

# Atmospheric Cues Roles: Customer's Online Trust, Perceived Enjoyment, and Impulse Buying Behavior

Donn Enrique Moreno<sup>1</sup>, Erika Fabre<sup>2</sup>, Michael Pasco<sup>3</sup>

<sup>1</sup>Department of Entrepreneurship, Malayan Colleges Laguna, Manila, The Philippines

<sup>2</sup>Quezon City Local Government, Quezon, The Philippines

<sup>3</sup>Graduate School of Business, San Beda University, Manila, The Philippines

Email: delmoreno@mcl.edu.ph, erikasorianofabre@gmail.com, mpasco@sanbeda.edu.ph

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## Abstract

In an attempt to gain new insights about impulse-buying behavior and its vital role in electronic shopping, this study used the stimulus-organism-response (SOR) model. This study will first explore how virtual atmospheric cues impact online trust, and then investigate the relationship between online trust and impulse-buying behavior, as mediated by perceived enjoyment. The study employed a quantitative design using a causal research approach through partial least squares-structural equation modeling (PLS-SEM) to assess links between variables. Sampling was chosen using a purposive technique with 363 respondents comprised of the millennial generation who have experienced buying in an online store in the Philippines. The result suggests that customers who perceived online content, design, reviews, and promotions of an e-store are more likely to trust the site. In addition, the positive relationship between online trust and impulse buying behavior is partially mediated by perceived enjoyment. Managerial implications for strengthening marketing methods to build customer trust in online commerce are highlighted.

## Keywords

Atmospheric Cues, Impulse Buying Behavior, Online Trust, Perceived Enjoyment

## 1. Background

Online shopping has grown in popularity throughout the world since it provides a new option to acquire anything. The internet has enabled online shoppers to purchase items by visiting a retailer's website, which displays the products and

provides information about them. With the rapid growth of competition online, retailers attempt to make their stores appealing to their target consumers. This becomes more difficult for retailers to differentiate themselves just based on their offering, the online shop itself becomes increasingly vital for market differentiation. The increasing use of the internet by consumers has presented numerous challenges in the field of consumer behavior (Pomirleanu et al., 2013) as shown by an increasing number of market research studies (Cummins et al., 2014). Understanding the psychology of online consumer behavior is essential for competing in today's highly competitive market especially with how everything turns online, which can be seen by the increase in rivalry and globalization. In an online environment, consumer responses are no longer reliant on the device. While entirely new aspects such as environmental signals via which customers engage, as well as the way items and services are offered and displayed online, can differ dramatically from traditional marketing operations. As a result, researchers studying online consumer behavior are increasingly turning to other subjects, such as psychology approaches and concepts (Martinez-Ruiz & Moser, 2019).

While there are various studies on impulse-buying as it relates to the online behavior of customers worldwide, most of them isolated the factors to a particular discipline, usually with the use of technology and understanding consumer psychology. The drawbacks of ignoring the study of the complete factors are that compound effects resulting from interactions between the factors studied and those not studied are frequently overlooked and missed, resulting in findings that are not generalizable. Furthermore, less attention was given to the studies of the Filipino consumer's impulsive buying behavior particularly in the rise of electronic shopping in the Philippine online marketplace. It is, therefore, necessary to further investigate the behavior of the customers as an internal stimulus of the organism that interacts with the external stimuli, namely e-content, e-design, e-promotion, and e-reviews which correlate with the customer's online trust and perceived enjoyment how these greatly influences impulsive buying behavior.

The authors argued that the link between customers' unintentional purchases shows that the store's environment has a role in their behavior to trust and enjoy the online shopping experience. This assumption was expected to be found in consumer and marketing works of literature since many retailers employ visual presentation of their store to stimulate consumers' purchase behaviors. Thus, if appearance and store image are important indicators for customers to trust the shop, then in an online setting the website design and content must play an important role in a consumer's decision whether to browse the shopping site. This study aims to fill the gap by examining the elements that most drive Filipino customers to engage in impulsive purchases from online shopping sites, thereby addressing all aspects of the consumer purchasing experience.

This study is structured as follows. First, the authors examine impulse buying

behavior based on theories that stem from various fields. Second, the present study explores the role of atmospheric cues in explaining online trust and conducting mediation analysis using PLS-SEM. Third, the researchers examine the relationship between online trust and impulse buying behavior, mediated by perceived enjoyment. Fourth, the summary of findings was presented. The last section presents suggestions for e-store owners and future researchers in the field of online marketing and consumer behavior.

### Theoretical Framework

To investigate the relevance of atmospheric indicators in online impulsive purchases, the author used the Stimuli-Organism-Response (SOR) model to online impulse purchases. The SOR theory has received significant attention in numerous disciplines of study over the last several decades (Kim et al., 2020). The SOR framework is based on environmental psychology that studies the effect of the environment on human behavior. Skinner (1935) was the first to introduce the link between the environment and behavior followed by Kotler (1973) that suggests the importance of environmental atmospheric as a marketing tool. Environmental signals impact an individual's cognitive and emotional reactions, which then lead to some behavior, according to the paradigm (Mehrabian & Russell, 1974). They focused on behavioral reactions like avoidance and approach, which are influenced by emotional assessment, which is impacted by environmental cues first. In other words, the theory states that a stimulus influences individual's aroused emotions, which in turn leads to attempt behavior (positive response) or avoidance behavior (negative response). Both environmental stimuli and consumer emotional states are essential to the study of consumer impulsivity.

This study augments the environmental stimuli used by Floh & Madlberger (2013) considering four atmospheric cues, namely electronic store content, design, review, and promotion in the development of the model. The authors built their study model on Donovan et al. (1994), which recognized environmental cues, emotional states, and responses, and looked at actual buying behavior rather than customer intention to buy. Furthermore, from the e-commerce studies and works of literature, this paper operationalizes the organism as online trust and perceived enjoyment and the response considered is impulse-buying behavior.

