

The Role of Product Visual Appeal and Sale Promotion Program on Consumer Impulsive Buying Behavior

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Abstract

The study aims at investigating the impact on relationships among visual appeals of products, sales promotion programs, and instant gratification factors on consumers' impulsive buying behavior. The study comprises two stages using both qualitative and quantitative research methods. In detail, qualitative research is applied in the first stage to explore the factors that might influence consumers' online impulsive buying behavior and examine the relationship among the factors. The quantitative research is conducted in Vietnam. The 362 Vietnam-collected valid questionnaires were analyzed using Cronbach alpha, exploring factor analysis (EFA), confirmed factor analysis (CFA), and structural equal model (SEM) to check the measurement values and test the proposed hypotheses. The result shows that product visual appeal and sales promotion programs have a positive impact on instant gratification factors and impulsive buying behaviors. Moreover, the research proved the direct influence of instant gratification factors on consumers' impulsive buying behavior. The findings contribute to expanding measured values and provide several suggested solutions for the practical management of business strategy.

Keywords:

Product Visual Appeal;
Sales Promotion Program;
Instant Gratification Factor;
Consumer's Impulsive Buying Behavior.

Article History:

Received:	11	October	2023
Revised:	15	January	2024
Accepted:	22	January	2024
Published:	01	February	2024

1- Introduction

With the impact of globalization and the development of the 4th industrial revolution, the cyberspace competition is extremely high in business, branding, and products. Online shopping is one of the most favourite shopping platforms [1] and strongly contributes to business in the 4.0 era [2]. Most enterprises currently set up their online sales channels in various forms and approaches to reach more target customers [3, 4]. From the customer perspective, people easily get more opportunities to access different online information sources, have more options for brands and products, and compare them from different suppliers. This stimulates customer attraction and motivates them to make purchasing decisions faster. It plays an important role for customers to easily find substitute products, and there are many unpredictable factors that can delay or change the customer's purchasing decision. Therefore, motivating customers to make a buying decision instantly whenever they see a suitable product plays an important role in online shopping. Research data shows that impulsive shopping accounts for up to 40% of the proportion of goods traded in the market [5]. Therefore, increasing the in-depth understanding of impulsive buying behavior is paramount to developing e-commerce businesses [6].

Recently, many studies have examined online impulsive buying behavior [7–9]. Most studies confirmed the strong influence of hedonic shopping motivations on online consumers' impulsive buying behavior [9–12]. Some studies explored the relationship among interactivity, vividness, and an online consumer's impulsive buying behavior [8, 13].

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DOI: <http://dx.doi.org/10.28991/ESJ-2024-08-01-021>

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Other studies investigated the impact of functionality, psychological attributes, and affective and cognitive dimensions to urge consumer's making impulsive buying behavior [7, 14]. However, there are no research that explores the product visual appeal and sales promotion program as the antecedents influencing online impulsive buying behavior directly and indirectly through the mediate variable of instant gratification factors. In addition, estimating the impact of product visual appeal and sales promotion programs on impulse buying behavior directly and indirectly through the instant gratification factor would help marketing managers divide their budget efficiently. Hence, the purpose of the study is to examine the impacted relationship of product visual appeal, sales promotion programs, and instant gratification on online consumers' impulsive buying behavior. It also helps measure the impact of the antecedents mentioned above, including product visual appeal, sales promotion programs, and instant gratification, on consumers' impulsive buying behavior.

2- Literature Review and Hypothesis Development

Impulse buying is an unplanned purchase behavior that occurs when consumers are exposed to a sudden, strong stimulus that tempts them to make an immediate purchase to satisfy the desire to possess that product instantly [15–17]. When a consumer's feelings and emotions are triggered, they easily make an impulsive buying decision [18]. The empirical studies indicated that online consumers' impulsive buying behavior is stimulated by various elements [8, 9, 12, 14]. The stimulation can be classified into four factors named external stimuli (store characteristics, sales promotion, employees or attendants, presence of peers and family, perceived crowding, sensory stimulation, shopping channel, self-service technology, retail merchandising), internal stimuli (impulsiveness, enjoyment, hedonism, fashion, emotions, normative evaluation, variety seeking, self-identity, product involvement), situational and product-related factors (time available, money available, product characteristics, fashion products, new products), and demographics and socio-cultural factors (gender, age, income, education, socioeconomic, cultures) [19]. Based on the mentioned consumer's impulsive buying behavior, this study proposes that online consumers' impulsive buying behavior is purchasing behavior that is (1) unplanned, (2) instantaneous, and (3) occurs when the buyer is triggered by stimulus to urge making an immediate purchase (see Table 1).

