived behavioral control is the control level a customer assumes in the face of external factors during the physical or online purchase (Amaro & Duarte, 2015).

A person without control over a situation does not generate interest in participating in it (Peña-García et al., 2020). With the technological advances in the business, an attitude has become a significant predictor when purchasing (Hebbar et al., 2020). Mohan and Kinslin (2022) revealed that the attitude toward the subjective norm improves the purchase intention. In addition, subjective norms drive the disposition toward the purchase. Finally, perceived behavioral control also enhances purchase decisions.

1. LITERATURE REVIEW

Consumer needs are evolving day by day. The target generations were born in a market where online shopping is common. These young people process the information they receive up to five times faster than previous generations (Dhinakaran et al., 2020). In this context, representatives of generation X is easily adapt to changes but show a little predisposition to digital tools to make their purchases (Zemke et al., 1999). On the other hand, millennials feel very comfortable with technology to perform all their activities, in addition to developing the ability to search for information and make good online purchases, feeling safe when shopping in web environments (Cavazos-Arroyo & Máynez-Guaderrama, 2022). Generation Z, or centennials, grew up immersed in the internet and its applications looking for quick actions and immediate results; they are owners of the internet and social media using their technological gadgets (Dhinakaran et al., 2020).

A purchase decision process in the digital environment begins with motivation, perception, learning, personality, and attitude. Depending on the needs identified, it is also essential to have information on various alternatives and evaluations (Aragoncillo & Orús, 2018). Along the same lines, these steps are affected by the personal characteristics of each generation, such as the compatibility of the online shopping system and characteristics external to the individual, where the marketing support designed by a company to motivate the purchase is fundamental (Zirena-Bejarano et al., 2022).

This study considers the dimensions of purchasing decisions proposed by Kotler and Armstrong (2008), which are influenced by internal and external factors. They include cultural (culture, sub-culture, and social class), social (reference groups, family, and status), personal (age and stage in the life cycle, occupation, economic circumstances, lifestyle, personality, and self-concept), and psychological factors (motivation). However, this theory is constantly evolving due to the technology development and the creation of modern digital environments that are fundamental for e-commerce, that allow direct purchases from sellers only with basic internet access and knowledge.

This topic comprises a set of activities performed by individuals who search, select, acquire, evaluate, or discard goods and services according to their expectations and wishes. It also includes all the actions that can predict, intervene, and follow a decision (G. Belch & M. Belch, 1998). For example, a customer actively chooses among options based on a system or selection process simply through a random process (McKinsey & Company, 2016).

This study uses the theory of planned behavior (TPB) to understand the reactions to commercial stimuli. It seeks to overcome its limitations, including behaviors that cannot be controlled by human beings (Li et al., 2021). TPB comprises the dimensions of attitude, subjective norms, and perceived behavioral control (Ajzen, 1991) and seeks to reveal and interpret exceptional circumstances, such as shopping in virtual environments.

Another critical factor to consider is the generation to which the individual belongs. People's behav-

ior changes; this process can take place for 20 years. Each generation has identifiable characteristics according to age, place of birth, and significant events. Stafford and Griffis (2008) identified generation X, Y, and Z as energizing today's market.

Attitude is an action assumed by a person trying to perform in the face of a stimulus (Ajzen, 1991). In addition, attitudes are learned and developed over time, complex to change, although they can be changed by the psychological and motivational intervention (Lien & Cao, 2014, p. 105). In this sense, this motivation is a state of mind that goes through a process of appraisal that can be positive or negative and is transferred to behavior (Ajzen, 1991). It is also associated with behavioral beliefs and psychological and affective assessment, demonstrating the link between attitude and intention, turning strong predictors in the purchase decision (Ackermann et al., 2018).

Precedent research has analyzed the effect of attitude on online purchases, verifying a significant level of prediction. Hebbbar et al. (2020) link consumer attitudes with the benefits of products in digital media. The benefits are identified with positive aspects obtained through the platform or online store that finally encourage younger consumers to buy online (Kotler & Armstrong, 2008). Contreras Lévano and Vargas Merino (2021) report that generation X purchases based on values and principles and will generate experiences that subsequent generations will share. In this sense, generations Y and Z tend to like mass communication. Their online purchases are motivated by the need of the moment and by social networks; they seek information before making their purchase decisions.

