



An empirical study on factors influencing consumer impulsive purchase behavior: a case of Ho Chi Minh city in the 4.0 era

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Abstract

The fourth industrial revolution (the 4.0 era) has provided companies with more opportunities to attract potential clients across technology-based platforms, thus, bringing new factors that offer a tremendous incentive to buy impulsively, namely Contextual Targeting. Nevertheless, far too little attention has lately been paid to impulse buying behavior in Vietnam. This study offers a comprehensive view on how impulsive behavior is produced, analyzes factors having considerable significance to the impulsiveness, and proposes tactics businesses may use to maximize their sales. The data for this study were selected randomly from the population of Ho Chi Minh city via a survey in the second half of February 2020. From Exploratory Factors Analysis and Multiple Regression Analysis, results reveal that contextual targeting of advertising, packaging, and moods are strongly linked to impulse buying behaviors of Vietnamese consumers, especially in Ho Chi Minh city in the 4.0 era. The study proposes appropriate tactics for businesses to employ as a cheat-sheet, which helps manipulate customer mannerism to maximize profits.

Keywords: Impulsive purchase behavior, Impulse buying behavior, Vietnamese customer

1. Introduction

In the academic sense, impulsive buying behavior is described as an unexpected shopping that occurs when a customer is instantly, actively and persistently eager to buy something (Cobb and Hoyer, 1986; Kollat and Willett, 1967). Rook *et al.*

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(1987) reveal that the desire to buy impulsively is hedonic, which can cause emotional conflict and is easily susceptible to it with reduced consideration for its consequences. In the business term, impulse purchases account for significant sales across a wide range of merchandise categories (Bellenger *et al.*, 1978; Cobb and Hoyer, 1986; Han *et al.*, 1991; Weinberg and Gottwald, 1982). Recently, businesses increase impulsive transactions by the efficacy of marketing strategies. Much of the current literature on marketing strategies pays particular attention to the advancements in technology, which has opened new avenues in the marketing area.

Recently, there has been a massive change in consumer behavior with technological innovations such as social media, e-commerce platforms, mobile advertising. One of the reasons is that consumers have been overwhelmed with more information, thus making decisions is affected by many more factors than ever. From the marketing perspective, it introduces challenges not only for traditional but also for digital marketers to understand the impulsive buying behavior of consumers comprehensively. Previous research highlights the impact of social media on consumers' behaviors (Diffley *et al.*, 2011; Forbes *et al.*, 2013; Ertemel and Ammoura, 2016; Shaheen and Lodhi, 2016) and the effect of social e-word of mouth on consumers' purchasing intention. Nonetheless, these studies only focus on the social media side, lacking a general view on impulse purchases, which might also be affected by other factors. Furthermore, only a few studies have investigated the impulsive behavior in the Vietnam market, which is one of the region's fastest-growing economies with high growth of annual GDP.

In this research, we provide a comprehensive view of factors affecting Vietnamese consumers' buying behavior. Factors listed in this research shall be inclusive of arising factors in the modern era of the 4.0 industrial revolution, where consumer buying behavior falls deeply under the influence of technological advances. From that, we point out the factors which have considerable significance to the impulsiveness, propose tactics for businesses to maximize profits. From examining consumer's impulsive purchasing activities, our results show that the impact of new technologies is significant. Notably, the Contextual Targeting Advertising technique influences impulsive buying predominantly compared to others.

Overall, the contribution of this paper is three-fold. First, the study proposes and tests a new factor, namely Contextual Targeting Advertising, which we hypothesize to have an impact on impulsive buying behavior. Second, the study conducts an exploratory analysis that incorporates both qualitative and quantitative approaches to generalize the impulsive purchasing behavior of Vietnamese consumers, especially in Ho Chi Minh city (HCMC). Third, the study provides hints

for some tactics that Vietnamese businesses can adopt to apply and succeed in this fiercely competitive game of acquisition, through the lessons of big brands.

The rest of this paper is organized as follows. Section 2 describes the literature review of the study and theoretical framework while Section 3 presents our research hypotheses. Research methodology and experimental results are presented in Section 4. In Section 5, we discuss the results with suggestions and conclude the paper.

2. Literature review and theoretical framework

Several studies have recently illustrated impulsive patterns of consumer behavior in Vietnamese market situations. Tien (2018) finds that customer preference has a positive impact on their willingness to buy foreign products and services impulsively. This result is consistent with studies conducted by Bernard *et al.* (2014), Oberecker *et al.* (2011), and Verlegh (2007). Cho *et al.* (2014) establish factors affecting consumer buying behavior in Vietnam's supermarkets. They provide clear insights into the issue of Vietnamese consumer impulsive buying behavior, describing how consumers follow different shopping strategies including recreational browsing, knowledge browsing, and mission accomplishment and how they react to in-store rewards that potentially cause impulsive purchases. Thanh *et al.* (2016) show that shopping enjoyment and the modern self are major indicators of impulsive buying, although the traditional self is not considered to influence this buying behavior. They also link impulsive buying action to customer satisfaction and customer loyalty.