Table 1. Recently online impulsive buying behaviour studies

Authors, Years	Antecedent variables	Results
Liu et al. (2013) [20]	Product availability, visual appeal, website ease of use, impulsiveness, normative evaluation, instant gratification	Consumers' online impulsive buying behavior is a dependent variable that is directly and indirectly impacted by impulsiveness, normative evaluation, instant gratification, product availability, visual appeal, and website quality.
Wu et al. (2016) [21]	Flow, Technology use, and trust	The research results indicated that flow experience and trust are two key factors that impacted online impulsive buying behavior, whereas perceived usefulness has not.
Zhang et al. (2018) [12]	Utilitarian Value, Hedonic Value, Browsing, Urge to Buy Impulsively	Browsing plays an important role in increasing impulsiveness and the urge to make impulsive buying behavior. Moreover, utilitarian, and hedonic value are proved as two key factors that lead to consumers' borrowing and the urge to make impulsive buying decisions.
Wang et al. (2022) [11]	Hedonic (adventure seeking, gratification seeking, idea shopping, role-play shopping, social shopping, value shopping), gender	All the components named adventure seeking, gratification seeking, idea shopping, role-play shopping, social shopping, and value shopping have significantly influenced impulsive buying behavior. The findings show a big difference in impulse buying behavior between men and women.
Wang et al. (2022) [7]	neuroticism, extroversion, self-control, collectivism, negative emotions, and affective and cognitive dimensions of the impulsive buying tendency.	The antecedent variables, named neuroticism, extroversion, collectivism, negative emotions, and the impulsive buying tendency, comprised of affective and cognitive dimensions, have positively influenced consumers' impulsive buying behavior; however, self-control has a negative effect on consumers' impulsive buying behavior.
Chen et al. (2023) [8]	The interactivity, vividness of virtual reality, and impulsiveness	The interactivity and vividness have significantly impacted consumers' perceptions, leading to impulsive buying decisions. Furthermore, impulsive traits are also factors that affect consumers' impulsive buying behavior.
Madhu et al. (2023) [9]	Online impulsive buying tendencies, hedonic motivation	The study confirmed the important role of online impulsive buying tendencies and hedonic motivation in making impulsive purchase decisions. Moreover, impulsive purchase decisions, hedonic motivation, and sale promotion have significantly impacted consumers' satisfaction.

2-1-Product Visual Appeal

Product visual appeal refers to how product availability is displayed on social platforms [22]. Product visual appeal is expressed through a number of aspects, such as product description, product display images, and product catalog diversity. According to Liu et al. [20] and Parboteeah et al. [23], product visual appeal is related to the way the product appears, the fonts, graphic image elements, and related design layouts that create an attractive and eye-catching overall display.

When shopping online, consumers do not have the opportunity to directly contact or directly test the product, so product visual appeal is a positive sign for customers to speculate about product quality, feel, and decide to order. Previous studies show that customer purchasing decisions can be influenced by product appearance and background music [24], outdoor background music, product display [25], self-service, product display [16]. In the online environment, the research results of Mesiranta [22] showed that product display is a crucial factor promoting online impulsive buying behavior. In the same line, Liu et al. [20] and Parboteeah [23] illustrated that product visual appeal creates a feeling of excitement and satisfaction when making impulse purchases. Hence:

H1: Product visual appeal has impacted on instant gratification;

H2: Product visual appeal has impacted consumers' impulsive buying behavior;

2-2-Sales Promotion Program

Sales promotion is defined as short-term incentives to promote the sale of goods and services [26, 27]. In addition, sales promotion refers to the added value of products or services that are offered to consumers in the short term [28]. Sales promotion is considered an important marketing tool to attract and persuade consumers to make purchasing decisions [29]. According to Lamb et al. [30], sales promotion could be classified into five forms, including (1) coupons, (2) discounts, (3) free shipping, (4) contests, and (5) reduced prices or refunds. In the online market, if sales promotion is properly planned, it will create value for customers, encourage impulsive buying behavior, and contribute to increased revenue [31, 32]. Previous studies confirmed that sales promotion is an important stimulus factor that creates pleasure and promotes impulsive buying behavior [33–35]. Therefore, the hypotheses are suggested as follows:

H3: The sales promotion program has impacted on instant gratification;

H4: The sales promotion program has impacted consumers' impulsive buying behavior;

2-3-Instant Gratification Factor

Instant gratification is the feeling that consumers satisfy immediately when they make impulsive buying decisions [36]. In other words, consumers' impulsive buying behavior will be promoted to purchase as soon as they have positive feelings such as excitement, enthusiasm, or satisfaction about a specific product or service [20, 37]. Therefore:

H5: Instant gratification has impacted on consumers' impulsive buying behavior.

3- Research Methodology

3-1-Procedure

The study scale of research concepts is inherited from previous studies. The process of adjusting the scale is carried out in two stages. Stage 1: Based on the theoretical overview, scales for research concepts from previous studies in the proposed model are selected and basically edited in Vietnamese to form a preliminary survey questionnaire. Stage 2: The initial questionnaire was revised, supplemented in terms of language, and appropriate to the research situation through in-depth interviews with 10 target customers and 5 experts to complete the final questionnaire. The official survey questionnaire was distributed to participants, who often go shopping impulsively on online platforms.

The collected survey data was cleaned and coded to prepare for analysis. Before analyzing the SEM, the data were analyzed with Cronbach's alpha, EFA, and CFA coefficients to evaluate and eliminate scales that did not meet the requirements for scale value. Specifically, the steps to analyze Cronbach's alpha, EFA, and CFA reliability coefficients to evaluate the scale value (reliability, convergent validity, and discrimination) through the reliability coefficient and mean variance indicators. average (AVE) and composite reliability (CR) according to the standards of Hair et al. [38]. SEM analysis is used to test the research hypotheses and the fit of the research model with market data. The data analysis process was performed with the support of SPSS 23 and AMOS 22 software. The research process is described in Figure 1.