Subjective norms indicate that behavioral intention is shaped by social pressure, which determines the behavior of an individual and a consumer (Fortes & Rita, 2016). These norms are based on what the individuals think they should or should not do about the opinion of parents and friends and a possible reward or punishment (Peña-García et al., 2020). Cloutier and Roy (2020) showed that the attitude of the individual is influenced by the opinion of the reference groups and, in turn, by purchasing behavior.

Subjective norms also predict purchase intention because digital media has become massive and affects the buying intentions in electronic media (Hasbullah

et al., 2016). Niemiec et al. (2020) studied the effect of the norms imposed on the conservative behavior of people, typical of generation X. Younger consumers admit that when their influential peers approve an online purchase, the decision will be favorable. When individuals feel that what they are doing is correct and accepted by their peers, it is more likely that a purchase intention and decision will be generated (Dalziel & De Klerk, 2021).

Perceived behavioral control (PBC) is the level of control customers show over external circumstances while purchasing in a physical or online store (Amaro & Duarte, 2015). People who feel they have no control over a proposed activity may avoid such situations (Peña-García et al., 2020). PBC seeks to analyze the individual's perception at the time of making the purchase, finding an easy or difficult environment to perform the expected behavior that ends in a decision (Fortes & Rita, 2016).

PBC is a critical element that must be analyzed to understand how consumer intentions are formed in electronic commerce (Peña-García et al., 2020). People prefer to function in circumstances they can handle rather than those where external forces are in control (Zahrai et al., 2022). Several studies recognize the direct impact of perceived behavioral control and the purchase decision; virtual environments and websites must be perceived as easy to use to boost purchases (Heptariza, 2020). On the other hand, there is a perfect mediating effect (complete mediation) between the experience and the purchase intention in young people through online channels and between the attitudes and the intention of responsible behavior and environment (Ruslim et al., 2022).

2. AIM AND HYPOTHESES

The study aims to determine the influence of subjective norms and perceived behavioral control on the relationship between online consumer attitude and online purchase decisions in different generations (Figure 1). Gender and revenue were included to measure their influence. Thus, the following hypotheses are proposed:

H1a: Online consumer attitude positively influences online purchasing decision of Generation X consumers.

H1b: *Online consumer positively influences online purchasing decision of Generation Y consumers.*

H1c: *Online consumer positively influences online purchasing decision of Generation Z consumers.*

H2a: *Subjective norms mediate the relationship between online consumer attitude and online purchase decision of Generation X consumers.*

H2b: *Subjective norms mediate the relationship between online consumer attitude and online purchase decision of Generation Y consumers.*

H2c: *Subjective norms the relationship between online consumer attitude and online purchase decision of Generation Z consumers.*

H3a: *Perceived behavioral control mediates the relationship between online consumer attitude and online purchase decision of Generation X consumers.*

H3b: *Perceived behavioral control mediates the relationship between online consumer attitude and online purchase decision of Generation Y consumers.*

H3c: *Perceived behavioral control mediates the relationship between online consumer attitude and online purchase decision of Generation Z consumers.*

3. METHODS

The study population comprises people born between 1969 and 2019, with 820,652 people. 1,748 respondents obtained questionnaires; 521 completed questionnaires with a response rate of 29.80% distributed among the following generations: 121 from generation X, 200 from millennials, and 200 from centennials. The questionnaire used a seven-point Likert scale, where 1 is strongly disagree and 7 is strongly agree.

The variables have been measured through scales validated in previous studies. Online consumer attitude is crucial because it is considered a positive or negative valuation toward a specific event. It was measured with the 13-item scale developed by Brand et al. (2020). When analyzing the data, some items were excluded, leaving seven that reached the expected factor loading. Subjective norms are a human being's perception of what to do or not to do. This paper adopts the scale of Al-Nahdi (2015); 11 items were considered that reached the expected factor loading. Perceived behavioral control has been considered as the control level that a client perceives in the acquisition (Hsu et al., 2006). The study adopts the 13-item scale by Hsu et al. (2006), eliminating two items because they had a low factor loading. Finally, online purchase decision was measured according to the theory of Kotler and Amstrong (2008), which divides the purchase into different aspects of influence, such as person-