This study extends the findings of Floh & Madlberger (2013) and Parboteeah et al. (2009) by applying more specific and significant aspects about the environmental store. Only two organism variables were employed in this study, and mediating analysis was performed to assess the strength of the other organism's mediating function in strengthening the impact on impulse-buying.

Based on extant literature review, the present study has the following objectives: 1) to explore four environmental stimulus traits in explaining customer online trust in electronic shopping, 2) to investigate direct effects of online trust

on perceived enjoyment, online trust on impulse-buying behavior, and perceived enjoyment on impulse-buying behavior; and 3) to examine the mediating effect of perceived enjoyment on online trust and impulse-buying behavior link.

## **2. Literature Review**

### **2.1. Relationship of Atmospheric Cues to Online Trust**

When examining the major trends in online trust research according to [Bauman & Bachmann \(2017\)](#), two methods stand out: investigating online trust from a technological or a social standpoint. The technological viewpoint investigates online tools and Web capabilities for transaction completion. The social method focuses on the online community's impact and an online buyer's traits. As a result, this study will combine technology, through website design and content, with a social approach, using user feedbacks and promotion, to investigate its association to consumer online trust.

#### **2.1.1. Electronic Content and Online Trust**

Previous studies showed that the quality of e-store content has an important influence in enticing consumers to browse the internet ([Sarah et al., 2020](#)). Consumers check information on the website or the store's online platforms. They must be able to access all their needed information particularly a piece of detailed information about the products or the services. In an online store, buyers are not able to physically check the functionality, physical features such as sizes, materials, actual colors, and others so an e-market needs to be able to showcase their products or services in the content of their website. E-content must communicate the essential and complete information about their products that the customer needs to know. High task-relevant cues provide vital information to online buyers in the form of pictures and descriptions, which can have a favorable impact on their shopping decisions and the tasks that follow ([Mazaheri et al., 2012](#)). The quality of information and system significantly influence consumers' website satisfaction and willingness to use the website which fosters user online trust ([Jones & Leonard, 2008](#)). It was found that web information and the interface contents are major indicators of customer trust, satisfaction, and loyalty for electronic retailers ([Wolfenbarger & Gilly, 2003](#)). It appears, therefore, that the e-content of shopping sites may be causal to online trust in various conditions and contexts. Thus, the authors hypothesize as follow:

H1: The better customers perceive the online shopping site's contents to be, the greater is their online trust in the e-stores.

#### **2.1.2. Electronic Design and Online Trust**

Customers commonly access and browse interesting products through online shop websites thus the design and characteristics of online shopping websites are one of the external stimuli that trigger the decision of consumers to buy products or services. The attraction of the user interface design to customers is ex-

plained by website stimulation (Karim et al., 2021). Hence, Customers receive information about items and services through social media and online websites, therefore website design efficiency is vital and should be a significant aspect in attracting customers for any online merchandise (Turkyilmaz et al., 2015). Consumers can gain higher hedonic advantages from websites that are easy to use (Lin & Lo, 2015) than those that are harder to navigate. According to Miao (2011), in addition to the goods or service given, both the procedure and the circumstance (that is, website design) can produce pleasant feelings and the urge for impulsive purchase. The perceived ease of navigating leads to spontaneous purchases and is thus a crucial aspect for any online company, and further study in a variety of contexts to back up this claim would be beneficial (Manganari et al., 2011). Therefore, to study the influence between e-design and online trust, the following hypothesis is developed:

H2: The better customers perceive the online shopping site designs to be, the greater is their online trust in the e-stores.

### 2.1.3. Electronic Reviews and Online Trust

Consumers can influence each other (Cialdini, 2009), especially today where all purchases are conducted on the internet. This influence is everywhere on the Internet, manifesting itself in the form of recommendations, numerical ratings, and customer reviews, among other things (Amblee & Bui, 2011). The significance of ratings and reviews in the decision-making process of customers is an important factor to consider according to the study of Gavilan et al. (2017). Customers may or may not believe the reviews but should never refuse to understand each post. A high rating combined with a limited number of reviews is likely to be seen as untrustworthy, and the choice will be rejected. In other words, consumer reviews are also known to affect consumer trust development, particularly the competence dimension of trust evaluations (Stouthuysen et al., 2018). Whether reviews are viewed for personal or purchase-related motives has a significant influence on how such reviews affect buyers. Factors linked to purchasing choice participation and product involvement to learn about the items are among the reasons for reading reviews (Burton & Khammash, 2010). It appears, therefore, that electronic reviews may be causal to online trust in a variety of settings and scenarios. Therefore, the authors hypothesized as follows:

H3: The better customers perceive the online shopping sites reviews to be, the greater is their online trust in the e-stores.

### 2.1.4. Electronic Promotion and Online Trust

Increasing customer trust in online storefronts will help online businesses and the e-market. Various trust-promoting seals have been shown on the storefronts of online shops, particularly those with less-established reputations, to enhance consumers' desire to purchase (Zhang, 2005). Trust plays a crucial role in increasing online sales, and trust-enhancing promotions can increase customer trust and affect their attitude and purchasing decisions. As a result, a sales pro-

motion is a direct enticement that provides an additional value or incentive for the product to the sales force, distributors, or the final customer, with the primary goal of generating an instant sale (Nakarmi, 2018). More research is needed, however, to determine the usefulness of various forms of trust-promoting activities and how they may impact buying decisions. Thus, the following hypothesis is developed:

H4: The better customers perceive the online shopping sites promotions to be, the greater is their online trust in the e-stores.