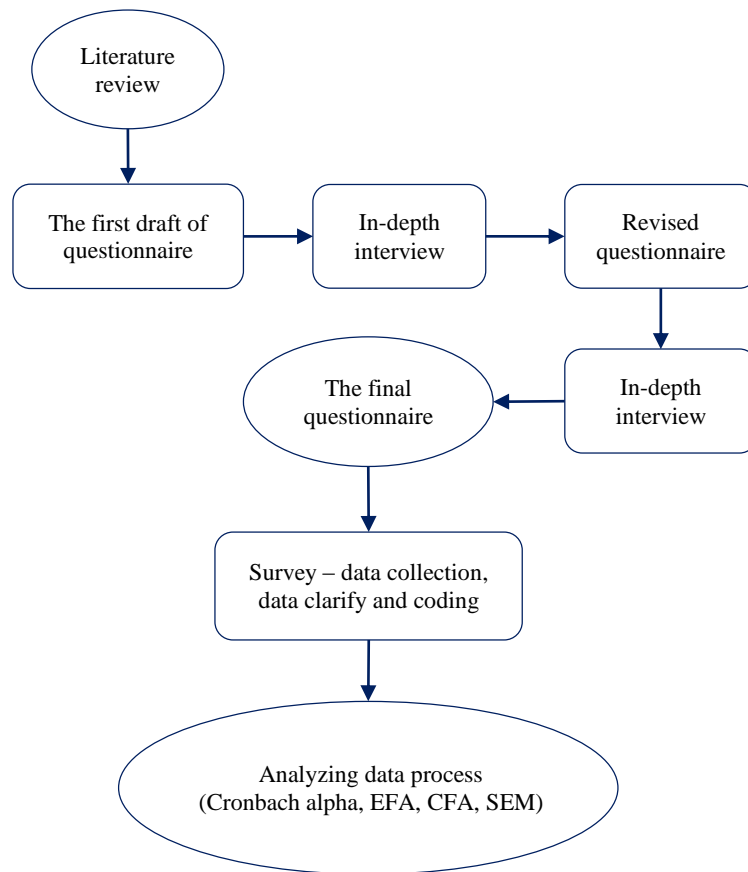


Figure 1. Research process

3-2- Sample Size

According to Bollen [39], the appropriate sample size is 5:1 for SEM analysis. Accordingly, the research model of this study includes 4 structures with 12 observed variables, requiring at least $12 \times 5 = 60$ observation samples. According to Soper [40], it required at least 263 valid respondents to analyze the structural equation models at the significant level of 0.05; the intercorrelation among the items is not bigger than 0.3 for 20 items. In this study, the number of valid samples is 362. Thus, the number of samples meets the reliability requirements for quantitative analysis methods in the study.

3-3- Measurements

The study scales of the questionnaire were inherited from previous studies and adjusted to suit the conditions and circumstances of this study. The data focuses on four key research concepts: (1) product visual appeal (PVA), (2) sale promotion programs (SPP), (3) instant gratification factor (IGF), and (4) impulsive buying behavior (IBB). Sales promotion program measurements were developed by Singh & Verma [41]. Product visual appeal, instant gratification factor, and impulsive buying behavior scales were modified from Liu et al. [20] and Wang et al. [11]. There are twelve items measured by the 7-point Likert scale: (1) Extremely disagree, (2) Disagree, (3) Somewhat disagree, (4) Neutral, (5) Somewhat agree, (6) Agree, and (7) Extremely agree.

4- Results and Discussion

4-1- Sample Characteristics

There are 390 collected survey questionnaires, but 362 valid respondents were used. The valid data reaches 92,82%. Four demographic dimensions were described, both frequency and percentage, in Table 2 for each category. Remarkably, Vietnamese women play a crucial role in going shopping. The well-known instinct of most women is that they are strongly emotional and affected by external factors when making impulsive buying decisions. Thanks to the domino effect of snowballs and random sampling, it is easy to get another female participant to answer the questionnaire. Table 3 illustrates the mean and the standard deviation of the items of the four constructs in the proposed framework. Data analysis and processing of Table 2 and Table 3 were conducted by SPSS software.

Table 2. Research Analysis sample characteristics

Characteristics		Frequency	Percent
Gender	<i>Male</i>	127	35.1%
	<i>Female</i>	235	64.9 %
Age	From 18 to 35 years	319	88.1%
	From 36 to 55 years	38	10.5%
	Above 55 years	5	1.40%
Educational level	Low undergraduate	2	0.6 %
	Bachelor	173	47.8%
	Postgraduate	187	51.6%
Income	Under 500 USD/ month	201	55.5%
	From 500–1500 USD/month	139	38.4%
	Above 1500 USD/ month	22	6.1 %

Table 3. Descriptive statistics of the items

Items	Mean	Std Deviation	Items	Mean	Std Deviation
PVA1	5.2044	1.47074	IGF1	5.4309	1.24190
PVA2	5.1464	1.42906	IGF2	5.3453	1.20690
PVA3	5.1381	1.36750	IGF3	5.3315	1.25460
SPP1	5.4945	1.30468	IBB1	5.3785	1.32015
SPP2	5.4530	1.32492	IBB2	5.3923	1.27657
SPP3	5.6271	1.28991	IBB3	5.4558	1.26512

