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Factors Influencing Impulse Buying Behavior Among Online Consumers during the COVID-19 Pandemic on the Philippines

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ABSTRACT

The COVID-19 pandemic disrupted the buying behavior of consumers. Online purchases have become normal, and individuals are afraid to purchase directly from physical stores. Those who are fond of shopping limit the volume of spending, those who shop occasionally go elsewhere, and those who want to shop end up not buying. Entrepreneurs have to rack their brains and think thoroughly about getting out of the present situation to survive and keep the business going. Unlike previous consumer behavior research, this study contributed relevant and up-to-date insights on consumer impulse buying behavior during the pandemic in an online market setting. The study examined internal factors (i.e., hedonic shopping motivation, product involvement, person's situation, serendipity) and external factors (i.e., COVID-19 pandemic, online store quality, activities by sellers, product attributes, scarcity). Data were gathered from 385 online impulse buyers from different main islands of the Philippines. The study used Partial Least Squares Structural Equation Modelling (PLS-SEM) to analyze the findings. The result confirms four factors that influenced consumers' online impulse buying behavior. This includes hedonic shopping motivation, personal situation, COVID-19, and scarcity. The results of this study can be used as information for entrepreneurs in formulating marketing strategies to boost sales and maximize the benefits from available opportunities during the pandemic.

Keywords: impulse buying, COVID-19 pandemic, online shopping

INTRODUCTION

In January 2020, the World Health Organization (WHO) declared COVID-19 a Public Health Emergency of International Concern (World Health Organization [WHO] 2020). The global economy, particularly international trade, has suffered and continues to suffer huge losses from this pandemic (Gu et al 2021). In response to this outbreak, the Philippine government declared a state of Public Health Emergency on March 8, 2020. In addition, the Philippines imposed enhanced community quarantine, new protocols, and lockdown measures to fight the spread of this virus (Official Gazette 2020).

Due to the COVID-19 outbreak, online purchases have become normal (Wang & Chapa 2021). However, consumers have been involved in buying for weeks due to

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the prolonged imposed isolation and fears about the future (Addo et al 2020). As a result, businesses faced difficulties in this rapid transformation during the lockdown and quarantine period. According to the Department of Trade and Industry (2020), 90,000 businesses in the Philippines remain closed amid the pandemic. Ultimately, online shopping is booming in the Philippines due to the considerable improvement in the internet, web developments, e-payments, and mobile applications (Prasetyo & Dela Fuente 2020). Statista Research Department survey (2021) shows that the Philippines ranks third among Southeast Asian countries in terms of fastest-growing e-commerce.

The COVID-19 pandemic has altered consumers' behaviors and perceptions of buying products. According to the study by Xiong et al (2020), the outbreak is genuinely associated with psychological distress worldwide, such as anxiety and stress, which may cause impulse buying. The fear of the people purchasing hand sanitizers and face masks resulted in the public crowding large shops and supermarkets over the weekend to purchase and collect toilet paper supplies, not-root food, and cleaners to prepare for the coronavirus. As a result, goods inventories sold out, even though they were only placed on store shelves (Telford & Bhattarai 2020). Also, individuals were afraid to purchase products directly from physical stores. Those who are fond of shopping limit the volume of spending, those individuals who shop occasionally go elsewhere, and those who want to shop end up not buying. Entrepreneurs are upset and worried about the future of their businesses, frightened of losing a lot of money due to the pandemic. Sellers have to rack their brains and think thoroughly about getting out of the present situation to survive and keep the business going (Harahap et al 2021). On the positive side, entrepreneurs can benefit from customers' impulse purchase behavior. It helps sellers in understanding customer expectations. Through impulse buyers, sellers can know what type of products customers buy more often and determine which products can trigger impulse buying. (Akkannavar 2021). In addition, Amos et al (2014) found out that between 40% and 80% of consumers' purchases are impulsive. The growth of online payments, advertising and e-commerce, has pushed the trend further. Considering most purchase transactions have been done online, it is imperative to explore Filipino consumers' online impulse purchases during the COVID-19 pandemic.

The study aims to explore the consumers' impulse buying behavior in an online market setting. This provides a general picture of how Filipino consumers behave amidst the COVID-19 outbreak. Specifically, the study aims to (i) describe the socio-demographic characteristics of the consumers, (ii) assess the factors influencing consumers' impulse buying behavior in an online market setting, and (iii) provide recommendations for retailers and future researchers. Figure 1 shows the conceptual framework and variables included in the study. This model comprises internal factors and external factors based on previous research. In addition, the variable COVID-19 pandemic was included in the study to test if it triggers online impulse buying.

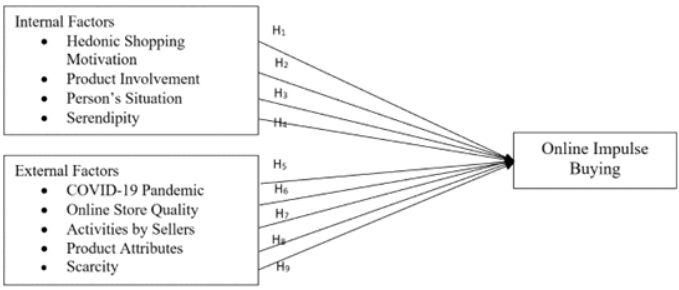

Figure 1. Factors Affecting Online Impulse Buying Behavior

This study formulates the hypotheses below to empirically examine the effect of situational factors and consumer traits on consumers' online impulse buying based on literature.

Hypothesis 1: Online impulse buying can be influenced by hedonic shopping motivation.

Hypothesis 2: Online impulse buying is influenced by product involvement.

Hypothesis 3: Online impulse buying is directly influenced by the person's situation.

Hypothesis 4: Serendipity has a direct influence on online impulse buying.

Hypothesis 5: COVID-19 pandemic influences online impulse buying.

Hypothesis 6: The online store quality influences online impulse buying.

Hypothesis 7: Activities by sellers affect online impulse buying.

Hypothesis 8: Product attributes influence online impulse buying.

Hypothesis 9: Scarcity affects online impulse buying.