Impulsive behavior has long been a pervasive and distinctive lifestyle of consumers all over the world. Abrahams (1997) confirms impulsive buying accounts for up to 80% of all purchases in certain product categories. A plethora of existing pieces of research has borne testimony to the prevalence of this field of study. Nonetheless, in Vietnam, research in this aspect is still few and far between, except for several efforts made by Mai *et al.* (2003) at the turn of the 21st century. Now we celebrate the journey of the past decade with many transformations in ourselves as a person. Time changes, and so are people. The way we think, act and shop have never been the same as we did in the year 2000. It is critical to re-appraise the situation at close quarters to discover if any novel factor has come to influence consumer impulsive buying conduct, or if those old factors leave effects on any new aspect of shopping impulsiveness.

Besides, to our best knowledge, most Vietnamese researchers have just poured their attention to consumer buying patterns or factors influencing consumer

purchase intention (Chi *et al.*, 2018; Nga and Huynh, 2019). However, business today is about “survival for the fittest”. Knowing what factors affect consumer purchase intention will not offer companies a trump card when consumers are getting smarter in their choices. The trick here is not about knowing how to draw money out of consumers’ wallets, but more about how to do this tactfully, without consumer awareness. This achievement demands businesses’ deep understanding of human irrationality in decision making to obtain an ace up their sleeve. Advances in the digital technology bring us to the fourth wave of industrial revolution where digitalization and automation have radically changed consumer buying conduct. Our generation’s closeness to technology in lifestyle has caused us to optimize information searching and technology using to make life more convenient and needs being satiated faster in the presence of social media platforms, contextual targeting ads, card payment and so forth (Suryadi, 2015). Aside digital literacy, another characteristic of today’s generation is the consumptive orientation. Nowadays, we no longer buy products to serve practical purposes but to exchange functions into an activity to find satisfaction and flaunt our identities, thus, giving room for more unplanned buying (Mix, 2018). Therefore, the impact of the fourth wave of industrial revolution is significant to the consumer impulsive buying behavior in Vietnam, demanding businesses to look at the new context to fully grasp consumer mannerism.

In understanding consumer impulsive buying behavior, several theories are taken into close consideration.

First, since Behavioral Economics (BE) theory was introduced in the twentieth century, BE has shaken the ground of contemporary science by challenging the idea of “Homo Economicus” or in other words, an economic man capable of making unlimited rational decisions and maximizing utility in every course of action. According to this theory, there is an irrational component in our decision making, making us susceptible to a roller-coaster of emotions that leads to wrong buying decisions. Although BE did not pinpoint different factors affecting patterns of impulsive purchase, it placed a strong foundation to accept the unreasonable properties in human conduct in general and consumer impulsive purchase behavior in particular.

Second, the theory of Impulse Buying by Stern (1962) is taken into consideration. There are six factors affecting consumer shopping impulsiveness, namely need/motivation, promotional strategies including advertising, personal selling, and sales promotion, price and distribution, service quality, outstanding shop displays, product features such as size, ease in storage, and packaging. Besides listing the factors, an important contribution of Hawkins Stern’s model is the

classification of four types of impulsive buying mannerism (Shapiro, 2015), which include pure impulse buying, reminder impulse buying, suggested impulse buying and planned impulse buying.

Third, we also mention theory of Mental Accounting by Thaler (1985). This is a concept contending that people treat money not in an absolute term as a value but rather in the way it is originated and used. Mental accounting often leads people to irrational decisions such as making more payments by cards or funding a low-interest savings account while carrying huge credit card balances. Due to the people's difficulty in expend within their initially set budget while making payments by cards in the modern world, they tend to incur more impulsive purchases.

Last but not least, Maslow's Hierarchy of Needs (1943) also plays a part in explaining consumer unplanned purchase behavior. The theory helps explain the validity of human's higher-order demands, which are Needs of love and belonging, Esteem, and Self-actualization, and how these needs govern our behaviour in decision making, especially in consumer impulsiveness at close quarters. This theory provides a straightforward answer to the individualistic character of the people in the 4.0 era.

3. Research hypotheses

From the analysis of the current consumer market in Vietnam (Nguyen *et al.*, 2019) and the premise of the theoretical frameworks (Thaler, 1985; Thaler, 2016; Stern, 1962), we proposed seven elements affecting consumer impulsive purchase behavior including Promotional Programs, Buying Mood, Contextual Targeting, Social Norms, Social Media, Non-card Payment, and Packaging Design.

According to The Economic Times, promotional programs mean the whole package of activities that convey product, brand or service to customers. The purpose is to raise awareness, attract and inspire customers to purchase the product preferred to others. The idea is to make people aware, attract, and induce to buy the product, in preference over others. Several types of promotions include discounts, freebies, sponsorship (Stern, 1962). Dawson and Kim (2010) show that promotional offers, such as free shipping, return purchase in-store, are the most desirable variables in online retailing. Lo *et al.* (2016) reveal that almost all of the motivation factors identified to trigger impulse buying were sales promotion stimuli, which can create utilitarian or hedonic benefits for consumers. In Vietnam, previous research has suggested that impulse buying is more likely to occur with small, low-value items than with high-value items (Mai *et al.*, 2003). Hence, we propose the following hypothesis believing that offering promotions in discounts would lead to a higher chance of impulse buying:

H1: “Promotional Programs” are positively related to consumer impulsive purchase behavior in HCMC.