4-2- Measurement Refinement and Validation

To evaluate the measurements of the constructs, the Cronbach alpha, EFA, CFA, and SEM were applied to analyze the survey data. The results showed that all the items used to estimate the research model meet the criteria of Hair et al. [8]. The Cronbach's alpha coefficients (CA) of each construct are quite higher than the requirement (> 0.6), and the item-total correlation is less than 0.3 based on Nunnally and Burnstein [9]. In particular, $CA_{(SPP)} = 0.920$; $CA_{(PVA)} = 0.901$; $CA_{(IGF)} = 0.932$; $CA_{(IBB)} = 0.922$. Moreover, the requirements for the composite reliability (CR) of the mentioned constructs are highly accepted at $CR_{(SPP)} = 0.750$; $CR_{(PVA)} = 0.749$; $CR_{(IGF)} = 0.755$; $CR_{(IBB)} = 0.749$. Furthermore, the average variance extracted (AVE) coefficients of the four research constructs are still accepted since they are higher than the criteria requirement ($. 0.5$) at $AVE_{(SPP)} = 0.793$; $AVE_{(PVA)} = 0.759$; $AVE_{(IGF)} = 0.822$; $AVE_{(IBB)} = 0.799$. The results confirmed that all the observed variables have reliability and convergent validity based on the evaluation criteria of Anderson & Gerbring [42], Jöreskog [43], and Fornell & Lacker [44]. The specific analysis results are presented in Table 4.

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Table 4. The assessment results of the construct validity

Constructs and items	Loading
Product visual appeal: CR = 0.749; AVE=0.759; Cronbach's alpha =0.901	
It's easy for me to come across products that fit my style on social platforms.	0.855
Product design displayed on online sales platforms is very eye-catching.	0.835
Products displayed on online sales platforms especially attract me.	0.777
Sales promotion program: CR = 0.799; AVE=0.694; Cronbach's alpha =0.917	
I'm attracted by the big discounts on products on social platforms.	0.785
Special discounts offered on social platforms motivate me to make instant purchasing decision.	0.778
Flash sales on social platforms motivate me to buy immediately.	0.773
Instant gratification : CR = 0.755; AVE=0.822 ; Cronbach's alpha =0.932	
Impulsive shopping gives me instant pleasure.	0.808
Impulsive shopping gives me a sense of satisfaction.	0.771
Impulsive shopping gives me a feeling of excitement.	0.718
Impulsive buying behaviour: CR = 0.749; AVE=0.799; Cronbach's alpha =0.922	
I often make impulsive shopping decisions when surfing social platforms.	0.841
I often buy things basing on my feeling at that moment.	0.788
I often buy specific items that I had no intention of purchasing before scrolling through social media.	0.782

Note: CR = composite reliability; AVE = average variance extracted

Additionally, the correlation coefficients between pairs of constructs are smaller than the square roots of the average variances extracted (AVE) for the two constructs in the pair. The correlation among the constructs was significantly below unity ($p < 0.001$). Therefore, the convergent and within-construct discriminant validity are approved based on Fornell & Larcker [44] and Steenkamp & van Trijp [45]. The specific results are presented in Table 5.

Table 5. The discriminant validity between the constructs results

	Path		r	1-r	Se('r)	CR	P
SPP	↔	PIA	0.686	0.314	0.038347968	8.188178268	0.000
IGF	↔	PIA	0.696	0.304	0.037844125	8.032951007	0.000
IGF	↔	IBP	0.769	0.231	0.033691369	6.856355442	0.000
SPP	↔	IBP	0.755	0.245	0.034559731	7.08917557	0.000
IBP	↔	PIA	0.668	0.332	0.039220743	8.46490852	0.000
IGF	↔	SPP	0.838	0.162	0.028759346	5.632951399	0.000

4-3- Hypothesis Testing

SEM was applied to estimate the suggested model. The theoretical model is fit with the market when Chi-square (CMIN) has a P-value < 0.05 and CMIN/ df ≤ 3 [46]; Goodness of Fit Index (GFI), Tucker and Lewis Index (TLI), Comparative Fit Index (CFI) are bigger than 0.9 [47]; and RMSEA < 0.05 [48] or RMSEA ≤ 0.8 [49]. The findings indicate that the model is well-fitted at Chi-square $X^2(48) = 96.801$ ($p = 0.000$), Chi-square/df = 2.017, GFI = 0.958; TLI = 0.984; CFI = 0.988; RMSEA = 0.053. The structural coefficients are shown in Tables 6 to 9 and Figure 2.