## **2.2. Relationship of Online Trust and Impulse Buying Behavior**

Consumer online trust leads to two forms of actions, either the customer purchases an item or service online and provides his/her personal information or simply goes on window shopping. Both actions are beneficial to online merchants as these are both potential sales. Security, ease of use, and trust can influence consumer behavior in the form of impulsive purchases. It is interesting to observe that because most new product purchases result from impulsive purchases rather than planned purchases (Kacen & Lee, 2002), and according to Rook (1987), impulsive buying occurs when consumers suddenly feel an irresistible urge to buy something quickly. Hence the researchers would like to find out the following hypothesis:

H5: The higher is the customer online trust in the shopping sites, the more customer purchases impulsively.

## **2.3. Relationship of Online Trust and Perceived Enjoyment**

Perceived enjoyment may be described as the amount of satisfaction that customers feel during an online transaction on a certain website in terms of the website's capacity to bring them happiness while excluding the quality of service they will receive. The more pleasurable an online shopping experience is on a particular website; the more likely customers are to make a purchase there (Childers et al., 2001). According to Rouibah et al. (2016), perceived enjoyment has a beneficial impact on customer trust. Consumers' attitudes regarding internet shopping might be influenced by their level of trust. The more the clients' trust in the merchant, the more secure they are. When visiting online shopping sites, impulsive customers frequently feel helpless to resist their purchasing instincts and inherent behaviors triggered by marketing incentives (Wells et al., 2011). Therefore, the sixth hypothesis is developed:

H6: The higher is the customer online trust in the shopping sites, the more the customer enjoys the shopping experience.

## **2.4. Relationship of Perceived Enjoyment and Impulse Buying Behavior**

There has been a lot of existing literature that argues the link between shopping satisfaction and impulsive buying behavior (Yu & Bastin, 2010; Thanh, et. al.,

2016). Baskaran et al. (2019) revealed that perceived enjoyment has a substantial impact on purchase intent. And this was supported by the study of Karim et al. (2021) that the impact of perceived satisfaction on online impulsive purchases was shown to be considerable. If online shoppers enjoy their shopping experience, they are more likely to engage in more exploratory web browsing, which leads to more unintentional purchases (Beatty & Ferrell, 1998). This resulted that customers with a high degree of shopping satisfaction going shopping more frequently and spending more time browsing throughout their visits. As a result, they may be more prone to succumb to the impulse need when confronted with the correct goods in a shopping environment, and therefore to indulge in impulse buying. Consumers perceived that experiencing pleasure causes them to engage in spontaneous purchasing. Thus, the authors expect to see a similar finding and therefore, the following hypothesis is presented:

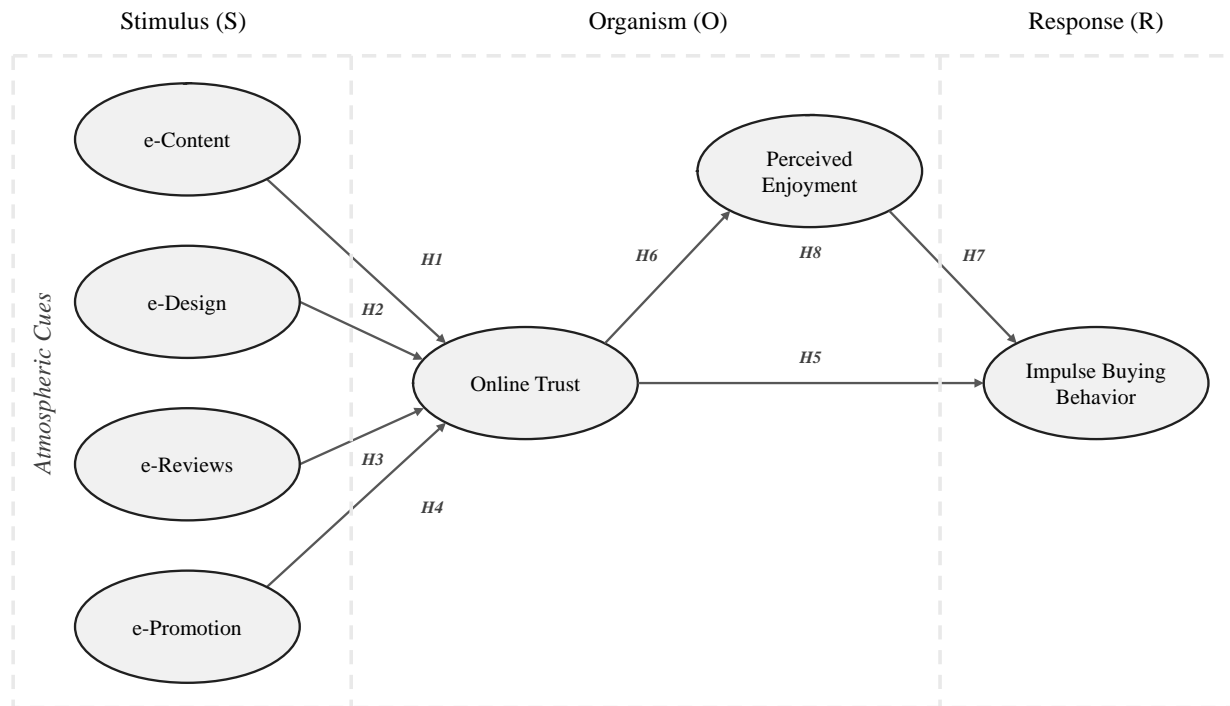
H7: The higher the customer enjoys the online shopping experience, the more the customer purchases impulsively.

In modeling the last hypothesis using PLS-SEM, therefore and similarly to Hasim et al. (2020), who investigated perceived enjoyment as a mediating variable, this study used the Baron and Kenny (1986) conditions adopted by Hair et al. (2017) for addressing the mediation effect hypothesized in H8. Previous research has found that perceived enjoyment acts as a mediator for online impulsive purchases (Kim et al., 2007; Parboteeah et al., 2009; Floh & Madlberger, 2013; Saad & Metawie, 2015). Drawing upon this literature, the author postulate that:

H8: Perceived enjoyment mediates the positive relationship between online trust and consumer impulse-buying behavior.