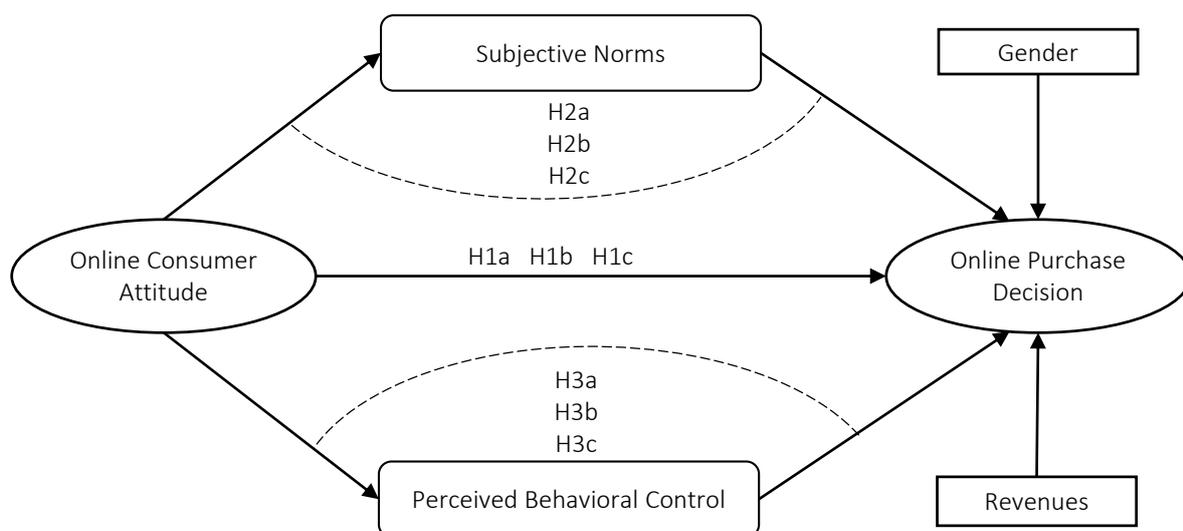


Figure 1. Theoretical research model

al, cultural, and psychological. The questions have been adapted from Chávez Zirena et al. (2020), considering 18 questions.

The study used the partial least squares (PLS) technique, which is widely used in business research (Hair Jr. et al., 2019) and is considered a second-generation multivariate method (Martínez Ávila & Fierro Moreno, 2018). Modeling under a system of structural equations involves the assessment of two models: the measurement model and the structural model (Benitez et al., 2020). The analysis used the Smart-PLS 3.3.9 statistical software to analyze the data from 411 respondents aged 18-35.

The data were collected using a questionnaire structured in five blocks, comprising four variables under analysis. The first block referred to the respondents' profile, the second analyzed online consumer attitude with seven indicators, the third assessed subjective norms with 11 indicators, the fourth was devoted to perceived behavioral control with 11 indicators, and the final block analyzed online purchase decisions with 18 indicators. Gender and revenues were included as control variables.

4. RESULTS

Table 1 shows the results of the descriptive analysis of the study constructs, determining mean, standard deviation, and correlations between the variables. This analysis showed a good correlation.

The study further assesses two models as advised for structural equation systems. The first one is the measurement model, where the reliability, va-

lidity, and collinearity of the constructs and/or indicators are assessed. In the second model, the direct and indirect relationships suggested in the theoretical model are appreciated (Benitez et al., 2020).

Measurement models in structural equation systems check reliability, validity, and collinearity at the construct and indicator levels (Hair Jr. et al., 2019). This analysis is of great significance. Regarding reliability measures, the paper used composite reliability coefficients and Dijkstra and Henseler's $R_o > 0.7$ (Homburg et al., 2020), showing the high reliability of the variables. In addition, the collinearity analysis performed using the mean variance extracted (VIF) shows values less than 5 for all constructs. Discriminant validity has been evaluated by applying Fornell and Larcker and heterotrait-monotrait (HTMT) criteria (Hair Jr. et al., 2019). In both cases, acceptable values are found according to the assessment criteria. In addition, convergent validity was measured by the average variance extracted (AVE), obtaining higher values than 0.5, which confirms the convergent validity of the model (Benitez et al., 2020). The results are shown in Table 2.

In this study, the evaluation of means, standard deviations, collinearity, and internal consistency has been performed through the appreciation of the cross-loadings of the items, where the results of cross-loading values are > 0.7 and variance inflation factor (VIF) are ≤ 3.3 .