Table 6. CMIN results

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	30	96.801	48	0.000	2.017
Saturated model	78	0.000	0		
Independence model	12	4199.104	66	0.000	63.623

Table 7. RMR, GFI results

Model	RMR	GFI	AGFI	PGFI
Default model	0.042	0.958	0.932	0.590
Saturated model	0.000	1.000		
Independence model	0.994	0.186	0.038	0.157

Table 8. Baseline Comparisons results

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	0.977	0.968	0.988	0.984	0.988
Saturated model	1.000		1.000		1.000
Independence model	0.000	0.000	0.000	0.000	0.000

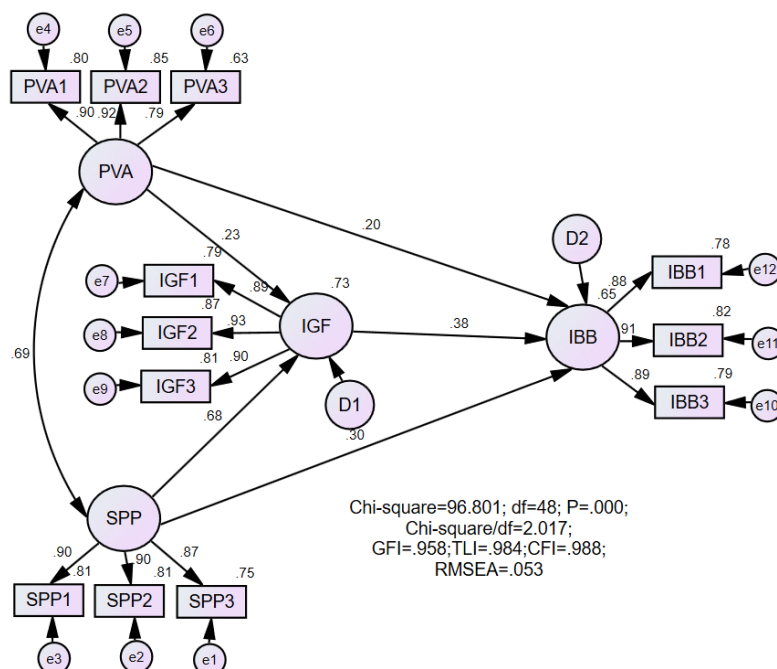
Table 9. RMSEA Results

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	0.053	0.038	0.068	0.351
Independence model	0.416	0.406	0.427	0.000

SEM was continuously used to test the hypothesis. The results indicated that PVA and SPP have directly impacted IGF. It implies that hypotheses 1 and 2 are confirmed ($H_1: \beta_{SPP \rightarrow IGF} = 0.629; p < 0.001$; $H_2: \beta_{PVA \rightarrow IGF} = 0.192, p < 0.001$). The hypotheses 3, 4, and 5 are also supported at $H_3: \beta_{SPP \rightarrow IBB} = 0.287; p < 0.001$; $H_4: \beta_{PVA \rightarrow IBB} = 0.168, p < 0.001$; $H_5: \beta_{IGF \rightarrow IBB} = 0.386; p < 0.001$. Based on the research results, SPP is the strongest factor influencing IGF and IBB. Additionally, the findings also show the estimated indirect effect levels of the exogenous variables on IBB through IGF. Specifically, SPP indirectly influences IBB via IGF at 0.257, and PVA indirectly influences IBB via IGF at 0.087. All the analyzed results are presented in Tables 10 and 11, and Figure 2.

Table 10. Regression Weights

Paths	Estimate	Standard error	Critical ratio	P-value	Results
PVA → IGF	0.192	0.042	4.535	***	Accepted
PVA → IBB	0.168	0.049	3.446	***	Accepted
SPP → IGF	0.629	0.051	12.336	***	Accepted
SPP → IBB	0.287	0.077	3.721	***	Accepted
IGF → IBB	0.386	0.084	4.578	***	Accepted

**Figure 2. The SEM results**

Furthermore, the research results also provide the specific impacted levels of the sales promotion program, product visual appeal, and instant gratification variables on consumers' impulsive buying behavior in Table 10.

Table 11. The direct and indirect effect results

	Paths	SPP	PVA	IGF	IBB
IGF	Direct effect	0.681	0.230	0.000	0.000
	Indirect effect	0.000	0.000	0.000	0.000
	Total	0.681	0.230	0.000	0.000
IBB	Direct effect	0.304	0.197	0.378	0.000
	Indirect effect	0.257	0.087	0.000	0.000
	Total	0.561	0.283	0.378	0.000

The findings described the unique demographic dimensions of consumers' impulsive buying through social platforms in the emerging market. The results show that women and the age of under 35 olds has outstanding contribution to impulsive buying behavior; this result is similar to studies by Verhagen & Van Dolen (2011) [37], Wang et al. (2022) [11], and Liu et al. (2013) [20]. More importantly, the research-suggested model fits with the market data. These results imply that product visual appeal and sales promotion programs have significantly impacted both directly and indirectly on consumers' impulsive buying behavior through the instant gratification factor as the same line with the previous studies of Liu et al. [20], Jamal & Lodhi [31], and Youn & Faber [36]. Moreover, the analyzing results also illustrate the specific influence level of the product visual appeal, sales promotion program, and instant gratification factor on impulsive buying behavior in the cyberspace in the emerging market. In particular, sales promotion programs have the highest impact level, followed by product visual appeal and finally the instant gratification factor on consumers' impulsive buying behavior through social platforms.

5- Conclusion

The findings of this research underscore the crucial role played by product visual appeal, sales promotion programs, and the promise of instant gratification in driving impulsive buying behavior among online consumers. These results significantly enhance marketing theory by assessing the measurable impact of product visual appeal, sales promotion programs, instant gratification, and impulsive buying behavior. Moreover, the proposed research model has been validated in the context of the emerging online market.