Based on the justifications and supporting works of literature highlighted above, the research model for this study is presented in Figure 1. In determining a mediation effect, Baron and Kenny (1986) presented three fundamental conditions that must be met. However, regression models with manifest variables fit these conditions better than structural equation modeling (SEM), which utilizes latent components and related indicators. In considering the following conditions to SEM models, Hair et al. (2017) presented answers for a variable to be considered as mediator in partial least squares (PLS) path modeling: 1) the direct effect must be significant even without the mediator variable; 2) the indirect effect with the mediator variable must be significant (i.e. each of the two paths must be significant); and 3) there is full mediation if the direct effect is not considerable; but, if the direct effect is large, there is partial mediation.

Furthermore, because no research on this topic has been done in the Philippines and the online e-stores available to this country, the current study will fill the research gap on how online trust promotes impulsive buying behavior in the Philippines as mediated by perceived enjoyment. At the same time, the study adds to the existing body of knowledge outside of Western economies by looking at consumer behavior, information systems, and psychology, which draws on



**Figure 1.** Conceptual framework.

results from a variety of domains and provides a unique consumer behavior context to explore.

### 3. Methodology

In this study, a quantitative study using a causal research method was used to assess the links between online trust, perceived enjoyment, and impulsive buying. To assess the parameters of the mediation model, the partial least squares – structural equation modeling (PLS-SEM) method was used with WarpPLS 6.0 software. The authors used the stimulus-organism-response (SOR) framework as the primary tool to establish the conceptual associations among the various identified variables in the study. More so, this cross-sectional study is observational in nature and is known as descriptive research it measures the outcome and the observation in the study participants at the same time and not the cause of something. Furthermore, this cross-sectional study is observational in nature and is referred to as descriptive research because it evaluates the outcome and observation in study participants at the same time rather than the cause of something (Setia, 2016).

#### 3.1. Sample Size Determination

Purposive sampling was used in choosing the study participants. Purposive sampling, also known as judgment sampling, is utilized when the researcher relies on his or her judgment to select members of the population to participate in the study (Rahi, 2017). The gamma-exponential method and inverse-square root



were extracted from WarpPLS 6.0 to determine whether the sample size is significant enough to support the suggested structural model's results (Kock & Hadaya, 2018).

Looking at the PLS path model in Figure 3, the minimum significant path coefficient is 0.150. Moreover, with the level of significance of 0.05 and power level of 0.80, using the statistical software WarpPLS 6.0 (Kock, 2017), the computed sample sizes were the following 275 for inverse-square root and 262 for gamma-exponential as reflected in Figure 2. As a result, the PLS-model sample size must be between 262 and 275. This study gathered and used 363 sample size which is more than enough to describe the findings of the structural model.

### 3.2. Data Collection

The survey was administered using an online platform and posted in different web groups. The distribution of questionnaires started in October and ended in November 2021. This is due to existing travel limitations and different safety precautions for doing face-to-face data collecting to avoid the transmission of the COVID-19 virus. Furthermore, to collect data, this cross-sectional survey may frequently be online for a longer amount of time. A self-administered questionnaire was developed consisting of two sections that covered the demographic profile of the respondents and the constructs on atmospheric cues, online trust, perceived enjoyment, and impulse buying response. The respondent's profile includes the respondent's sex, age, educational attainment, average hours spent in online shopping, and the average number of purchased products in impulse.

Adapting the scales on the constructs from previous literature relevant to the study of e-commerce and online behavior, a self-structured questionnaire was assessed with multiple items using a five-point Likert's scale ranging from (5) strongly agree to (1) strongly disagree. To measure atmospheric cues, questionnaires based on e-content were adapted from Lepkowska-White (2004), e-design was modified from Loiacono et al. (2007), e-review was designed from Shi & Liao (2017), and e-promotion used was from Kim (2003). To assess online trust, the nine items used in this construct were taken from the study of Chen et al.

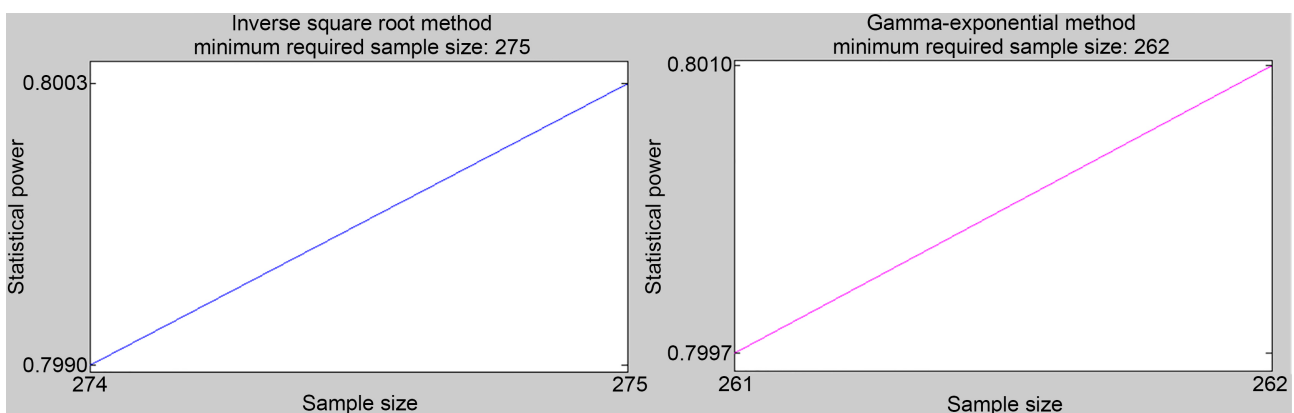


Figure 2. Results of the inverse square root and gamma-exponential methods.