The table next page shows the description and measurement level of the variables used in the study with its reference literature.

Table 1. Description of Variables and Level of Measurement

VARIABLE	DESCRIPTION	REFERENCE LITERATURE	LEVEL OF MEASUREMENT	CODING/ UNIT
Dependent Variable				
IB = Online Impulse Buying	Refers to the consumer's unplanned buying decision and immediate transaction decision -making (Xiao & Nicholson 2012)	Febrilia &Warokka 2021	Ordinal (8 items measured by a 6 -point Likert scale)	1=Strongly Disagree 2=Disagree 3=Slightly Disagree 4= Slightly Agree 5= Agree 6= Strongly Agree
Independent Variable				
HSM = Hedonic Shopping Motivation	Define as an individual's want to shop to satisfy psychological needs, including prestige, satisfaction, emotion and other subjective feelings (Widagdo & Roz 2020). Purchasers are likely to impulse buy when they feel the joy and fun of online shopping.	Akram et al 2018; Wang & Chapa 2021	Ordinal (10 items measured by a 6 - point Likert scale)	1=Strongly Disagree 2=Disagree 3=Slightly Disagree 4= Slightly Agree 5= Agree 6= Strongly Agree
PI = Product Involvement	An individual's enduring insights of a product based on their interest, values and inherent needs. (Zaichkowsky 1985). The higher the buyer's product involvement level, the higher the sudden purchase behavior.	Febrilia &Warokka 2021; Pradhan 2016	Ordinal (5 items measured by a 6 -point Likert scale)	1=Strongly Disagree 2= Disagree 3=Slightly Disagree 4= Slightly Agree 5= Agree 6= Strongly Agree
PS = Person's Situation	It refers to an individual's status in life, including the available budget and time for online shopping (Pradhan 2016). Consumers who have more money and time to spend on online shopping are likely to impulse buy.	Febrilia &Warokka 2021; Pradhan 2016	Ordinal (5 items measured by a 6 -point Likert scale)	1= Strongly Disagree 2= Disagree 3= Slightly Disagree 4= Slightly Agree

Table 1 continued ..

				5= Agree 6= Strongly Agree
S = Serendipity	When a person finds information related to his interest and is exposed by coincidence (Toms 2000). Unexpected consumers' interest -related information or products increase impulse buying.	Akram et al 2018	Ordinal (5 items measured by a 6 -point Likert scale)	1= Strongly Disagree 2= Disagree 3= Slightly Disagree 4= Slightly Agree 5= Agree 6= Strongly Agree
Covid = COVID -19 Pandemic	It is a major public health crisis around the world (Ullah et al 2021). Consumers tend to buy impulsively to boost productivity and fear of price increase during crisis.	Ahmed et al 2020	Ordinal (8 items measured by a 6 - point Likert scale)	1= Strongly Disagree 2= Disagree 3= Slightly Disagree 4= Slightly Agree 5= Agree 6= Strongly Agree
OSQ = Online Store Quality	These include the layout, ease of navigation, product arrangement, and display (Febrilia & Warokka 2021). An easy - to-navigate and stylish online shop that provides reliable information affect consumers' impulse buying.	Wang & Chapa 2021; Vishnu & Raheem 2013	Ordinal 6 items measured by a 6 -point Likert scale	1= Strongly Disagree 2= Disagree 3= Slightly Disagree 4= Slightly Agree 5= Agree 6= Strongly Agree
AS = Activities by Sellers	These include the giving of coupons, discounts, and promotional events (Febrilia & Warokka 2021). Impulse buying increases as retailers increase promotional efforts.	Febrilia &Warokka 2021; Sangalang et al 2017; Vishnu & Raheem 2013	Ordinal 11 items measured by a 6 - point Likert scale	1=Strongly Disagree 2=Disagree 3=Slightly Disagree 4= Slightly Agree 5= Agree 6= Strongly Agree

Table 1 continued ..

PA = Product Attributes	These include the intangible and tangible properties of a product, such as price and quality (Holmes 2020). Quality products at a low price can trigger individuals to impulse buy.	Pradhan 2016	Ordinal 5 items measured by a 6 -point Likert scale	1=Strongly Disagree 2=Disagree 3=Slightly Disagree 4= Slightly Agree 5= Agree 6= Strongly Agree
Socio -Demographic Variables				
Sex	Refers to whether the respondent is male or female		Nominal	0= Male 1=Female
Age	Refers to the respondents' age		Scale	Age (in years)
Civil Status	Refers to the marital state of the respondent		Nominal	1= Single 2= Married 3= Widowed 4= Separated/Divorced
Educational Attainment	The highest educational level of the respondent		Ordinal	1= Elementary Level 2= Elementary Graduate 3= High school Level 4= High school Graduate 5= College Level 6= College Graduate 7 = Vocational School 8= Post -Graduate
Job/Employment	Employment classification of the respondent		Nominal	1= Unemployed 2= Self -employed 3= Private Employee 4= Government Employee 5= Student

Table 1 continued ..

Average Monthly Income or Allowance	Refers to the average monthly income or allowance of the respondent	Ordinal	1= Less than 1,000 2= 1,000 - 4,999 3= 5,000 - 9,999 4= 10,000 - 14,999 5= 15,000 - 19,999 6= 20,00 - 24,999 7= 25,000 - 29,999 8= 30,000 - 32,999 9= 35,000 and above
Location	Refers to whether the respondent resides in Luzon, Visayas or Mindanao	Nominal	1= Luzon 2= Visayas 3= Mindanao
Online Shopping Details Variables			
Type of Impulse Buyer	Refers to what type of impulse buyer the respondent is	Nominal	1= Pure 2= Reminder 3= Suggestive 4= Planned
Hours spent per day browsing online stores	Refers to the hours spent per day by the respondent in browsing online stores	Ordinal	1= Less than 2 hrs 2= 2 -3 hrs 3= 3 -4 hrs 4= 4 -5 hrs 5= More than 5 hrs
Number of known Online Stores	Refers to the number of known online stores by the respondent	Ordinal	1= 1 -5 stores 2= 6 -10 stores 3= 11 -15 stores 4= More than 15 stores

Table 1 continued ..