The research findings have significant practical implications for business administrators, offering insights into strategies to attract and motivate customers to make quick purchasing decisions. By focusing on product visual appeal, sales promotion programs, and instant gratification, businesses can increase revenue and profits. Managers must tailor their approaches based on various conditions and circumstances to attract and retain customers effectively. These findings provide valuable guidance for navigating the competitive landscape of the technology-driven 4.0 era. They underscore the importance of strategic online customer engagement, particularly in emerging markets like Vietnam. With this analyzed data, online business administrators in Vietnam can develop effective marketing strategies. It is suggested that managers allocate more marketing budget and resources to sales promotion programs than to product visual appeal and instant gratification factors, as this can encourage consumers to make purchasing decisions more promptly.

This research has several limitations that need to be addressed in future studies. Firstly, the study of online consumers' impulsive buying behavior should be conducted in diverse contexts, including different countries, generations, and cultures, to ensure broader applicability of the findings. Secondly, other factors may impact online consumers' impulsive buying behavior, such as external stimuli (store characteristics, presence of peers, sensory stimulation), internal stimuli (enjoyment, emotions, self-identity), situational and product-related factors (time and money availability, product characteristics), and demographic and socio-cultural factors (gender, age, income, education, cultural background). Lastly, the sampling collection method used in this research was non-probability, limiting the generalizability of the findings. Future research should consider using probability sampling methods to enhance the generalizability and reliability of the results.

6- Declarations

6-1-Author Contributions

Conceptualization, T.H.N.N. and N.K.H.T.; methodology, T.H.N.N. and N.K.H.T.; writing—original draft preparation, T.H.N.N. and N.K.H.T.; writing—review and editing, T.H.N.N., N.K.H.T., K.D., and V.D.T. All authors have read and agreed to the published version of the manuscript.

6-2-Data Availability Statement

The data presented in this study are available on request from the corresponding author.

6-3-Funding

The authors received no financial support for the research, authorship, and/or publication of this article.

6-4-Institutional Review Board Statement

Not applicable.

6-5-Informed Consent Statement

Not applicable.

6-6-Conflicts of Interest

The authors declare that there is no conflict of interest regarding the publication of this manuscript. In addition, the ethical issues, including plagiarism, informed consent, misconduct, data fabrication and/or falsification, double publication and/or submission, and redundancies have been completely observed by the authors.

7- References

- [1] Shao, R., Derudder, B., & Witlox, F. (2022). The geography of e-shopping in China: On the role of physical and virtual accessibility. *Journal of Retailing and Consumer Services*, 64, 102753. doi:10.1016/j.jretconser.2021.102753.
- [2] Statista. (2021). E-commerce Worldwide - Statistics & Facts. Available online: <https://www.statista.com/topics/871/online-shopping/> (accessed on May 2023).
- [3] Okazaki, S., & Taylor, C. R. (2013). Social media and international advertising: Theoretical challenges and future directions. *International Marketing Review*, 30(1), 56–71. doi:10.1108/02651331311298573.
- [4] Saxena, A., & Khanna, U. (2013). Advertising on Social Network Sites: A Structural Equation Modelling Approach. *Vision: The Journal of Business Perspective*, 17(1), 17–25. doi:10.1177/0972262912469560.
- [5] Chan, T. K. H., Cheung, C. M. K., & Lee, Z. W. Y. (2017). The state of online impulse-buying research: A literature analysis. *Information and Management*, 54(2), 204–217. doi:10.1016/j.im.2016.06.001.
- [6] Kuppelwieser, V. G., & Klaus, P. (2021). Revisiting the Age Construct: Implications for Service Research. *Journal of Service Research*, 24(3), 372–389. doi:10.1177/1094670520975138.
- [7] Wang, Y., Pan, J., Xu, Y., Luo, J., & Wu, Y. (2022). The Determinants of Impulsive Buying Behavior in Electronic Commerce. *Sustainability (Switzerland)*, 14(12), 7500. doi:10.3390/su14127500.
- [8] Chen, J. V., Ha, Q. A., & Vu, M. T. (2023). The Influences of Virtual Reality Shopping Characteristics on Consumers' Impulse Buying Behavior. *International Journal of Human-Computer Interaction*, 39(17), 3473–3491. doi:10.1080/10447318.2022.2098566.
- [9] Madhu, S., Soundararajan, V., & Parayitam, S. (2023). Online Promotions and Hedonic Motives as Moderators in the Relationship between e-Impulsive Buying Tendency and Customer Satisfaction: Evidence from India. *Journal of Internet Commerce*, 22(3), 395–431. doi:10.1080/15332861.2022.2088035.
- [10] PRAWIRA, N. A., & SIHOMBING, S. O. (2021). Antecedents of Online Impulse Buying Behavior: An Empirical Study in Indonesia. *Journal of Asian Finance, Economics and Business*, 8(2), 533–543. doi:10.13106/jafeb.2021.vol8.no2.0533.
- [11] Wang, X., Ali, F., Tauni, M. Z., Zhang, Q., & Ahsan, T. (2022). Effects of hedonic shopping motivations and gender differences on compulsive online buyers. *Journal of Marketing Theory and Practice*, 30(1), 120–135. doi:10.1080/10696679.2021.1894949.
- [12] Zhang, K. Z. K., Xu, H., Zhao, S., & Yu, Y. (2018). Online reviews and impulse buying behavior: the role of browsing and impulsiveness. *Internet Research*, 28(3), 522–543. doi:10.1108/IntR-12-2016-0377.
- [13] Zhang, M., & Shi, G. (2022). Consumers' Impulsive Buying Behavior in Online Shopping Based on the Influence of Social Presence. *Computational Intelligence and Neuroscience*, 2022. doi:10.1155/2022/6794729.
- [14] Gulfranz, M. B., Sufyan, M., Mustak, M., Salminen, J., & Srivastava, D. K. (2022). Understanding the impact of online customers' shopping experience on online impulsive buying: A study on two leading E-commerce platforms. *Journal of Retailing and Consumer Services*, 68, 103000. doi:10.1016/j.jretconser.2022.103000.
- [15] Stern, H. (1962). The Significance of Impulse Buying Today. *Journal of Marketing*, 26(2), 59. doi:10.2307/1248439.