The structural model assessment aims to analyze the direct and/or mediating or moderating relationships of the theoretical model (Henseler et al., 2015); this study proposes two structural models for each generation analyzed. The first one eval-

Table 1. Descriptive statistics and correlations matrix

Variables	Mean	SD	1	2	3	4	5	6	7
01 Gender			1						
02 Revenues			-0.024	1					
03 Birth year			0.024	0.438**	1				
04 OCA	4.424	1.421	0.024	0.494**	-0.248**	1			
05 Subjective norms	4.158	1.490	0.054	0.495**	-0.300**	0.760**	1		
06 PBC	4.582	1.426	0.100*	0.434**	-0.221**	0.791**	0.782**	1	
07 OPD	4.102	1.282	0.125**	0.436**	-0.285**	0.725**	0.760**	0.771**	1

Note: * sig ≤ 0.05 ; ** sig ≤ 0.01 ; *** sig ≤ 0.001 ; OCA – online customer attitude; PBC – perceived behavioral control; OPD – online purchase decision.

Table 2. Evaluation of the measurement model

Variables	Reliability Internal Consistency		Convergent Validity	Variance Inflation Factor	Discriminant Validity (Fornell and Larcker and HTMT criteria)			
	Cronbach's Alpha	Composite Reliability	AVE	(VIF)	(1)	(2)	(3)	(4)
	> 0.7	> 0.7	> 0.5	≤ 5				
(1) Online purchase decision	0.959	0.963	0.593		0.770	0.780	0.808	0.835
(2) Online consumer attitude	0.914	0.932	0.660	3.215	0.731	0.813	0.829	0.859
(3) Subjective norms	0.955	0.961	0.652	3.917	0.775	0.775	0.808	0.885
(4) Perceived behavioral control	0.949	0.956	0.665	4.32	0.798	0.802	0.843	0.816

Note: Numbers in bold correspond to Fornell and Larcker convergent validity analysis; numbers above that diagonal identify HTMT analysis (Henseler et al., 2015).

uates these relationships in generation X; the results reflect a high level of explanation in the relationship of the base model of online customer attitude on online purchase decision with a path coefficient of 0.715^{***}. The following path coefficients in the direct relationships are observed in the mediation model: online customer attitude = 0.263, subjective norms = 0.336^{*}, and perceived behavioral control = 0.260.

The second model corresponds to the analysis of the millennial generation; the base model observes a highly significant path coefficient of 0.680^{***} and an Adjusted R² = 0.491^{***}. The mediator model observes path coefficients as follows: online customer attitude = 0.150^{**}, subjective norms = 0.267^{**}, and perceived behavioral control = 0.432^{***}. In addition, the study found path coefficients of 0.204^{***} and 0.342^{***} for the mediating variables, subjective norms, and perceived behavioral control in the mediation relationships. Likewise, the model offers an Adjusted R² = 0.431^{***}, registering an increase of 29.12% concerning the base model.

Finally, the base model of the centennial generation found a path coefficient of 0.694^{***} with an Adjusted R² = 0.620^{***}. In the mediator model, the direct relationships have highly significant and positive path coefficients of 0.219^{***}, 0.321^{***}, and 0.332^{***} for online customer attitude, subjective norms, and perceived behavioral control. For the mediator variables, subjective norms and perceived behavioral control, path coefficients of 0.241^{***} and 0.265^{***} are found. In addition, it presents an Adjusted R² = 0.741^{***}, the highest of all the mediator models, with an increase of 19.52% over its base model.

The results show interesting comparative findings. First, base models observe the direct relationship between online customer attitude and online purchase decisions, with the highest coefficient of determination for the centennials (0.620^{***}) followed by generation X. This suggests that attitude is vital for these generations, but insignificant for the millennials. Second, the mediator models found that the highest coefficient of determination belongs to the centennials (0.741^{***}). However, unlike the previous model, the second-best coefficient of determination is for millennials (0.634^{***}). This suggests that subjective norms and perceived behavioral control begin to have greater relevance as the generations evolve with a special emphasis on subjective norms. Finally, generation X showed a lower level of significance, and behavioral control is insignificant; the effects of this variable are more relevant for a millennial and, to a lesser extent, for centennials.