Frequency of shopping online in a month	Refers to the respondent's frequency of shopping online in a month		Ordinal	1= 1 -5 times 2= 6 -10 times 3= 11 -15 times 4= More than 15 times
Products purchased impulsively for the past six months	Refers to the products impulsively purchased by the respondents for the past six months	Food and groceries	Nominal	0= No, 1= Yes
		Personal hygiene products	Nominal	0= No, 1= Yes
		Household cleaning products	Nominal	0= No, 1= Yes
		Clothing, apparel, and fashion accessories	Nominal	0= No, 1= Yes
		Medication	Nominal	0= No, 1= Yes
		Cosmetics and beauty products	Nominal	0= No, 1= Yes
		Consumer technology and electronics	Nominal	0= No, 1= Yes
		Pet food and related supplies	Nominal	0= No, 1= Yes
		Movies, music and television entertainment	Nominal	0= No, 1= Yes
		Toys, games and puzzles	Nominal	0= No, 1= Yes

Table 1 continued ..

Online Shopping Platforms	Refers to the preferred online shopping platforms of the respondent	Shopee	Nominal	0= No, 1= Yes
		Lazada	Nominal	0= No, 1= Yes
		Zalora	Nominal	0= No, 1= Yes
		Food Panda	Nominal	0= No, 1= Yes
		Facebook	Nominal	0= No, 1= Yes
		Instagram	Nominal	0= No, 1= Yes
Payment Method	Refers to the preferred online payment method of the respondent	Shopeepay	Nominal	0= No, 1= Yes
		Payment center/ e - wallet	Nominal	0= No, 1= Yes
		Bank Transfer	Nominal	0= No, 1= Yes
		Cash on Pick -up	Nominal	0= No, 1= Yes
		Cash on Delivery	Nominal	0= No, 1= Yes

METHODOLOGY

A descriptive research design was used in this study. It utilized the data gathered from the survey activity, including the number of responses from representative samples and the characteristics of the entire population. In addition, an inferential research design was employed to test how well the data supported the hypotheses. Meanwhile, a purposive sampling technique was used in the study. This technique is widely used when the researchers rely on their knowledge to collect information from the best-fit individuals (Sharma 2017). This sampling technique is the most suitable tool for the study since it focus on a specific domain (Tongco 2007). It was used in choosing the participants in the islands of Luzon, Visayas, and Mindanao. The respondents are Filipino residents who are online impulse buyers transacting on various e-commerce sites for the past six months, including both men and women aged 25-34 years old. This age group is the country's most dominant internet user population; they have higher earnings than other working groups and account for more than 50% of online shopping (Masigan 2020; Statista Research Department 2021).

Moreover, the researcher used Cochran's formula to identify the total sample size of the study. This formula calculates the sample size when the population is infinite (Cochran 1963).

$$n_0 = \frac{z^2 pq}{e^2} \quad \text{(Equation 1)}$$

$$n_0 = \frac{1.96^2(0.5)(1-0.5)}{(0.05)^2}$$

$$n_0 = 384.16 \; or \; 385$$

where:

n_0 = Sample size for infinite population
Z = Z value (1.96 for 95% confidence level)
p = Population proportion (expressed as decimal 0.5, assumed to be 50%)
$q = 1 - p$
e = Margin of error at 5% (0.05)

Based on the calculation, the minimum sample size was found to be 385 respondents using the 95% confidence level, 50% assumed proportion, and a margin of error of 5%, which is within the acceptable range for educational and social science research (Bartlett 2001). A sample size of 385 participants was used in this study which was proportionally distributed in the three main island groups in the Philippines, as shown in Table 2 below. The 2022 population projection report by the Department of Health (DOH) was used to determine the total population of these islands and their respective proportions.

Table 2. Distribution of Respondents

LOCATION	TOTAL NUMBER OF POPULATION (25 -34 YRS. OLD) YEAR 2022*	PROPORTIONAL PERCENTAGE	CALCULATED NUMBER OF RESPONDENTS
Luzon	10,328,821	57%	220
Visayas	3,384,939	18%	73
Mindanao	4,322,545	24%	92
Total	18,036,305	100%	385

*Source: 2022 population projection report by Department of Health (DOH)

A pre-tested structured questionnaire consisting of four parts was used in the study. The first part asks the participant's permission to be part of the study. It was followed by a short statement assuring their responses would be used for this research project and kept with the utmost confidentiality. The second part comprises screening questions to determine whether respondents qualify for the survey. The third part asks the respondents to indicate to what extent they agreed or disagreed with the given statements on factors affecting online impulse buying using a six-point Likert scale. Thomson (2018) states that a six-point Likert scale forces choice and provides good data.

It encourages respondents to consider the questions more carefully. Also, an even number of items in the response scale can provide uncomplicated groupings to understand and discuss. The fourth part contains the respondent's socio-demographic information. Lastly, the instrument automatically collects the email addresses to ensure the responses' reliability and ensure everyone only submits one entry. This questionnaire was adapted and modified by different researchers that studied the impulse buying behavior of consumers.

The quantitative method was used in this study. Validity and reliability test were done to evaluate the quality of the data. Also, descriptive statistics were done to summarize the respondents' socio-demographic background and impulse buying factors. Finally, Partial Least Squares Structural Equation Modelling (PLS-SEM) was used to determine the significant factors affecting consumers' online impulse buying behavior during COVID-19 since the researcher employed a non-probabilistic sampling technique. According to Memon et al (2017), using SEM with non-probability samples is appropriate as long as it suits the objectives and scope of research and when the complete sampling frame is unavailable. Furthermore, all analyses were analyzed using IBM Statistical Package for the Social Sciences (SPSS) version 20 for descriptive analysis and R software for PLS-SEM analysis.