Mood (or Buying Mood) refers to feeling states that are subjectively perceived by individuals. As such, moods are a subcategory of feeling states (Gardner, 1985). Mood may be distinguished to specific times and situations (Peterson and Sauber, 1983) and may be distinguished from emotions, which, in contrast, are usually more intense, tied to a specifiable behavior of consumers (Clark and Isen, 1982). Even compulsive consumers are considered to be knowledgeable and experienced consumers (Kukar-Kinney *et al.*, 2012), they may still focus on instant gratification and desire a “quick fix” for their negative mood in the form of buying, which might lead to impulsive buying purchase (Faber and O’Guinn, 1989). On the basis of our discussion, we present the following hypothesis:

H2: “Buying Mood” has a positive impact on the impulsive buying behavior of consumers in HCMC.

To fit the context of Vietnam in the modern era where the juggernaut of technology has radically changed the way we shop, a new variable, Contextual Targeting Advertising (CTA), was proposed. CTA is a form of targeted advertising for advertisements appearing on websites or other media (Davies, 2018). Based on the current context of what a user is looking at, the advertisements are selected and served by automated systems. From that, CTA provides a higher chance of conversion than regular advertisements. The variable has not been listed in previous related studies due to its newness as an effect on impulsive purchase. However, in studies relating to consumer buying patterns, it is found to have a massive impact on buying proclivity, resulting from the emergence of technology and the rising level of personalization in marketing. The impact of CTA has been mentioned in consumer buying patterns studies of Meuter *et al.* (2000), Lou *et al.* (2003), and Lu *et al.* (2016). Since people are self-oriented, anything personalized will attract their attention. Thus, we believe the personalization element in CTA can trigger Vietnamese people’s sheer curiosity, simplify their search-around, satisfy their hidden needs, and, thus, impelling them to act impulsively. Based on the research reviewed, our study will aim to validate the following hypothesis:

H3: “Contextual Targeting” positively influences consumer impulsive purchase behavior in HCMC.

The next factor which is considered to affect Vietnamese consumer buying decision is social norms (Mai *et al.*, 2003; Tho *et al.*, 2011). Social norms are informal rules that govern behavior in groups and societies. Legal scholars have touted social norms as efficient alternatives to legal rules, as they may internalize negative externalities and provide signaling mechanisms at little or no cost

(Ellickson, 2001; Posner, 2000). Although we harmonize with previous studies that social norms influence impulsive purchase behavior in HCMC, we believe that the influence level of social norms in the new age will vary depending on new factors that have not been investigated. Therefore, this study includes social norms as a factor and verify the following hypothesis:

H4: “Social norms” positively influence consumer impulsive purchase behavior in HCMC.

The idea of social media appeared in 2005 as a result of the increasing commercial usage of social networking platforms (Curty *et al.*, 2011), including online communities that encourage users to generate contents and interact with other ideas (Kim *et al.*, 2007). With strong inter-action capacity, social media is considered as an effective channel for digital marketing in today’s world. The burgeoning of social network sites, such as Facebook, Instagram, has created a breeding ground for online shopping demands. Customers nowadays are under a massive exposure to not only physical stimuli at stores but also virtual ones from their News Feed. The development of these sites has provided the most striking evidence to human’s herd instincts, when people come to influence one another in decision making, through the leverage of KOLs, social groups, and brand campaigns. Thus, the following hypothesis is developed:

H5: “Social media” positively influences consumer impulsive purchase behavior in HCMC.

Non-card payment is the method of using credit or debit cards to make payments. This variable has been mentioned as one of the culprits of people’s impulsivity when shopping in the Theory of Mental Accounting (Thaler, 1985). Park *et al.* (2005) also claim this variable in their research model to study consumer impulsive buying behavior. In Vietnam, with the development of paying via cards, consumers have had the opportunity to experience and get used to using credit cards. Besides the convenience it brings, the “buy now and pay later” effect introduces impulsive actions. In this research, we also investigate impulsive behavior on paying via e-wallet services (for example, Momo, Moca, Samsung Pay). Then, we treat both paying mechanisms as fine-grained tiers of non-cash payment and state the following hypothesis:

H6: “Non-card payment” positively influences consumer impulsive purchase behavior in HCMC.

The last factor that we examine is “packaging of a product”. Packaging design plays a vital role in attracting consumers. It acts as a promotional tool for the companies, carrying the brand’s essential communication to the customers, and

stimulates the impulse buying behavior (Bahrainizad *et al.*, 2018). Packaging attracts consumers and increases its sale. It also reduces the marketing and advertisement cost of the product (Mazhar *et al.*, 2015). The importance of a product's packaging is increasing day by day thanks to the emergence of virtual stores and e-commerce platforms, where store display stimulation and seller's help have come to nothingness as the customer experience shopping journeys just through the interaction on the websites. Thus, packaging design of a brand speaks loudest in marketing the trustworthiness to the customers, sending an "invitation" for revisiting and repurchasing behavior. Accordingly, we hypothesize the following statement:

H7: "Packaging Design" positively influences consumer impulsive purchase behavior in HCMC.