The study presents two generational extremes according to the results of the determination coefficients: on the one hand, generation X, and on the other hand, the centennials. The results also offer different behavioral patterns of the variables for each generation. For example, the subjective norms among generation X, millennials, and centennials present a valley-type inflection point. However, a peak-type inflection point is observed for the perceived behavioral control. Specifically, analysis shows that the centennials are a middle ground between the two previous generations, possibly due to their experience and learning in using these constructs. Table 3 and Figure 2 show these results.

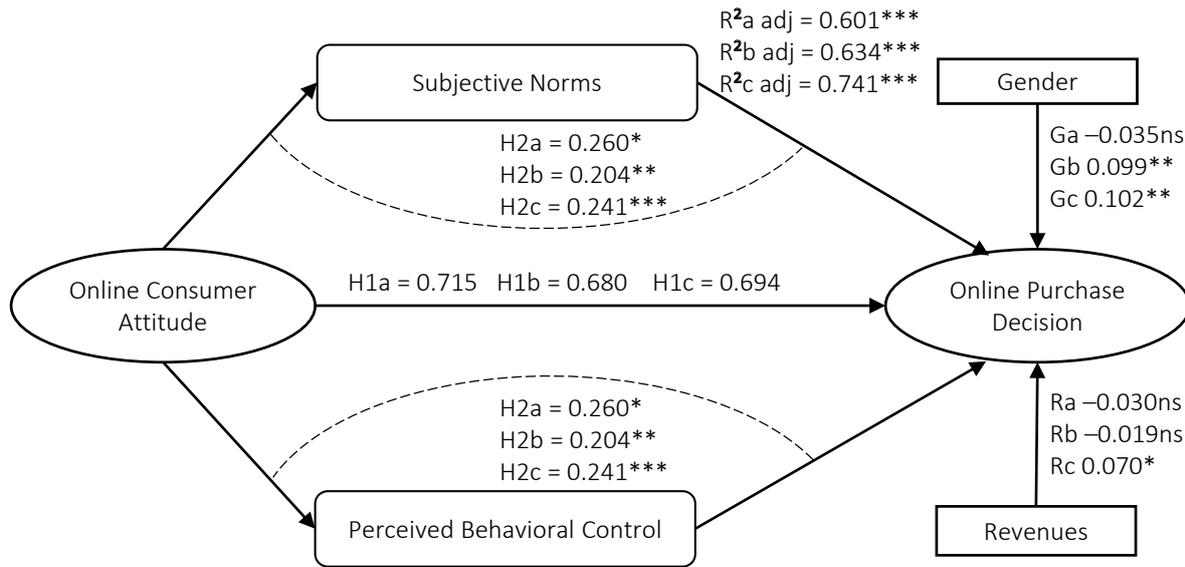


Figure 2. Model results

Table 3. Summary of results for generations X, Y, and Z

Variables	Generation X		Millennials (Y)		Centennials (Z)	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
OCA→ OPD	0.715***	0.263	0.680***	0.150*	0.694***	0.219**
SN→ OPD		0.336*		0.267***		0.321***
BC→ OPD		0.260		0.432***		0.332***
Mediation: OCA→SN→OPD		0.260*		0.204**		0.241***
Mediation: OCA →PBC→OPD		0.188		0.342***		0.265***
Gender	-0.019	-0.035	0.136***	0.099**	0.164***	0.102**
Revenues	0.052	-0.030	0.024	-0.019	0.137**	0.070*
Adjusted R ²	0.506**	0.601***	0.491***	0.634***	0.620	0.741***
Change R ²		0.095		0.143		0.121
Change %R ²		18.77%		29.12%		19.52%

Note: * p < .05; ** p < .01; *** p < .001. OCA = online consumer attitude; SN = subjective norms; PBC = perceived behavioral control; OPD = online purchase decision.

5. DISCUSSION

This study provides a better understanding of online consumer attitude, online purchase decisions, subjective norms, and perceived behavioral control as components of TPB. The results exhibit a positive and significant relationship between online customer attitude and online purchase decisions in the three generations: Generation X with a path of 0.715***, millennials with a path of 0.680***, and centennials with a path of 0.694***. This means that the attitude affects consumers' purchase decisions toward the products and services, confirming H1a, H1b, and H1c. This finding supports Cavazos-Arroyo and Máñez-Guaderrama (2022).