RESULTS AND DISCUSSION

Table 3 below shows the socio-demographic profile of the respondents. It was shown that female respondents were dominant (60.26%), the average age of the respondents was 28, the majority of the respondents were single (82.08%), and the highest education attained was college level (38.96%). Most of the respondents were private employees (22.34%) and had an average monthly income or allowance of less than Php1,000 (25.71%). This would indirectly mean that a substantial number of private employees in the country experienced adverse effects from the COVID-19 pandemic. The pandemic likely had economic consequences that affected their income, hence the indirect connection between their financial situation and the pandemic.

Table 3. Socio-demographic profile of the respondents

CATEGORY		COUNT	PERCENT (%)	MEAN	MIN	MAX
Sex	Male	153	39.74%			
	Female	232	60.26%			
Age				28	25	34
Civil Status	Single	316	82.08%			
	Married	68	17.66%			
	Widowed	1	0.26%			
Educational Attainment	Elementary Graduate	2	0.52%			
	High school Level	17	4.42%			
	High school Graduate	44	11.43%			
	College Level	150	38.96%			
	College Graduate	149	38.70%			
	Vocational School	10	2.60%			
	Post-Graduate	10	2.60%			
	Other/s	3	0.78%			
Job/Employment	Unemployed	73	18.96%			
	Self-employed	76	19.74%			
	Private Employee	86	22.34%			
	Government Employee	72	18.70%			
	Student	78	20.26%			
Average Monthly Income or Allowance	Less than 1,000	99	25.71%			
	1,001-4,999	67	17.40%			
	5,000-9,999	75	19.48%			
	10,000-14,999	36	9.35%			
	15,000-19,999	42	10.91%			
	20,000-24,999	26	6.75%			
	25,000-29,999	16	4.16%			
	30,000-32,999	12	3.12%			
	35,000 and above	12	3.12%			

The data in figure 2 shows the impulse buyer type of the respondents by location. As shown below, it was observed that most respondents from Luzon (41.82%) and Visayas (27.40%) were pure impulse buyers. This indicates that most of them visited a store and instantly felt like buying something not included on their shopping list. Meanwhile, respondents from Mindanao (42.39%) were mostly planned, impulse buyers. This indicates that most of them find a coupon for their favorite store, and with this coupon, they are now excited to purchase, but they do not know what it is. However, they plan to use the discount coupon. These results specify that online sellers can convince consumers to make unplanned purchases by giving coupons.

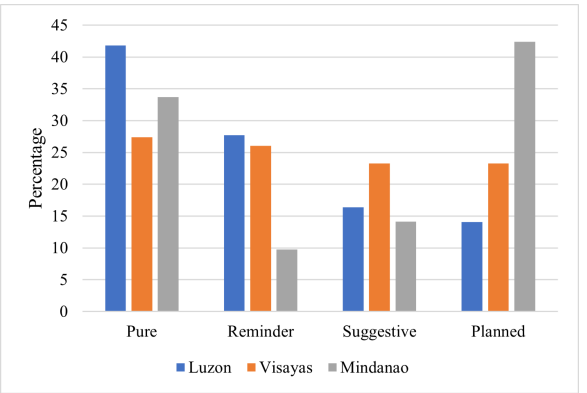

Figure 2. Type of Impulse Buyer

The online shopping details of the respondents are shown in figure 3. It was revealed that most respondents from Luzon, Visayas, and Mindanao spent less than 2 hours a day browsing in online stores (53.18%, 63.01%, 47.83% resp.), known 1-5 online stores (78.18%, 76.71%, 79.35% resp.), visited 1-5 same online stores in the past six months (82.73%, 82.19%, 81.52% resp.), and shop 1-5 times a month (74.09%, 89.04%, 83.7% resp). These results indicate that most respondents often go back to these online stores despite the numerous online stores in the Philippines.

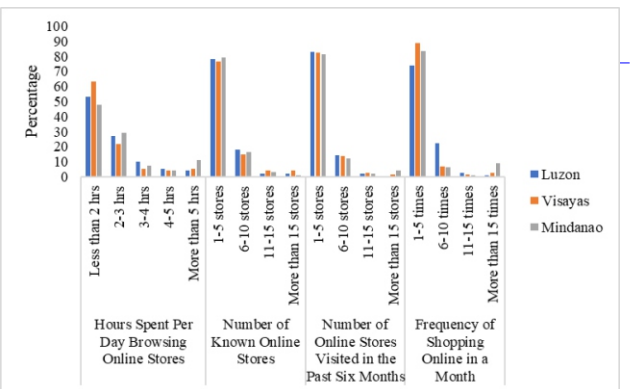

Figure 3. Online Shopping Details

The products the respondents impulsively purchased during the COVID-19 pandemic are shown in figure 4. The data shows that the majority of the respondents from Luzon (23.33%) bought food and groceries, including non-alcoholic beverages, during the pandemic. This means that they prefer the diverse food options and convenience of online shopping. Secondly, they cannot go outside to purchase food due to the enhanced community quarantine implemented by the Inter-Agency Task Force (Department of Health 2021). Meanwhile, respondents from the Visayas (24.07%) and Mindanao (21%)

purchased personal hygiene products, including toilet paper, hand sanitizer, and masks. This would signify that they are preventing the spread of the COVID-19 coronavirus.

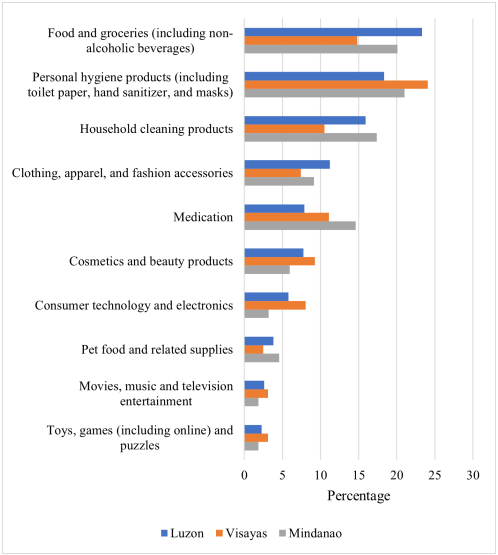

Figure 4. Products Purchased Impulsively for the Past Six Months

Figure 5 shows the respondents' preferred online shopping platforms and payment methods. It was demonstrated that respondents from Luzon, Visayas, and Mindanao preferred Shopee (36.33%, 40.37%, 39.79% resp.) and cash on delivery as the mode of payment (47.16%, 58.26%, 54.26% resp.). This means that most avoid online payment due to possible risks and are cautious in checking the product's authenticity.