(2007). As for perceived enjoyment, the four items were from Chang & Cheung (2001). For impulse buying, the nine items were adapted from Rook & Fisher (1995).

### 3.3. Reliability and Validity Measurements

The validity and reliability of the constructs are evaluated as part of the measurement model assessment. Reliability tests using both Cronbach's alpha (CA) and composite reliability (CR) were measured to determine the quality of a study's research instrument. The instrument is regarded as dependable when the measures or items for each latent variable are perceived in the same way by the respondents (Kock, 2017). The acceptable value for both tests is 0.70 and above (Kock & Lynn, 2012). **Table 1** shows the characteristics of all variables are highly reliable.

For the measurement model to be acknowledged, both convergent and discriminant validity must be stated. When the components or measures of each latent variable are explicit in their meaning and well understood by the respondents, the instrument is regarded to have discriminant validity. On the other hand, when the respondents and the researcher who drafted/adapted the questionnaire have the same understanding of the items of each variable under consideration, the instrument is said to have convergent validity (Kock, 2017). As part of the convergent validity assessment, the loadings of each item are assessed. Each loading's  $p$ -value must be equal to or less than 0.05 (Kock, 2017), and each loading must have a value of 0.5 or above. The latent variables atmospheric cues, online trust, perceived enjoyment, and impulse buying are within the allowed levels for convergent validity, according to **Table 1**. Moreover, the values of the average variance retrieved are evaluated as part of the discriminant validity measurement. These values must be greater than or equal to 0.5 (Kock & Lynn, 2012). **Table 1** shows that the AVE coefficients for all latent variables met the required validity criteria.

Furthermore, discriminant validity evaluates the relationships between variables using square roots of the AVE coefficient (Kock, 2017). The square root of the AVEs for each latent construct should be bigger than any of the correlations involving the variable (Fornell & Larcker, 1981). In other words, the diagonal values must be higher than the values indicated in the same row to their left (Kock, 2017). The study's measures exhibit discriminant validity as seen in **Table 2**.

Part of the assessment of the structural model is the evaluation of full collinearity results. According to Kock (2015), the complete collinearity VIF value must be less than or equal to 3.3. **Table 3** shows that the coefficients of full collinearity VIF of all variables are within the standard measurements; hence, the values show no vertical and lateral collinearity.

The coefficient of determination or the value of R-squared ( $R^2$ ) was also measured. The  $R^2$  coefficients represent the percentage of variance in the latent

**Table 1.** Convergent validity and reliability measures.

Constructs	Indicators	Item Loadings	Ave Variance Extracted	Composite Reliability	Cronbach Alpha																																																																																				
e-content	EC1	0.880	0.775	0.873	0.710																																																																																				
	EC2	0.880				e-design	ED1	0.888	0.807	0.926	0.880	ED2	0.890	ED3	0.917	e-review	ER1	0.854	0.734	0.917	0.879	ER2	0.869	ER3	0.860	ER4	0.843	e-promotion	EP1	0.907	0.779	0.934	0.905	EP2	0.885	EP3	0.903	EP4	0.832	Online Trust	OT1	0.823	0.660	0.946	0.935	OT2	0.804	OT3	0.818	OT4	0.809	OT5	0.797	OT6	0.800	OT7	0.840	OT8	0.765	OT9	0.828	Perceived Enjoyment	PE1	0.949	0.876	0.955	0.929	PE2	0.946	PE3	0.913	Impulse Buying	IB1	0.751	0.710	0.955	0.946	IB2	0.772	IB3	0.862	IB4	0.881	IB5	0.854	IB6	0.883	IB7	0.801
e-design	ED1	0.888	0.807	0.926	0.880																																																																																				
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	ED3	0.917				e-review	ER1	0.854	0.734	0.917	0.879	ER2	0.869	ER3	0.860		ER4	0.843				e-promotion	EP1	0.907	0.779	0.934	0.905		EP2	0.885				EP3	0.903	EP4	0.832	Online Trust	OT1		0.823	0.660				0.946	0.935	OT2	0.804	OT3	0.818	OT4	0.809	OT5	0.797	OT6	0.800	OT7	0.840	OT8	0.765	OT9	0.828	Perceived Enjoyment	PE1	0.949	0.876	0.955	0.929	PE2	0.946		PE3	0.913				Impulse Buying	IB1	0.751	0.710	0.955	0.946	IB2	0.772	IB3	0.862	IB4	0.881
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Note: All item loadings are significant at 0.001 ( $p < 0.001$ ).

**Table 2.** Discriminant validity using Fornell and Larcker Criterion.

Constructs	EC	ED	ER	EP	OT	PE	IB
e-content	0.880						
e-design	0.663	0.898					
e-review	0.653	0.772	0.857				
e-promotion	0.550	0.545	0.604	0.882			
Online Trust	0.677	0.673	0.664	0.599	0.812		
Perceived Enjoyment	0.611	0.667	0.670	0.614	0.782	0.936	
Impulse Buying	0.287	0.208	0.236	0.533	0.415	0.371	0.837

Note: EC—e-content; ED—e-design; ER—e-review; EP—e-promotion; OT—Online Trust; PE—Perceived Enjoyment; and IBB—Impulse Buying. Off-diagonal elements represent the correlation between constructs, whereas diagonal elements are the square root of the AVE of constructions.

**Table 3.** Discriminant validity using Fornell and Larcker Criterion.

Constructs	Full Collinearity	R <sup>2</sup>	Q <sup>2a</sup>
e-content	2.3		
e-design	3.0		
e-review	3.1		
e-promotion	2.3		
Online Trust	3.3	0.609	0.608
Perceived Enjoyment	3.1	0.624	0.622
Impulse Buying	1.5	0.195	0.194

a. Value larger than zero indicates that exogenous constructs have predictive relevance over the endogenous constructs.

variable that is explained by the latent factors that are expected to have an impact on it (Kock, 2017). The R<sup>2</sup> coefficients of 0.65, 0.12, and 0.21 reflect the predictive accuracy of all variables. Finally, the Stone-Geisser test or the value of Q<sup>2</sup> (Geisser, 1974; Stone, 1974) were also used to assess predictive significance. The measurement model has predictive validity of the values of Q<sup>2</sup> are higher than zero (Kock, 2015). Thus, the Q<sup>2</sup> coefficients meet the said requirement as seen in Table 3.