The results of the mediation effect of subjective norms reflect a positive and significant effect. However, these values change from generation to generation; in generation X, there is a mediating effect of 0.260*; in millennials, a mediating effect is 0.204**; and in generation Z, it is 0.241**. This indicates that generation X is the most affected by subjective norms (the influence of family, friends, and referents in their social context) when purchasing (Chang et al., 2021). On the other hand, centennials are affected to a very close extent with 0.241, and millennials are affected to a lesser extent with 0.204. This result is due to their freedom of thought, independence, even rebellion toward their parents, and the search for uniqueness and ways to differentiate themselves.

Perceived behavioral control showed a moderating effect of 0.188* for generation X, 0.342*** for the millennials, and 0.265*** for generation Z. Thus, millennials have a higher predisposition to purchase than other generations due to their exposure to the media, advertising, and especially the internet. The finding aligns with Hsu et al. (2006). In contrast, generations Z and X are not influenced by perceived behavioral control because they share more traditional characteristics and avoid using technological tools to make a purchase (Ng et al., 2018).

Finally, this study checked the double mediation of subjective norms and perceived behavioral control. The findings demonstrate a synergistic effect of these constructs concluding that the centennial generation has an adjusted R2 of 0.741***, followed

by generation Y with 0.634***, and generation X with 0.601***. This means there is higher purchase productivity in centennials followed by millennials when motivation is triggered by friends, family, and reference groups and augmented by media advertising, other people's usage experience, expectations met, and the feeling of the right decision by someone else. In the case of generation X, they are not impacted by the synergy produced by both mediation constructs.

As for the control variables, gender affects the model to a minimal extent, i.e., both men and women are affected similarly. In the case of revenues, there is only a slight change in generation Z, which is insignificant; thus, salaries are not a key element in purchase decisions.

CONCLUSION

This study analyzes how subjective norms and perceived behavioral control affect the linkage between online customer attitude and online purchase decisions in generations X, Y, Z.

The results exhibit a positive and significant linkage between customer attitude and online purchase decision. Second, SN and PBC were incorporated as mediating variables, showing a positive and significant indirect effect. Third, although the results showed the most significant impact in generation X, contrary to what was expected, these consumers attach greater importance to the opinion of influence groups. Generation Z is affected by comments from parents and friends. In contrast, generation Y is the one that shows the most negligible influence. These variables positively and significantly affect online purchase decisions despite the various indirect effects.

Generation Y is the most influenced when integrating PBC into the model. It is followed by generation Z, which reveals the most significant control and greatest tolerance in remaining on platforms that young generations have in digital environments. On the contrary, generation X feels comfortable only when platforms and websites are friendly, and they avoid spending much time on the web, they base their decisions on their own experiences.

PBC makes the purchase decision possible due to the simple and easy-to-understand procedures and the commercial opportunities in digital stores. This variable has a more relevant mediating effect due to the significance of its relationship with online customer attitude and online purchase decision. Thus, it has a better chance of sustaining itself from the attitude. On the other hand, SN also affect the purchase decision, although the relationship is weaker.

This study tried to confirm that attitude leads to an online purchase decision when SN and PBC intervene. New arguments in the current debate on the attitude assumed by consumers of different generations is a new virtual environment. Although each generation responds differently.

These findings suggest that company managers plan and implement strategies to influence their consumers' purchasing decisions. For example, when engaging generation X, strategies should incorporate comments and recommendations of family and friends in designing platforms and websites in a friend-

ly manner and easy access. An orientation toward the generation Z segment is also recommended, as it is the second group affected by SN. In this case, the virtual environment must be entertaining and dynamic. Regarding PBC, managers should focus on millennials and centennials since they initiate the action in the commercial field, feel more comfortable with this new way of buying, improve their attitude, and generate effective decisions at shopping. Finally, the orientation toward the generation X segment should offer confidence and security when using the platforms and websites to promote a positive attitude.

The study has several limitations. First, the sample includes 121 generation X respondents compared to 200 millennials and 200 centennials. Future research may use larger and equal in number samples. Second, the study considers a developing country, which limits its applicability to developed nations. As for future research, it is suggested to deepen the knowledge about the characteristics of each consumer based on the generation to identify factors that contribute to online consumer attitudes and online purchase decisions.

AUTHOR CONTRIBUTIONS

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