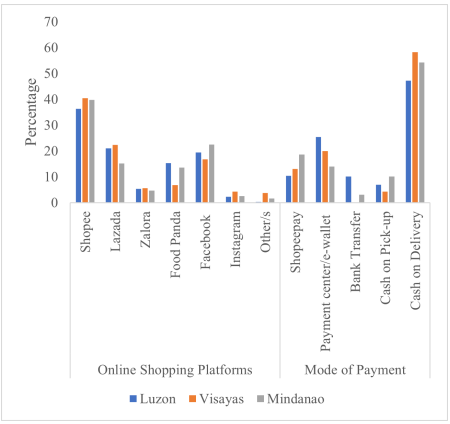

Figure 5. Preferred Online Shop and Mode of Payment

An exploratory factor analysis (EFA) was conducted to assess the items used as indicators in measuring the hypothesized construct. An EFA with a varimax rotation was used to identify which items load to their expected construct. Items with high cross-loadings (i.e., items which load highly to more than one construct) and loadings below 0.30 were excluded. High cross-loadings pose difficulty in establishing a separate concept of each variable when factors are shared variables. The goal is to identify the pattern where each item associates only with one factor. Factor loadings less than ±0.10 can be considered equivalent to zero to assess the simple structure. Factor loadings in the range of ±0.30 and ±0.40 are considered to meet the minimal level for interpretation of the structure. Loadings ±0.50 or greater are considered practically significant, and loadings exceeding ±0.70 are indicative of a well-defined structure and are the goal of any factor analysis. Extremely high loadings such as ±0.90 and above are not typical, and the practical significance of the loadings is an important criterion (Hair et al 2018).

Afterwards, confirmatory factor analysis was conducted to initially check the selected items as indicators of their factor initially. Table 3 below shows the robust fit indices for the CFA measurement model. The fit of the measurement model was assessed using the ratio of the Chi-square to the degrees of freedom, Tucker-Lewis Index (TLI), Comparative Fit Index (CFI), and the Root Mean Square Error of Approximation (RMSEA). Before proceeding with the CFA estimation, selected items were tested for multivariate and univariate normality tests. Using the Mardia test wherein p-value < 0.5 indicate rejection of the null hypothesis of multivariate and univariate normality. The normality test results show rejection of the null hypothesis that data does not follow a normal distribution. Given the result of the normality test, a maximum likelihood robust (MLR) was used to estimate the initial measurement model. Based on the assessment criteria, the model shows an acceptable and adequate model fit.

Table 4. Robust fit indices for measurement model using CFA

FIT INDEX	RESEARCH MODEL	RECOMMENDED VALUES	REFERENCES
Chi -square	2083.62		
Df	1280		
Chi - square/df	1.63	<= 5	Bollen (1989)
TLI	0.903	>= 0.90	Bentler and Bonnet (1980)
CFI	0.910	>= 0.90	Bentler (1990)
RMSEA	0.040	<= 0.08	Hu and Bentler (1999)

Note: All measurement items reject the null hypothesis of univariate normality. The maximum likelihood robust (MLR) estimator or the Satora-Bentler method was used instead of the ML estimator

A partial least square SEM was used to estimate the final measurement and structural model. The PLS-SEM is a nonparametric method; thus, no distributional assumption. The measurement model and structural model were estimated with bootstrapping. The study used 1000 bootstrap subsamples. Bootstrapping is a statistical procedure that resamples the dataset to create simulated samples. PLS-SEM estimating relies on a nonparametric bootstrap procedure to test the significance of the coefficients.

The first step in assessing the measurement model is examining the indicator variance as explained by its construct to assess the indicator's reliability. Loadings above 0.70 are recommended. A loading of 0.708 and above indicate that the constructs explain more than 50 percent (e.g., 0.7082 ~ 0.50) of the indicator's variance, thus providing acceptable indicator reliability.

Table 5. Bootstrapped loadings of the construct's indicator

CONSTRUCT	INDICATOR	ORIGINAL ESTIMATE	BOOTSTRAP MEAN
Impulse buying	IB4	0.800	0.796
	IB5	0.850	0.850
	IB6	0.862	0.862
	IB7	0.839	0.839
	IB8	0.851	0.850
Hedonic shopping motivation	HSM1	0.815	0.815
	HSM2	0.851	0.851
	HSM3	0.839	0.839
	HSM5	0.848	0.847
Product involvement	PI1	0.750	0.748
	PI2	0.777	0.773
	PI3	0.844	0.844
	PI4	0.855	0.855
	PI5	0.706	0.702
Person's situation	PS1	0.851	0.842
	PS2	0.899	0.889
	PS4	0.787	0.766
Serendipity	S2	0.833	0.835
	S3	0.854	0.853
	S4	0.868	0.868
	S5	0.769	0.767
Covid -19 pandemic	COV2	0.764	0.764
	COV3	0.849	0.846
	COV4	0.819	0.816
	COV5	0.865	0.864
	COV6	0.863	0.863
Online store quality	OSQ1	0.768	0.760
	OSQ2	0.800	0.797
	OSQ3	0.649	0.635
	OSQ4	0.824	0.815
	OSQ5	0.751	0.736
	OSQ6	0.845	0.845
	OSQ7	0.795	0.783
	OSQ8	0.851	0.842

Table 5 continued to next page ..

Table 5 continued ..