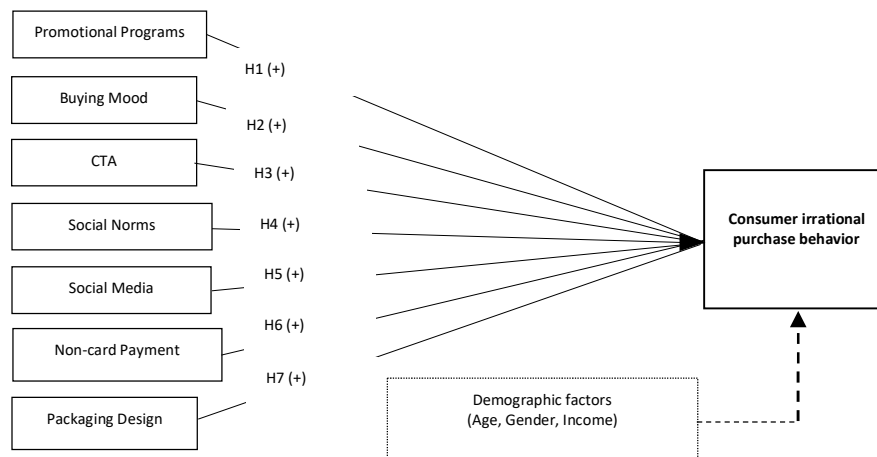


Figure 1. The proposed research model

Figure 1 illustrates our proposed research model, which represents the seven suggested hypotheses with demographics factors including age, gender, and income of a consumer. The model of this study is proposed by referring to the main theories related to consumer impulsive purchase, including Behavioral economics (Thaler, 2016), Theory of impulse buying (Stern, 1962), Theory of mental accounting (Thaler, 1985). It also combines with previous studies and the definition of the mentioned hypotheses.

In this model, Promotional Programs, Buying Mood, CTA, Social Norms, Social Media, Non-card Payment, and Packaging Design are considered to be independent variables. At the same time, consumer impulsive purchase behavior is chosen as a dependent variable.

4. Research methodology

This research employs both qualitative and quantitative approaches to study consumer impulse buying behavior. Qualitative data were accumulated by the application of the DCOVA framework, which is Defining, Collecting, Organizing, Visualizing, and Analysing. We conducted a survey using a 5-point Likert scale and ensured that the verification of each variable was measured with a minimum of three items to guarantee the rationality of the questions (Atkins *et al.*, 2017).

To conduct the survey, we brainstormed and initialized the survey form with the most preliminary ideas. Then, we conducted a pilot survey on ten respondents and received feedback from them. The feedback was mostly about their experience, feeling when completing the questionnaire. Also, pilot respondents reported that some questions required rereading to understand. Besides, for the online survey form, technical factors were additionally suggested so that we could consolidate our online survey form as effectively as possible. After summing up the feedback, we fixed the confusing questions to facilitate understanding, but still retained our survey's intent. These changes not only help respondents avoid rereading but also ensure that the answers are decent for our research. Finally, we addressed some minor issues, including correcting the spelling of the questions, marking all items as required, and turning on proper email auto-checking function.

A total of 379 responses were collected in the area of Ho Chi Minh city in the second half of February 2020. Ho Chi Minh city is a crowded residential center with many brands, markets, and shopping malls. This urban side is home to not only people living in the city but also many immigrants from other places. Therefore, we took a survey in Ho Chi Minh city to acquire a sample representing different types of consumers in Vietnam. Additionally, the sample should be close to our research goal since people living in Ho Chi Minh city are more likely to use modern technology than in other areas.

The official survey consists of 43 questions in total, including:

- Two introductory questions;
- Three questions for the dependent variable standing for Vietnamese consumer irrational purchase behaviour;
- Four demographic breakdown questions;
- Seven components: Promotional Programs (5 items), Buying Moods (7 items), Contextual Targeting (3 items), Social Norms (4 items), Social Media (5 items), Non-cash Payment (5 items), and Packaging Design (5 items).

The sampling method we used is to select randomly from the population, which means every potential subject in the target population has a known and equal

probability of being selected for participation. These "true-probability" samples are selected regardless of gender, age, racial group, etc. There is no specific source to obtain the data since our research topic is not too narrow in terms of choosing respondents. As mentioned, our respondents are the ones who have experienced shopping before and have shopping habits recently. Therefore, everyone can become the target of our research because the majority of Vietnamese people are consumers. However, we ensure the data is consistent with the assumption above by eliminating non-conforming data points, including respondents who never go shopping, or have low shopping frequency. Furthermore, we also exclude data points with improper responses, such as inputting fake emails or selecting only one answer for all questions (for example, always mark 1 or 5).

We executed quantitative research right after revising the questionnaire at the end of the qualitative research. Due to the outbreak of Covid-19, the process of data collection was much more restricted and administered through online form only. To collect the desired responses, we have devised several strategies, including reaches through personal networks, SendGrid email marketing, and survey callouts on Facebook communities along with giveaways.