- [16] Piron, F. (1991). Defining Impulse Purchasing. *Advances in Consumer Research*. ACR North American Advances, 18, 509-513.
- [17] Beatty, S. E., & Ferrell, M. E. (1998). Impulse buying: Modeling its precursors. *Journal of Retailing*, 74(2), 169–191. doi:10.1016/S0022-4359(99)80092-X.
- [18] Astari, D. A., & Nugroho, C. Motivation for impulsive online shopping on Instagram. *Channel*, 5(2), 33–46.
- [19] Bhakat, R. S., & Muruganatham, G. (2013). A Review of Impulse Buying Behavior. *International Journal of Marketing Studies*, 5(3), 149. doi:10.5539/ijms.v5n3p149.
- [20] Liu, Y., Li, H., & Hu, F. (2013). Website attributes in urging online impulse purchase: An empirical investigation on consumer perceptions. *Decision Support Systems*, 55(3), 829–837. doi:10.1016/j.dss.2013.04.001.
- [21] Wu, I. L., Chen, K. W., & Chiu, M. L. (2016). Defining key drivers of online impulse purchasing: A perspective of both impulse shoppers and system users. *International Journal of Information Management*, 36(3), 284–296. doi:10.1016/j.ijinfomgt.2015.11.015.
- [22] Mesiranta, N., & Mesiranta, N. (2008). *Consumer Online Impulsive Buying: A Phenomenological Typology*. Tampere University Press, Tampere, Finland.
- [23] Parboteeah, D. V., Valacich, J. S., & Wells, J. D. (2009). The influence of website characteristics on a consumer's urge to buy impulsively. *Information Systems Research*, 20(1), 60–78. doi:10.1287/isre.1070.0157.
- [24] Verplanken, B., & Herabadi, A. (2001). Individual differences in impulse buying tendency: Feeling and no thinking. *European Journal of Personality*, 15(1 SUPPL.), 71– 83. doi:10.1002/per.423.
- [25] Kaur, P., & Singh, R. (2007). Uncovering retail shopping motives of Indian youth. *Young Consumers*, 8(2), 128–138. doi:10.1108/17473610710757491.
- [26] Michael, J. E., William, J. S., & Pandit, A. (2010). *Marketing*. TataMcGraw Hill, New Delhi, India.
- [27] Armstrong, G., Adam, S., Denize, S., & Kotler, P. (2014). *Principles of Marketing*. Pearson Australia, Sydney, Australia.
- [28] Altstiel, T., & Grow, J. (2006). *Advertising strategy: creative tactics from the outside/in*. SAGE Publications, California, United States.
- [29] Bhandari, P. (2014). “A Study on Impact of Sales Promotional Activities on Customer Buying Behaviour with Special Reference to Rathu Build Mart , Raipur .” *International Journal of Science and Research*, 3(5), 300–303.
- [30] Lamb, C. W., Hair, J. F., & McDaniel, C. (2012). *Marketing*. Cengage Learning, Massachusetts, United States.
- [31] Jamal, M., & Lodhi, S. (2015). Consumer Shopping Behaviour in Relation to Factors Influencing Impulse Buying: A Case of Superstores in Karachi, Pakistan. *European Journal of Business and Management*, 7(31), 30–49.
- [32] Berter, E., & Blomqvist, C. (2010). *Online Consumer Sales Promotion: A study of four American companies' websites*.
- [33] Isna Hanifah, I. H., Asim, Nurminingsih, & Kwaranto Rohmawan. (2023). The Influence of Sales Promotion and Quality of Tile Products on Consumers' Interest To Buy at CV Maestro Atop Bekasi. *Journal of Entrepreneur and Business*, 1(2), 50–63. doi:10.52643/joeb.v2i1.5.
- [34] Singh, P., Sharma, B. K., Arora, L., & Bhatt, V. (2023). Measuring social media impact on Impulse Buying Behavior. *Cogent Business & Management*, 10(3), 2262371. doi:10.1080/23311975.2023.2262371.
- [35] Ramaswamy, V., & Namakumari, S. (2009). *Marketing Management: Global Perspective Indian Context*. Bhavan's International Journal of Business, 4(1), 64-66
- [36] Youn, S., & Faber, R. J. (2000). Impulse buying: Its relation to personality traits and cues. *Advances in Consumer Research*, 27(1), 179–185.
- [37] Verhagen, T., & Van Dolen, W. (2011). The influence of online store beliefs on consumer online impulse buying: A model and empirical application. *Information and Management*, 48(8), 320–327. doi:10.1016/j.im.2011.08.001.
- [38] Hair, J. F., Gabriel, M., & Patel, V. (2014). AMOS covariance-based structural equation modeling (CB-SEM): Guidelines on its application as a marketing research tool. *Brazilian Journal of Marketing*, 13(2), 43–55.
- [39] Bollen, K. A. (2014). *Structural equations with latent variables*. Volume 210, John Wiley & Sons. doi:10.1002/9781118619179.
- [40] Soper, D. S. (2019). A-priori Sample Size for Structural Equation Models References - Free Statistics Calculators. In *A-Priori Sample Size for Structural Equation Models*. Available online: <http://www.danielsoper.com/statcalc> (accessed on May 2023).
- [41] Singh, S., & Verma, H. (2018). A comprehensive structural equation modeling for E impulse buying. *Academy of Marketing Studies Journal*, 22(1), 1–14.