CONSTRUCT	INDICATOR	ORIGINAL ESTIMATE	BOOTSTRAP MEAN
Activities by sellers	AS1	0.759	0.760
	AS2	0.736	0.735
	AS3	0.753	0.751
	AS4	0.776	0.777
	AS5	0.802	0.800
	AS6	0.786	0.785
	AS7	0.746	0.746
	AS9	0.728	0.725
	AS10	0.770	0.766
	AS11	0.760	0.758
Product atrributes	PA1	0.662	0.636
	PA2	0.902	0.776
	PA3	0.876	0.773
	PA4	0.793	0.721
Scarcity	SSO1	0.839	0.839
	SSO2	0.855	0.856
	SSO3	0.882	0.882
	SSO4	0.894	0.893
	SSO5	0.891	0.890

Note: A 1000 bootstrap subsamples were used in the estimation process.

The table below shows the reliability and convergent validity of construct measurement. Cronbach's alpha, rho A, and rho C estimate the composite reliability based on the intercorrelations of the observed indicator variables. Higher values indicate a higher level of reliability. Reliability values of 0.70 and above are satisfactory to a good measure of reliability. Cronbach's alpha is a conservative measure of reliability, while rho C is liberal (i.e., often overestimated) in measuring the reliability of the construct. While the rho A usually lies between the conservative Cronbach's alpha and the liberal composite reliability rho C. Rho A is considered an acceptable compromise between Cronbach's alpha and Rho C (Dijkstra 2014; Dijkstra & Henseler 2015).

Table 6. Reliability and convergent validity of construct measurement

CONSTRUCT	CRONBACH'S ALPHA	DIJKSTRA - HENSELER'S (RHO A)	COMPOSITE RELIABILITY (RHO C)	AVERAGE VARIANCE EXTRACTED (AVE)
Impulse buying	0.883	0.915	0.886	0.682
Hedonic shopping motivation	0.850	0.891	0.879	0.622
Product involvement	0.807	0.884	0.855	0.717

Table 6 continued to next page ..

Table 6 continued ..

CONSTRUCT	CRONBACH'S ALPHA	DIJKSTRA - HENSELER'S (RHO A)	COMPOSITE RELIABILITY (RHO C)	AVERAGE VARIANCE EXTRACTED (AVE)
Person's situation	0.871	0.906	0.881	0.659
Serendipity	0.890	0.919	0.906	0.693
Covid -19 pandemic	0.918	0.928	0.946	0.620
Online store quality	0.920	0.933	0.923	0.580
Activities by sellers	0.856	0.885	0.937	0.662
Product attributes	0.921	0.941	0.922	0.761
Scarcity	0.896	0.923	0.903	0.706

Note: Alpha, rhoA, and rhoC should exceed 0.7 while AVE should exceed 0.5

Moreover, figure 6 shows the reliability plot. The horizontal dashed blue line indicates the common minimum threshold level for the three reliability measures. The figures show that all reliability measurement is within the acceptable threshold.

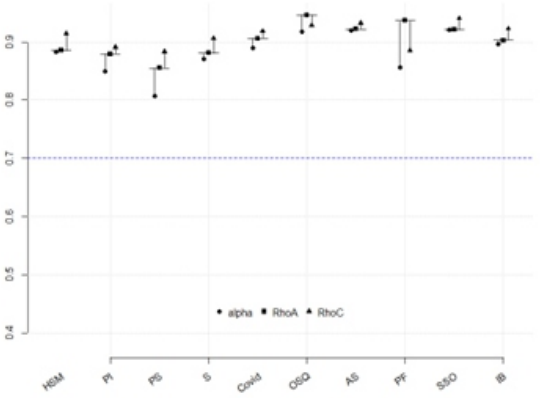

Figure 6. Reliability Plot

Discriminant validity confirms whether constructs should not have any relationship or are highly associated with other constructs. It measures the extent to which a construct is empirically distinct from the other constructs in the structural model. Two commonly used methods to test discriminant validity are Fornell-Larcker (Fornell & Larcker 1981) criterion and the hetero-monotrait (HTMT) ratio (Henseler et al 2015).

The Fornell-Larcker criterion proposed the traditional metric for establishing

discriminant validity. The idea of the criterion is that each construct's AVE (Average Variance Extracted) should be compared to the construct correlation. To establish discriminant validity under the Fornell-Larcker criterion, the shared variance between all constructs (i.e., the off-diagonal values in the results below) should not be larger than the AVE (i.e., the diagonal values, e.g., 0.826 for HSM, 0.788 for PI). In addition, Fornell-Larcker's criterion suggests that all constructs are conceptually distinct from the other constructs. Hence, discriminant validity is established for all constructs, as shown below.

Table 7. Discriminant validity using the Fornell-Larcker criterion

	HSM	PI	PS	S	Covid	OSQ	AS	PF	SSO	IB
HSM	0.826									
PI	0.649	0.788								
PS	0.347	0.375	0.847							
S	0.668	0.643	0.442	0.812						
Covid	0.649	0.468	0.374	0.575	0.833					
OSQ	0.448	0.569	0.351	0.518	0.341	0.788				
AS	0.618	0.502	0.413	0.625	0.659	0.515	0.762			
PA	0.166	0.391	0.301	0.281	0.082	0.545	0.280	0.814		
SSO	0.606	0.464	0.352	0.650	0.632	0.398	0.709	0.121	0.872	
IB	0.547	0.366	0.172	0.490	0.560	0.228	0.488	0.074	0.532	0.840

Note: The Fornell-Larcker criteria table reports the square root AVE on the diagonal and constructs correlations on the lower triangle

Table 8 below shows the discriminant validity using the heterotrait-monotrait (HTMT) criterion. Heterotrait measures the correlation of indicators of different constructs, and the correlation should be as small as possible. While monotrait measures the correlation among indicators measuring the same construct and the correlation should be as high as possible. The heterotrait-monotrait (HTMT) value should be lower to establish discriminant validity. The recommended threshold is below 0.90 or less than 0.85 for a more conservative threshold (Henseler et al 2015). When the HTMT value is high (above 0.90), it may suggest one or some indicators in one construct are highly related to another. It means the construct is not conceptually distinct. Using the HTMT criterion, values are below 0.90 or 0.85, suggesting constructs passed the discriminant validity test. The findings of the HTMT criterion in terms of discriminant validity are consistent with the Fornell-Larcker criterion.