There are three reasons why we choose these strategies. Firstly, using SendGrid email marketing helps spread our survey to suitable respondents with just several clicks to launch. This application facilitates reaching more people to join the survey, as well as saves us time. Secondly, collecting responses via the Facebook channel including personal networks and social groups assists us in activating the sharing effect from others with sharing function. For those who are interested in and want to contribute to the research, they will be able to support us by sharing the survey form with just one click. From that, when more people acknowledge our call, we would be able to get more responses from many others' networks. Thirdly, to stimulate interest for those on Facebook who are not keen on our survey or research topic, we triggered another source of benefit so that they can join and share our questionnaire form by giving gifts. Specifically, we shared the activation codes which can activate free account to become a premium account for some utility software. The ones receiving these codes are individuals who finished or shared the survey for us. Hence, we can have many samples from many diverse communities thanks to interest in contributing to research, as well as interest in receiving gifts. The community that we called for joining the survey includes people living in urban areas of Vietnam, who have experienced shopping before and have shopping habits recently.

There were 354 valid responses. The effective rate of questionnaires was 93.40%. A total of 184 male samples (51.98%) was collected from the survey, and

female samples were 170 (48.02%). The detailed characteristics of the sample are shown in the discussion and findings section.

We tested the reliability of the survey using Cronbach's Alpha Coefficient. Following the logic of Nunally and Bernstein (1994), the process of reliability analysis for all independent variables through Cronbach's Alpha has confirmed the satisfactory of the proposed model, with all the α values being greater than 0.8. Results of the model's reliability using Cronbach's Alpha can be summarized in Table 1.

Table 1. Cronbach's Alpha analysis

Promotional Programs (PP)				
Reliability Statistics				
Cronbach's Alpha	N of Items			
0.873	5			
Item-Total Statistics				
	Scale mean if item deleted	Scale variance if item deleted	Corrected item- total correlation	Cronbach's Alpha if item deleted
PP1	14.21	10.120	0.753	0.834
PP2	14.23	9.907	0.768	0.829
PP3	13.69	10.311	0.518	0.899
PP4	14.24	10.172	0.756	0.834
PP5	14.24	10.075	0.758	0.832
Buying Moods (BM)				
Reliability Statistics				
Cronbach's Alpha	N of Items			
0.856	7			
Item-Total Statistics				
	Scale mean if item deleted	Scale variance if item deleted	Corrected item- total correlation	Cronbach's Alpha if item deleted
BM	22.46	12.317	0.749	0.818
BM	22.43	12.881	0.717	0.824
BM	21.49	14.409	0.411	0.863
BM	22.48	12.721	0.703	0.825
BM	22.11	12.323	0.493	0.867
BM	22.50	13.027	0.683	0.829
BM	22.43	12.841	0.693	0.827

Table 1. Cronbach's Alpha analysis (*continued*)

Contextual Targeting (CT)				
Reliability Statistics				
Cronbach's Alpha	N of Items			
0.867	3			
Item-Total Statistics				
	Scale mean if item deleted	Scale variance if item deleted	Corrected item- total correlation	Cronbach's Alpha if item deleted
CT	5.97	4.291	0.740	0.819
CT	5.97	4.132	0.736	0.823
CT	5.92	4.130	0.764	0.797
Social Norms (SN)				
Reliability Statistics				
Cronbach's Alpha	N of Items			
0.816	4			
Item-Total Statistics				
	Scale mean if item deleted	Scale variance if item deleted	Corrected item- total correlation	Cronbach's Alpha if item deleted
SN1	9.31	5.647	0.563	0.822
SN2	9.56	6.366	0.671	0.755
SN3	9.51	6.336	0.679	0.752
SN4	9.53	6.318	0.677	0.752
Social Media (SM)				
Reliability Statistics				
Cronbach's Alpha	N of Items			
0.846	5			
Item-Total Statistics				
	Scale mean if item deleted	Scale variance if item deleted	Corrected item- total correlation	Cronbach's Alpha if item deleted
SM	14.26	7.067	0.675	0.808
SM	14.28	6.725	0.733	0.792
SM	13.40	7.905	0.442	0.869
SM	14.28	7.132	0.691	0.805
SM	14.27	6.806	0.742	0.790

Table 1. Cronbach's Alpha analysis (*continued*)

Non-cash Payment (NCP)				
Reliability Statistics				
Cronbach's Alpha	N of Items			
0.860	5			
Item-Total Statistics				
	Scale mean if item deleted	Scale variance if item deleted	Corrected item-total correlation	Cronbach's Alpha if item deleted
NC	12.44	17.397	0.486	0.883
NC	12.72	15.408	0.715	0.821
NC	12.96	16.384	0.834	0.798
NC	12.95	16.349	0.861	0.793
NC	12.91	16.530	0.590	0.855
Packaging Design (PD)				
Reliability Statistics				
Cronbach's Alpha	N of Items			
0.850	5			
Item-Total Statistics				
	Scale mean if item deleted	Scale variance if item deleted	Corrected item-total correlation	Cronbach's Alpha if item deleted
PD	14.69	8.685	0.729	0.804
PD	14.67	8.941	0.676	0.817
PD	14.75	8.825	0.702	0.811
PD	14.64	8.683	0.716	0.806
PD	15.38	7.289	0.594	0.864
Dependent variable: Impulsive buying (Y)				
Reliability Statistics				
Cronbach's Alpha	N of Items			
0.709	3			
Item-Total Statistics				
	Scale mean if item deleted	Scale variance if item deleted	Corrected item-total correlation	Cronbach's Alpha if item deleted
Y1	6.08	2.141	0.482	0.675
Y2	5.80	2.149	0.528	0.619
Y3	5.80	1.991	0.573	0.560

In terms of validity, we conducted an Exploratory Factor Analysis on the questionnaire and found that $KMO=0.897$ and $sig=0.000$, which is suitable for the factor analysis. In details, we used Principal Component Analysis as the extraction method for the factor analysis process. We found that factor loads of all variables were greater than 0.658. Results of Exploratory Factor Analysis for independent and dependent variables are demonstrated in Table 2.