#### 4. Results and Discussions

To assess the parameters of the mediation model, the partial least squares-structural equation modeling (PLS-SEM) method was used with WarpPLS 6.0 software. This method was utilized since it has no distributional assumptions, is simple to deal with complicated models, is easy to deal with reflecting indicators, can handle small samples, and can assess correlations between unobserved latent constructs via both direct and indirect paths (Hair et al., 2016).

#### 4.1. Demographic Characteristics of Respondents

The participants were online shoppers ranging in age from 25 to 40 years old, belonging to the Millennial generation, and living in the National Capital Region, Philippines. A total of 493 questionnaires were distributed to the target respondents, and 363 completed the online survey with a response rate of 73%. As depicted in **Table 4**, the results show that majority of online shoppers that participated in the survey are female in their early 25 and educated or have a college degree. In addition, most of the participants spent an average of an hour per day browsing online sites with 5 items on average monthly bought impulsively.

#### 4.2. Evaluation of Structural Model

The results from the model shown in **Table 5** revealed that all four hypotheses under the relationship of atmospheric cues with online trust were supported.

**Table 4.** Demographic characteristics of respondents.

Respondent Profile	Frequency	Percentage
Share of female consumers	283	78.0%
The average age of consumers	25 years old	31.0%
Share of consumers who finished tertiary education	228	62.8%
The average number of products bought impulsively per month	5 items	23.7%
Average hours spent browsing online shopping sites per day	1 hour	41.0%

Note: Frequency (N = 363).

**Table 5.** Evaluation of the structural model.

Path Coefficients	$\beta$	SE	<i>p</i> -value	$f^2$	Hypothesis
Atmospheric Cues					
H1. e-content $\rightarrow$ OT	0.294**	0.050	$p < 0.01$	0.190	Supported
H2. e-desing $\rightarrow$ OT	0.209**	0.051	$p < 0.01$	0.140	Supported
H3. e-review $\rightarrow$ OT	0.196**	0.051	$p < 0.01$	0.132	Supported
H4. e-promotions $\rightarrow$ OT	0.219**	0.051	$p < 0.01$	0.137	Supported
Direct Effects					
H5. OT $\rightarrow$ IB	0.319**	0.050	$p < 0.01$	0.137	Supported
H6. OT $\rightarrow$ PE	0.790**	0.047	$p < 0.01$	0.624	Supported
H7. PE $\rightarrow$ IB	0.149**	0.051	$p < 0.01$	0.057	Supported
Mediating/Indirect Effects					
H8. OT $\rightarrow$ PE $\rightarrow$ IB	0.118**	0.036	$p < 0.01$	0.051	Supported

Legend:  $\beta$ —Path Coefficient, SE—Standard Error for Path Coefficient, Cohen's  $f^2$ —Effect Sizes for Path Coefficient. Note: \*correlation is significant at the 0.05, \*\*correlation is significant at the 0.01.

Hence, e-Contents ( $\beta = 0.294, p < 0.01$ ), e-Design ( $\beta = 0.209, p < 0.01$ ), e-Reviews ( $\beta = 0.196, p < 0.01$ ), and e-Promotions ( $\beta = 0.219, p < 0.01$ ) were positively linked with online trust; thus, H1, H2, H3, and H4 were supported. The fact that e-content and e-design, which are both connected to website quality, are linked to online trust asserts that the user interface quality and information quality of an e-commerce website have a significant impact on consumer trust. External cues enable people's activities by altering consumers' emotions and perceptions, according to the study's findings. Visual appeal and system usability provide consumers with a sense of satisfaction and excitement. This finding also synchronizes with the study of [Zhang et al. \(2020\)](#) which verified the relationship between mobile environmental factors with consumers' emotional reactions.

**Table 5** explains the parameter estimates of the mediation model. The analysis shows that online trust affects consumers' impulse-buying behavior ( $\beta = 0.319, p < 0.01$ ). The path coefficient magnifies that the existence of online trust increases the consumers' impulse buying behavior. The effect size of the path OT  $\rightarrow$  IBB (Cohen's  $f^2 = 0.137$ ) is medium ([Cohen, 1988](#)). The result implies that H5 is supported. On the other hand, online trust significantly affects perceived enjoyment ( $\beta = 0.790, p < 0.01$ ). The positive path coefficient implies that the existence of online trust in shopping online increases the level of perceived enjoyment. The effect size of the path from OT  $\rightarrow$  PE (Cohen's  $f^2 = 0.624$ ) is large ([Cohen, 1988](#)). Thus, H6 is supported. The study finds out that perceived enjoyment has a significant effect on consumers' online trust towards online shopping which is in line with the study conducted by [Rouibah et al. \(2016\)](#) whose research examined the role of perceived enjoyment toward trust and revealed that perceived enjoyment positively impacts consumer's trust. On similar results, the study of [Hwang & Kim \(2007\)](#) also found that enjoyment has a positive effect on two dimensions of trust which are integrity and ability.