Table 8. Discriminant validity using the heterotrait-monotrait (HTMT) criterion

	HSM	PI	PS	S	COVID	OSQ	AS	PF	SSO	IB
HSM										
PI	0.733									
PS	0.406	0.470								
S	0.769	0.745	0.523							
Covid	0.724	0.537	0.438	0.647						
OSQ	0.460	0.641	0.399	0.570	0.354					
AS	0.690	0.566	0.480	0.700	0.723	0.532				
PA	0.208	0.507	0.386	0.353	0.113	0.700	0.334			
SSO	0.673	0.511	0.403	0.725	0.692	0.391	0.766	0.137		
IB	0.600	0.392	0.189	0.537	0.604	0.204	0.518	0.069	0.577	

Note: To establish discriminant validity using the HTMT criterion, the value should be below 0.90 or less than 0.80 for a more conservative threshold

The table below shows the constructs' effects on impulse buying using bootstrapped PLS-SEM with a 95% confidence interval. A bootstrap test (1000 samples) was realized to generate the t-values of the model parameters. Interestingly, among nine independent variables, only four are significant. The first hypothesis testing shows that hedonic shopping motivation positively influences the impulse buying behavior of the respondents. This means that consumers who perceive online shopping as a means to feel better and seek adventure will be more likely to engage in impulse buying. In other words, a person with hedonic behavior will likely to make unplanned or sudden purchases. This result is similar to the study of Cinjarevic et al (2011), Sahetapy et al (2020), and Wang and Chapa (2021). Moreover, Faisal et al (2020) and Zheng et al (2019) reported a similar finding, which mentioned that an individual's shopping intentions are motivated by hedonic shopping intentions. These intentions trigger impulse purchases, which often occur in public, such as the sudden desire to purchase items without thinking about whether these products are needed. Furthermore, five hedonic dimensions influence impulse buying, including social, adventure, value, relaxation, and idea shopping (Akram et al 2018).

The second hypothesis testing shows a contradictory result, examining the effect of product involvement on online impulse buying. It implicitly demonstrated that consumers' enduring insights of a product based on their interest, values, and inherent needs does not affect their impulsive buying decisions. Also, this would mean that consumers are more willing to spend time and energy collecting information and evaluating the products that interest them before buying. This finding does not support the study of Liang (2012), Li et al (2021), and Pradhan (2016), where product involvement affects online impulse shopping behavior through the perception of consumers of products. This result indirectly suggests that Filipinos may value informed decision-making and place importance on getting the best value for their money, distinguishing their consumer behavior from that of other countries.

Personal situation negatively influences online impulse buying behavior. It implicitly indicates that impulse buying behavior decreases when consumers' time for shopping and budget is limited. This would mean that consumers feel that less money and time for shopping are a barrier to them from making impulse

purchases. The consumer may feel frustrated due to the lack of time to shop (Lin & Chen 2013) and will avoid online shopping when the consumer does not have enough money. Likewise, when consumers have more money and time for shopping, they automatically decide to make an unplanned purchase. This finding is in line with the results of Pradhan (2016), which stated that the availability of money and time encourages impulse buying. In contrast, this finding opposes the study of Febrilia and Warokka (2021), which found that consumers' limitations and availability concerning time and money will not affect impulsive shopping activities.

The fourth hypothesis testing shows the effect of serendipity on impulse buying is insignificant. This means consumers do not tend to buy products impulsively when receiving serendipitous information on e-commerce sites. Additionally, when consumers discover a product online that interests them, they generally don't feel compelled to buy it on the spot. This implies that Filipinos often take a moment to reconsider and think twice before making impulsive purchases, even for products that bring them happiness. This result contradicts the previous studies of Akram et al (2018), Chung et al (2017), and Mamuaya & Tumiwa (2018).

Examining COVID-19's effect on impulse buying exhibits a significant statistical result. This indicates that news of complete lockdown, the coronavirus's rapid spread, and fear of price increases encouraged the consumers to make impulse purchases. This result supports the study of Wang et al (2021). Also, it is somewhat similar to the findings of Mandel and Smeesters (2008) that when consumers fear death, they tend to shift their attention through hedonistic food consumption and overeating. Likewise, it has been suggested that consumer emotions affect impulse buying because consumers can use impulse buying to relieve negative feelings (Maxwell & Kover 2003) and pleasure (Shiv & Fedorikhin 1999). Moreover, from a neuromarketing viewpoint, the emotional experience of fear and anxiety induced by the COVID-19 outbreak causes significant amygdala activation (Adolphs & Tranel 2004), increasing risk and impulsive behaviors (Baker & Galvan 2020).

The sixth, seventh and eighth hypothesis testing results are adverse findings. The effects of online store quality, motivational activities by sellers, and product attributes on online impulse buying are statistically insignificant. This means that even though the online store is visually attractive, well designed, and provides reliable and complete information, this does not make the consumers buy impulsively. In other words, the decision to make an impulse purchase is not determined by how stylish a particular online store is. This finding is not in line with the previous studies conducted by Akram et al (2018), Rezaei et al (2016), and Tariq et al (2019). Also, the motivational activities by the sellers, such as promotions including 'buy one take one, discounts, free shipping, and gifts, do not attract consumers to buy impulsively. This means that the promotional efforts made by online sellers do not make consumers impulsively buy the product. This result contradicts prior studies by Akram et al (2018), Atulkar and Kesari (2018), Dawson and Kim (2009), and Febrilia and Warokka (2021). Moreover, the product's quality, completeness, and price do not affect consumer purchases made spontaneously. This indicates that consumers considered product attributes important, which should be considered carefully before making a purchase. This finding is in line with the study of Febrilia and Warokka (2021). In contrast, the outcome contradicts

the findings of Atulkar and Kesari (2018), Bahrainizad and Rajabi (2018), and Leong et al (2017).

The test of the influence of scarcity on online impulse buying shows a significant result. This implicitly means that when a consumer sees or receives a scarcity message regarding a particular product, such as 'few stocks left', their online impulse buying intrinsic increases. This result is similar to previous studies such as Anas et al (2021) and Chung et al (2017). In addition, previous research has revealed that limited-time deals are one of the most regularly self-reported triggers of online impulse buying (Moser et al 2019). Furthermore, Lynn (1992) mentioned that scarcity information is valuable to boost impulsive behavior. Online entrepreneurs use "limited release" or "two minutes left" to pressure consumers psychologically.