Table 2. Exploratory factor analysis

Independent variables					
KMO and Bartlett's Test					
Kaiser-Meyer-Olkin		0.890			
Measure of Sampling Adequacy.					
		Approx. Chi-Square	6921.086		
Bartlett's Test of Sphericity		df	666		
		Sig.	0.000		
Communalities			Communalities		
Variable	Initial	Extraction	Variable	Initial	Extraction
PP1	1.000	0.750	SM1	1.000	0.664
PP2	1.000	0.759	SM2	1.000	0.721
PP3	1.000	0.576	SM3	1.000	0.613
PP4	1.000	0.745	SM4	1.000	0.706
PP5	1.000	0.753	SM5	1.000	0.757
BM1	1.000	0.743	NCP1	1.000	0.467
BM2	1.000	0.686	NCP2	1.000	0.726
BM3	1.000	0.605	NCP3	1.000	0.829
BM4	1.000	0.672	NCP4	1.000	0.860
BM5	1.000	0.404	NCP5	1.000	0.562
BM6	1.000	0.667	SP1	1.000	0.700
BM7	1.000	0.669	SP3	1.000	0.686
CT1	1.000	0.796	SP4	1.000	0.717
CT2	1.000	0.773	PD1	1.000	0.712
CT3	1.000	0.799	PD2	1.000	0.673
SN1	1.000	0.715	PD3	1.000	0.691
SN2	1.000	0.689	PD4	1.000	0.724
SN3	1.000	0.698	PD5	1.000	0.690
SN4	1.000	0.697			

Table 2. Exploratory factor analysis (*continued*)

Dependent variables						
KMO and Bartlett's Test						
Kaiser-Meyer-Olkin		0.665				
Measure of Sampling Adequacy.						
Bartlett's Test of Sphericity	Approx. Chi-Square	199.780				
	df	3				
	Sig.	0.000				
Communalities						
Variable	Initial	Extraction				
Y1	1.000	0.575				
Y2	1.000	0.636				
Y3	1.000	0.688				
Extraction Method: SPncipal Component Analysis						
Total Variance Explained						
Component	Initial Eigenvalues			Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.899	63.311	63.311	1.899	63.311	63.311
2	0.620	20.653	83.963			
3	0.481	16.037	100.000			
Extraction Method: SPncipal Component Analysis						
Component Matrix ^a						
				Component		
				1		
Y3				0.829		
Y2				0.798		
Y1				0.758		
a. 1 components extracted.						

Finally, we performed multiple regression analysis to test the hypotheses. The results are summarized in Table 3.

Overall, all the standardized coefficients beta (β values) are positive, which agrees with our hypotheses where all independent variables have positive

correlations with the dependent variable. The column Sig. holds the p-values for our independent variables. The results showed that all p-values are smaller than 0.05, implying coefficients of these variables are statistically significant. The Variance Inflation Factor (VIF) measures the impact of collinearity among the variables in a regression model. According to the result, all values shown in the VIF column were less than 2, which indicates a low correlation among independent variables, leading to a low chance of multicollinearity issue (Hair *et al.*, 1995). The R-squared value of the model is 0.815, indicating the amount of variance in the dependent variable that is accounted for or explained by the independent variables.

5. Discussion and findings

This study might be regarded as a sequel to the works about Vietnamese consumers' impulse buying behavior of Mai *et al.* (2003, 2006), a re-appraisal of human conduct and consumption patterns after the considerable transformation of the country in roughly 20 years. Unlike Mai *et al.* (2003) with a focus on the impacts of demographic characteristics and Mai *et al.* (2006) with positive/negative aspects associated with impulse buying, we chose another approach in understanding the phenomenon by listing the contributing factors. Quantitative data have revealed that Contextual targeting ads, Mood, Promotion and Packaging are the four factors having the most profound effects on consumer impulse buying conduct, respectively.