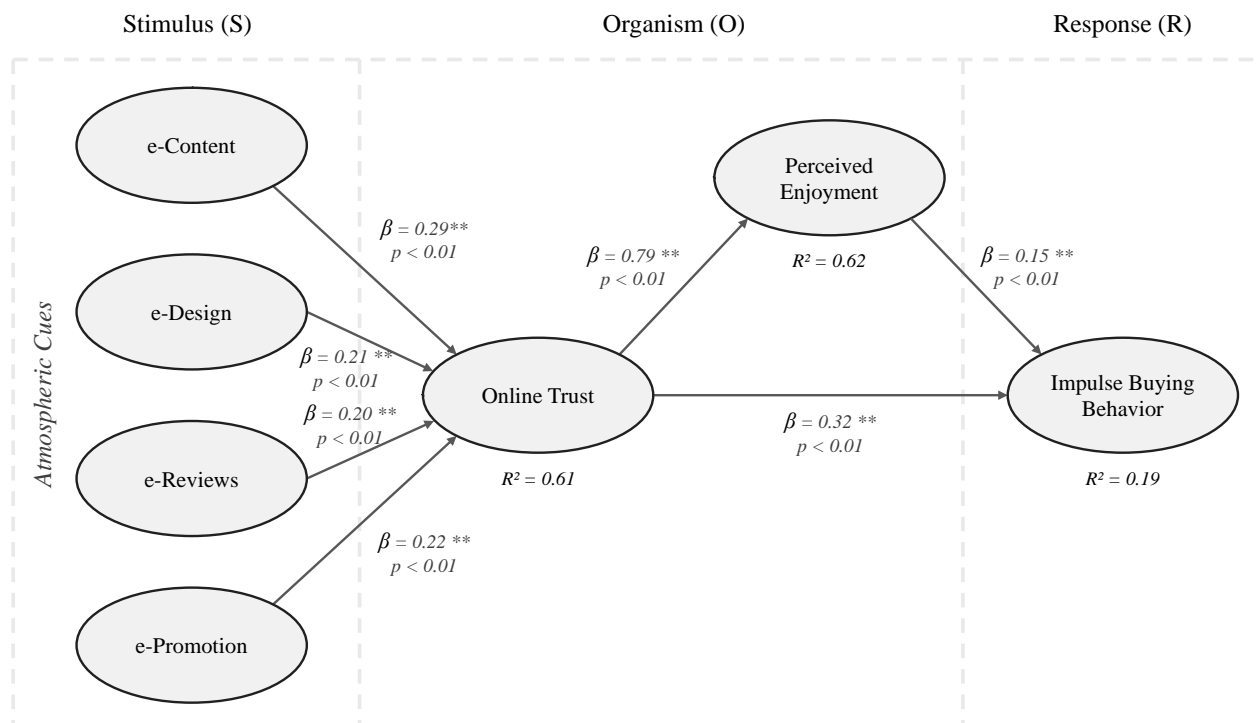
The integrity of e-stores to provide quality products and services and secured and transparent transactions greatly contribute to the perceived enjoyment and trust. Perceived enjoyment is a positive emotion that greatly impacts online trust among consumers. It means that when they feel happy with the product they purchased and they experience convenience in their online transactions, it will increase their online trust. The data analysis revealed that perceived enjoyment and impulse-buying behavior are positively related ( $\beta = 0.149, p < 0.01$ ). The path coefficient suggests that perceived enjoyment augments the level of the impulsiveness of the consumers.

The effect size of the path from PE  $\rightarrow$  IBB (Cohen's  $f^2 = 0.057$ ) is small ([Cohen, 1988](#)). Thus, H7 is also supported. This result aligns with the study of [Karim et al. \(2021\)](#), which states that respondents believe that experiencing pleasure causes them to engage in spontaneous purchasing action and that there is a positive and substantial link between website stimulation and reported enjoyment. The study's marketing stimulus was significant in determining perceived enjoyment and impulse purchase behavior towards e-retailing sites. However, according to

the same study, website stimulus has no direct impact on impulse buying behavior, contradicting the findings of this study. In addition, Karim et al. (2021) stated that a range of information to choose from increased both perceived satisfaction and online impulsive purchase. Increasing product variety enhances online customers' emotional state; as a result, consumers feel compelled to buy impulsively.

The indirect influence of perceived enjoyment on the relationship between online trust and impulse-buying behavior is statistically significant ( $\beta = 0.118$ ,  $p < 0.01$ ). This suggests that perceived enjoyment mediates the relationship between online trust and consumers' impulse-buying behavior with a small extent of mediation effect (Cohen's  $f^2 = 0.051$ ). This means that online trust is positively related to perceived enjoyment ( $\beta = 0.790$ ,  $p < 0.01$ , Cohen's  $f^2 = 0.624$ ) which in turn affects consumers' impulse-buying behavior positively ( $\beta = 0.149$ ,  $p < 0.01$ , Cohen's  $f^2 = 0.057$ ); therefore, H8 is supported.

The results from the model shown in Figure 3 showed that the variables under the atmospheric cues explained 60% of the variances observed in online trust. Further, online trust explained 62% of the variance in perceived enjoyment; and perceived enjoyment and online trust, combined, explained 20% of the variance observed in customers' online impulse-buying behavior. In fields like consumer behavior, 0.20 is considered a high value, therefore this level of  $R^2$  is acceptable (Hair et al., 2014: p. 175) reflecting the measures of the exogenous variable's prediction accuracy on endogenous variables.



**Figure 3.** The mediation model with parameter estimates. Note: \*correlation is significant at the 0.05, \*\*correlation is significant at the 0.01.

In addition, this paper included interaction terms to represent the quadratic effects between OT → IBB (t-statistics = 1.209,  $p = 0.227$ ), OT → PE (t-statistics = 1.627,  $p = 0.104$ ), and PE → IBB (t-statistics = 1.696,  $p = 0.090$ ). Bootstrapping with 5000 samples yielded the conclusion that none of the quadratic effects are statistically significant which means that the relationships between the latent variables are in fact linear. Ergo, the linear effects model is considered robust.