- [42] Anderson, J. C., & Gerbing, D. W. (1988). Structural Equation Modeling in Practice: A Review and Recommended Two-Step Approach. *Psychological Bulletin*, 103(3), 411–423. doi:10.1037/0033-2909.103.3.411.
- [43] Jöreskog, K. G. (1971). Statistical analysis of sets of congeneric tests. *Psychometrika*, 36(2), 109–133. doi:10.1007/BF02291393.
- [44] Fornell, C., & Larcker, D. F. (1981). Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. *Journal of Marketing Research*, 18(1), 39. doi:10.2307/3151312.
- [45] Steenkamp, J. B. E. M., & van Trijp, H. C. M. (1991). The use of lisrel in validating marketing constructs. *International Journal of Research in Marketing*, 8(4), 283–299. doi:10.1016/0167-8116(91)90027-5.
- [46] McIver, J., & Carmines, E. (2011). *Unidimensional Scaling*. SAGE Publications, 24, 1-96. doi:10.4135/9781412986441.
- [47] Bentler, P. M., & Bonett, D. G. (1980). Significance tests and goodness of fit in the analysis of covariance structures. *Psychological Bulletin*, 88(3), 588–606. doi:10.1037/0033-2909.88.3.588.
- [48] Steiger, J. H. (1990). Structural Model Evaluation and Modification: An Interval Estimation Approach. *Multivariate Behavioral Research*, 25(2), 173–180. doi:10.1207/s15327906mbr2502_4.
- [49] Tho, N. D., Trang, N. T. M., & Olsen, S. O. (2016). Brand personality appeal, brand relationship quality and WOM transmission: a study of consumer markets in Vietnam. *Asia Pacific Business Review*, 22(2), 307–324. doi:10.1080/13602381.2015.1076655.

Appendix I: Questionnaire for Quantitative Research

Hello everyone,

I am Ph.D. Nguyen Thi Hong Nguyet at the Ho Chi Minh University of Natural Resources and Environment. We are conducting a study related to consumer's impulsive buying behaviour on social platforms. The target respondent has purchased somethings impulsively on social platforms. We hope you can help us accomplish this questionnaire. We declare that your information will be secure.

Thank you very much, and I wish you the best of health.

Filtering part:

1. Please tell us, have you ever made impulsive purchases on social platforms?
 - If so, continue.
 - If not or no, then stop.
2. Please tell us, if you have participated in interviews/surveys on this topic (consumer's impulsive buying behaviour on social platforms) in the last six months?
 - If so, continue.
 - If not or no, then stop.
3. Please tell us, if you work in fields related to market research, customer surveys, or advertising?
 - If so, continue.
 - If not or no, then stop.

PART I: Content of Questionnaire

Now, please take a moment to think about your most recent impulsive shopping decision. Recall the cognitions, feeling, and factors that influenced on your decision to make impulse purchases on social platforms. Once you have completed this, please indicate how much you agree with the statements below by ticking an X in the box corresponding to the levels:

Extremely disagree Disagree Somewhat disagree Neutral Somewhat agree Agree Extremely agree
 1-----2-----3-----4-----5-----6-----7

No.	Items	1	2	3	4	5	6	7
Product visual appeal								
1	It's easy for me to come across products that fit my style on social platforms.							
2	Product design displayed on online sales platforms is very eye-catching.							
3	Products displayed on online sales platforms especially attract me.							
Sales promotion programs								
1	I'm attracted by the big discounts on products on social platforms.							
2	Special discounts offered on social platforms motivate me to make instant purchasing decision.							
3	Flash sales on social platforms motivate me to buy immediately.							
Instant gratification factor								
1	Impulsive shopping gives me instant pleasure.							
2	Impulsive shopping gives me a sense of satisfaction.							
3	Impulsive shopping gives me a feeling of excitement.							
Impulsive buying behaviour								
1	I often make impulsive shopping decisions when surfing social platforms.							
2	I often buy things basing on my feeling at that moment.							
3	I often buy specific items that I had no intention of purchasing before scrolling through social media.							

PART II: Personal Information

- Gender:

Male ☐ Female ☐

- Age:

18 – 35 ☐ 36 – 55 ☐ Above 54 ☐

- Education level:

Below undergraduate ☐ Bachelor ☐ Postgraduate ☐

- Income per month:

< 500 USD ☐ 500–1500 USD ☐ above 1500 USD ☐

Thank You Indeed