Table 3. Results of regression analysis

Variables	Unstandardized coefficients		Standardized coefficients	t	Sig.	VIF
	B	Std. error	beta			
(Constant)	-0.672	0.116		-5.798	0.000	
Promotional Programs	0.124	0.023	0.144	5.294	0.000	1.337
Buying Mood	0.216	0.031	0.202	6.962	0.000	1.527
CTA	0.347	0.018	0.509	19.061	0.000	1.294
Social Norms	0.064	0.024	0.076	2.695	0.007	1.432
Social Media	0.119	0.030	0.123	3.989	0.000	1.740
Non-card Payment	0.093	0.017	0.137	5.483	0.000	1.134
Packaging Design	0.132	0.024	0.140	5.434	0.000	1.202

Source: Summarized from the study's SPSS results

Delving deeper into Table 3, despite a newly proposed factor, CTA ranks first in the list of determinants ($\beta=0.509$), implying that this factor may be the next big thing in advertising for digital marketers to experiment with and examine the impact. The effectiveness of Contextual advertising can be put down to two main reasons. First, it strikes a chord with consumers in displaying relevant ads, shortening consumers' search journeys, and satiating their hidden needs. Thus, consumers can make decisions faster and move to the next things to save time. Second, changes in the industry, such as GDPR and e-Privacy, are forcing all parties to reconsider the approach to advertising to reduce the disturbance caused to the consumers. Therefore, CTA is the better option because it is free from the intrusion of privacy, not relying on third parties to exploit consumer data like Cookie. After Contextual advertising, Mood ($\beta=0.202$), Promotion ($\beta=0.144$) and Packaging ($\beta=0.140$) follow consecutively. An interesting fact is that all these four factors are within the control of businesses. Investing more money for contextual ads, establishing more promotion programs and core strategies on product branding, creating an ambience where consumers can be most jolly and happy at stores are the key to consumers' love and attention. As in the 21st century, people's attention is the most valuable currency (Thompson, 2017).

Table 4. Characteristics of the sample

Characteristics	Value ranges/buckets	Number of occurrences	Percentage (%)
Age	15-25	282	79.66
	25-35	64	18.08
	35-45	8	2.26
	Above 45	0	0.00
Salary	< 5 million VND/month	163	46.05
	5-10 million VND/month	101	28.53
	10-20 million VND/month	55	15.54
	20-30 million VND/month	14	3.95
	> 30 million VND /month	9	2.54
Gender	No income yet or other ranges	12	3.39
	Male	184	51.98
	Female	170	48.02

Source: Summarized from the study's questionnaire results

Based on the statistics at close quarters in Table 4, there are three demographic factors this research takes into account, namely age, gender and salary range. The proportion of male and female respondents in this investigation does not differ much, which is roughly at 52% and 48%, respectively. Nevertheless, these figures do not infer any further insights as regards which gender tends to make more irrational buying choices. Respondents in this study fall into three age group categories, ranging from 15 to 45 years old. No observation was found above 45 years old. Since the survey was conducted completely online, reaching younger people was much easier than the middle-aged, who neither spend much time on the Internet nor be likely to engage in these activities. The 15 - 25 age group captures the lion's share of the sample, at nearly 80%, whereas the 25 - 35 and 35 - 45 groups account for an approximate of 18% and 2%, respectively. Matching with the dominance of the 15 - 25 age group, who are still young and earn little, the salary range below 5 million VND/month also ranks highest in the total share, which account for nearly 50% of the sample. An infinitesimal proportion of 3.39% is ascribed to a group who have zero income. Respondents in this group, albeit entirely financially dependent on their families, claimed to be able to make consumption choices on their own, unaffected by parental wishes, through monthly allowances. Thus, their participation in this survey is considered reliable.

Knowing which website to place the ad content is critical for businesses to convert browsers to potential customers. Look for trusted ad agency's expertise if businesses need help in placing relevant ads to reach more Internet users. For suggestions in promotion, businesses should have a benchmark by adopting straightforward strategies such as above-the-line (TV, newspapers, and magazine), below-the-line (CTA, email, and telemarketing) and through-the-line (social media, events) campaigns. Besides the schemes which will appear on the top of every marketer's mind in doing advertising, we suggested the most easily forgotten element that is usually left out, namely Packaging design. Packaging is an ambassador for brand introduction, an essence of advertising and promoting. Hence, it should be the first thing for businesses to consider or reconsider in a promotional campaign. What is more, Packaging was ranked fourth in the chart of top influencing factors. Ergo, we consider it insightful to elaborate on some ideas about this element. Microsoft's recent consumer study (McSpadden, 2015) has claimed a shocking fact. Human's average attention span has been shortened from 12 seconds (back in 2000) to 8 seconds (as of now). The new figure is ridiculously lower than that of a golden fish, which is 9 seconds. Recently, due to the relentless flow of stimuli from social media, nothing seems to retain long enough in our mind. This situation is also true in the case of many businesses vying for consumer attention through their packaging designs. To the convention of human thinking, to stand out from the crowd means to break the mold, like designing outlandish

packaging. The case study of Tropicana's fiasco (Zmuda, 2009) of packaging design for Pure Premium products in 2009 has raised the alarm for any brand that discards their brand equity and overdoes for consumer attention. The lesson here is to study consumer characteristics carefully to give out both eye-catching, yet pleasantly familiar and convenient solutions for consumers, avoiding unwonted designs. This can be achieved through the appropriate use of color combinations, graphics, fonts, slogan, and logo, which accurately represent the brand personality and through proper packaging shape (for example, the case study of Heinz's upside-down ketchup containers) to increase functionality.