## 5. Conclusion and Recommendation

### 5.1. Conclusion

This research looks at the influence of the virtual store environment in online impulsive behavior. It gives a complete SOR-based model that incorporates stimulation for the virtual shop environment, subjective delight, and impulse buy behavior due to online trust, based on a thorough evaluation of the literature. The study contributes to prior research on online impulsive buying by considering characteristics of the e-store environment that have been determined to be extremely important in earlier studies. According to the study's findings, online trust has a positive impact and influence on customers' online impulse-buying behavior. This suggests that as online trust becomes more visible in the mindset of customers, the desire to purchase impulsively increases. The study contributes to an understanding of this topic by including a comprehensive set of contextual indicators that influence online trust, all of which are significant. With this, online businesses must give importance to external factors that lead to affect buying behavior such as e-content, e-design, e-review, and e-promotions. In addition, equal importance should also be given to quality, security and safety, and transparency to build online trust among consumers which will provide the highest level of perceived enjoyment among their customers which may result in customer relationship and loyalty.

In terms of online trust and perceived enjoyment, the findings of the two variables are found to be strongly associated. This has also been the case in previous research as mentioned in the works of literature cited in this study. This means customers are likely to enjoy browsing and purchasing on online shopping sites they trust. Furthermore, perceived enjoyment affects customers' impulsive buying behavior. The positive relationship between these two suggests that the more customers enjoyed surfing online shopping sites, the more impulsive purchases they make. Thus, online businesses must also consider an easy navigation interface and secured system facilitating online transactions to provide an easy and pleasurable shopping experience to their customers attracting even those who do not trust online shopping due to their past bad online purchases.

The mediation model revealed that customers' perceived enjoyment mediates the positive link between online trust and impulse-buying behavior. This signifies that online trust is positively related to perceived enjoyment, with a large effect size, which in turn affects impulsive buying. Therefore, perceived enjoyment helps the presence of online trust in the buying intention of the customer to



purchase impulsively. Hence, from the results, the authors bring a two-sided recommendation for the online retailers and the online consumers. The retailers must strategically plan their online store contents, design, and communication platform for review and promotions that will affect customer trust in their shopping experience and lead to enjoyment of the users. In this generation, where everything works in an online setup, the advertising and other marketing activities of a business must be carefully executed. Online retailers must consider strengthening their store presence with its content, design, review platforms, and promotional posts. From the consumer's view, one should know the online trust characteristics and its component very well to make better decisions. Moreover, this study proves the presence of perceived enjoyment as a mediator in online trust and impulse-buying behavior.

## 5.2. Management Implications

The findings of the study have several implications that will assist online businesses in designing strategies and programs for their online stores. To begin, online retailers should determine which environmental cues are likely to be satisfied and which are not to achieve customer prospects. This will help the company to utilize its resources and provide better marketing initiatives to attract online users. For instance, the results have deciphered that online content and promotion have the strongest impact on online trust. This can reasonably be seen in the decrease in the number of inquiries, increase in time spent on an online page, and increase in the number of items added to the shopping cart. As such, the online site of a company should develop more informative content posted on their page about their offerings, detailed buying process, and customer service among others while creating a more strategic way of converting these prospects to actual customers. Therefore, this criterion should be used as a strategic input by practitioners and website administrators to build consumer trust, increase serviceability, and inspire confidence by focusing on useful and trustworthy material (Bhat & Darzi, 2020).

Second, implications for marketers and practitioners are proposed as a foundation for how merchants design their websites. This research helps marketers realize that the website is now an extension of the shopping experience, but it can also be considered as a different environment. When designing online shopping sites and stores, retailers must consider the consumer's engagement and reviews. It is critical to have a better knowledge of how content and reviews are used. Consumers tend to focus on the amount and substance of reviews during the early stages of the purchase process, which may be less important when making a final selection. Furthermore, the sorts of content, promo, design, and reviews supplied should be given specific consideration.

Finally, the findings suggest that the mediating factors of perceived shopping enjoyment, influence online impulse buying, and online trust. This finding is very important for e-store owners and managers. They need to build corres-

ponding strategies to adapt to fierce competition and gain market share, given the popularity of online shopping and the rapid development of multiple e-commerce platforms. In terms of marketers, the key concept of online retailing is how to properly comprehend consumers based on their thoughts and how to stimulate their desire to buy based on their behavioral responses.

### **5.3. Limitations**

The interpretation of the results, like any other survey study, is subjected to certain limitations. Participants were first asked to fill out questionnaires depending on which online shopping sites and applications they had used the most. It's possible that most respondents based their responses on the same online shopping website or application, which might skew the results. As a result, caution should be exercised while generalizing the data. Additionally, this study was conducted from a targeted age group of 25 - 40 years old commonly categorized as millennials. Though the online marketplace is a diverse environment, there is still an opportunity to conduct a holistic study from a greater homogenous sample. Moreover, the consumers were asked to evaluate only two shopping sites in the Philippines namely Lazada and Shopee. Furthermore, because the researchers did not examine the after-purchase state, the whole online shopping experience is a restricted dimension in this study. Conducting a qualitative study that follows up with customers after their first encounter with a merchant might help practitioners gain a better grasp of the full online purchasing experience. Finally, it is vital to bear in mind that this study is developed within a specific region and shopping sites. The study should also be careful when generalizing these views and interpretations into various contexts.

### **5.4. Future Research Direction**

Due to the limitations of this research, three recommendations are suggested to future researchers to enhance the study of customer online impulse-buying. It is proposed to evaluate the impacts of environmental cues and online impulse buying behavior among potential customers who have a strong intention to engage in online purchasing activities. Besides, it is recommended to evaluate the after-purchase state of those who purchase impulsively and its relationship between online trust, satisfaction, and repeat purchase intention. In addition, investigating the relationship between online trust, perceived enjoyment, and online impulse-buying based on online usage rate being a moderator. Lastly, it is suggested to further investigate factors that influence non-enjoyment and lack of online trust among consumers to seek solutions in e-marketing strategies to increase online shoppers and transform the mindset of customers towards online shopping.

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## Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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