Table 9. Constructs effects on impulse buying using bootstrapped PLS-SEM with a 95% confidence interval

PATH	ORIGINAL ESTIMATE	BOOTSTRAP MEAN	BOOTSTRAP SD	T-STAT	2.5% CI	97.5% CI	SIGNIFICANCE OF EFFECT	VIF
HSM -> IB	0.24	0.24	0.08	3.22	0.10	0.39	Yes	2.69
PI -> IB	-0.01	0.00	0.08	-0.10	-0.15	0.14	No	2.35
PS -> IB	-0.13	-0.11	0.05	-2.30	-0.21	0.00	Yes	1.36
S -> IB	0.11	0.11	0.08	1.43	-0.04	0.28	No	2.68
Covid -> IB	0.25	0.23	0.12	2.01	0.03	0.44	Yes	2.32

Table 9 continued

OSQ -> IB	-0.11	-0.10	0.08	-1.39	-0.26	0.06	No	2.04
AS -> IB	0.07	0.08	0.10	0.71	-0.11	0.27	No	2.81
PA -> IB	0.04	0.02	0.09	0.45	-0.17	0.17	No	1.60
SSO -> IB	0.20	0.21	0.11	1.85	0.00	0.44	Yes	2.55

Note: A 1000 bootstrap subsamples were used in the estimation process. The R-square and adjusted R-square of the dependent construct IB was 0.419 and 0.405, respectively. The Variance Inflation Factor (VIF) was used to identify potential collinearity issues. Critical collinearity issues likely occur if VIF is > 5.

Factors Influencing Impulse Buying Behavior Among Online Consumers

The figure below shows the R-squared value and path coefficients. Chin (1998) articulated the R^2 values of 0.67, 0.33, and 0.9 in PLS path models as substantial, moderate, and weak. Hence, impulse buying behavior has a moderate R^2 value of 41.8%. This would mean that the model explains about 41.8% of the variability of impulse buying behavior. Path coefficient is the coefficient linking construct in the structural model, representing the hypothesized relationship. Figure 4 below shows that hedonic shopping motivation, COVID-19, and scarcity positively influence impulse buying behavior. In contrast, personal situation negatively influences impulse buying behavior.

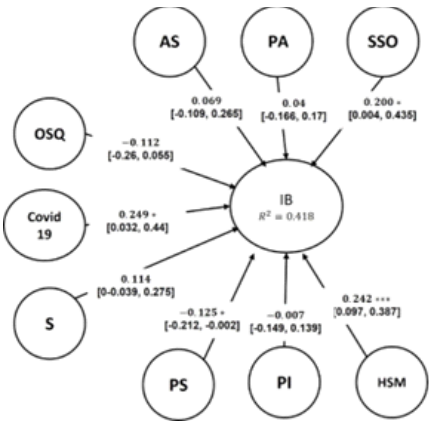

Figure 8. Structural PLS-SEM plot

wherein:

HSM = Hedonic Shopping Motivation
OSQ = Online Store Quality
PI = Product Involvement
AS = Activities by Sellers
PS = Person's Situation
PA = Product Attributes
S = Serendipity
SSO = Scarcity
Covid 19 = COVID19 Pandemic

CONCLUSION AND RECOMMENDATIONS

The study concludes the findings as follows. Most of the respondents from Luzon and Visayas are pure impulse buyers, indicating that most of them visited a store and instantly felt like buying something not included on their shopping list. While, respondents from Mindanao were planned impulse buyers, indicating that most of them find a coupon from their favorite store. With this coupon, they are now excited to purchase, but they do not know what it is. However, they plan to use the discount coupon. In addition, it was found that most respondents from Luzon

impulsively bought groceries. In contrast, respondents from Visayas and Mindanao impulsively purchased personal hygiene products, including toilet paper, hand sanitizer, and masks. Moreover, it was revealed that the most preferred online shop was Shopee, and cash on delivery was the most preferred mode of payment.

Furthermore, there are positive and significant statistical figures on the first, fifth, and ninth hypotheses, while the third hypothesis is negatively significant. It indicates that hedonic shopping motivation, personal situation, COVID-19, and scarcity influence consumers' decisions to purchase products at online stores impulsively. Consumers who perceive online shopping as a means to feel better and seek adventure will likely to engage in impulse buying. Also, when consumers have more money and time for shopping, they automatically decide to make an unplanned purchase. In addition, the news of complete lockdown, the coronavirus's rapid spread, and fear of price increases encouraged the consumers to make impulse purchases. Lastly, the findings mean that when a consumer sees or receives a scarcity message regarding a particular product, such as 'few stocks left,' their online impulse buying intrinsic increases. These significant factors simultaneously affect the consumer's online impulse buying, providing new insights on consumer behavior during the pandemic that abruptly changes the modes of buying and acquiring products.

The findings and conclusion of the study suggest the following recommendations for entrepreneurs:

- First, it is recommended that retailers create an online store that offers cash on delivery and sells food, groceries, and personal hygiene products.
- Second, sellers may consistently advertise their products online to gain more customers. In addition, giving discount coupons is also recommended.
- Third, retailers may create an online community where customers can interact with each other, especially those who have hedonic behavior.
- Fourth, retailers may negotiate and provide product recommendations to the customers to encourage them to impulse buy. In addition, retailers may boost product promotions during payday.
- Finally, retailers may provide scarcity messages such as updates about the number of stocks left to motivate the customers to buy the product.

For further studies, it is recommended to study the effect of COVID-19 on the internal factors (i.e., hedonic shopping motivation, product involvement, person's situation, serendipity) and external factors (i.e., online store quality, activities by sellers, product attributes, scarcity) that could affect the impulse buying behavior of consumers. Secondly, applying this concept and method in the context of a specific good or service is recommended to get more precise and justified results.

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