As regards customer's shopping mood, many businesses think that this element does not come under their control. They can totally manage the situation by bringing joy to customer shopping excursions. Danziger (2006) devises an interesting formula that affects consumer shopping decision: $P = (N + F + A) \times E^2$, where P is Propensity, N is Need, F is Features of product, A is Affordability, and E is Emotion. The demonstration of the formula has revealed the emotion element is of utmost importance to impel consumers to shop more. Capitalizing on this insight, brands can create fun and remarkable experiences at stores by producing personal bonds with consumers, through unforgettable activities like selfie challenge, small gifts giving, mascot displaying, KOL visiting. Moreover, sensory marketing should be applied to achieve maximum effects on customer experience. Fragrance, music playing, and appropriate room temperature are some basic things to consider, as the list goes on.

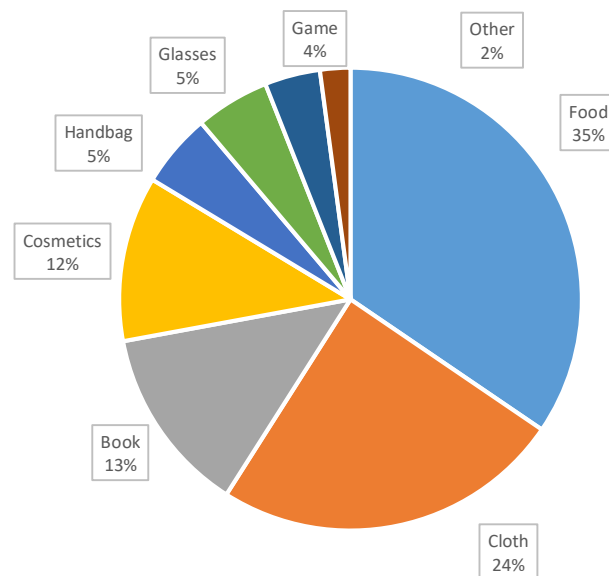


Figure 2. Breakdown of Vietnamese consumers' expenditure on products buying on impulse

Source: Authors' calculation

Besides the evaluation of each factor's impacts on impulse shopping decisions, our qualitative investigation also found out some product categories that consumers spend most on impulse, which is illustrated in Figure 2. Food ranks first in the list, taking up 35% of the total share, which is followed by clothing with approximately 25% and books with 13%. High proportion of people buying food can explain the contribution of these following factors in impulsive behavior: Promotion (in attractive deals on food apps such as GrabFood, Baemin, Jamja, etc.); Contextual targeting ads (in food review posts); Social norms (faster pace of living makes consumers opt for more convenient choices of ordering or eating out); and Social media (trends of food reviewing and check-in in cool restaurants).

6. Conclusion

The research has achieved its objectives in proposing, testing and proving the effects of the new factor, namely Contextual targeting advertising, in impulse buying behavior in Vietnam; incorporating both qualitative and quantitative approach into analyzing the data; and implying some tactics Vietnamese businesses can adopt to obtain a competitive advantage in the market.

The research points out that there are seven factors influencing consumer irrational purchase behavior in Vietnam. Interestingly, albeit being a newly proposed factor, Contextual Targeting ranks first, exerting the largest impact on consumer shopping irrationality. The imprint of technology on consumption patterns has marked a new watershed in this field of research as well as in the business understanding of their clientele.

Overall, more than 69% of the consumer impulsive buying behavior is explained by seven component factors, which are statistically significant. The remaining can be ascribed to measurement errors or the absence of other elements within the research model. The study has made a certain contribution to the research field of consumer irrationality in Ho Chi Minh city, Vietnam, and offered a more holistic view of the current retail landscape as well as pointed out the next research direction for future studies. Furthermore, our study's results have implied the profound impact of technology in approaching consumers, through the art of placing the right ads at the right time (Contextual Targeting) that no previous studies (Mai *et al.*, 2003, 2006), (Cho *et al.*, 2014) in this field have ever mentioned. Other important factors such as Promotion, Buying Moods and Packaging Design also give handy hints for businesses to act to consumer psychology, which means to reduce price to increase demands and always put emphasis on pleasing consumers' eyes first to win their attention and love. These factors along with the insights have provided the most up-to-date reflection of consumer buying

impulsiveness for the time being, contributing substantially to this research aspect in the context of urban areas of Vietnam.

Impulse buying is a pervasive behavior and an important aspect of consumer behavior. Our research has achieved a certain success in examining this behavior and factors influencing it in the context of an urban area in Vietnam. The findings are significant from a theoretical perspective. They contribute to a better understanding of impulse buying behavior from the new context of a transitional economy. Our research also suggests some managerial implications regarding four most impactful factors affecting consumer buying impulsiveness, which are Contextual Targeting, Buying Moods, Promotion, and Packaging Design. We believe it is crucial to both theory and practice to receive more efforts of both domestic and international researchers into investigating consumer behavior in general and impulse buying in particular in the context of transitional economies of Vietnam that have, to date, attracted only scant attention.

Limitations are inevitable in this research. In future work, we will try to use a larger, more representative samples from other cities rather than only in one city to achieve a better understanding of buying behavior in Vietnam. Besides, due to limited time and resources, only Contextual targeting was scrutinized to test its effects on impulse buying behavior. Further research can be extended to study other aspects of stimuli, such as AI algorithms on sentiment analysis, AR/VR supporting experiencing a product virtually, to genuinely reflect the contributions of The Fourth Industrial Revolution to the phenomenon.

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