



The Influence of Marketing Stimulation and Situational Factors on Impulse Purchasing Behavior of Vietnamese Consumers

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Authors' contributions

This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.

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ABSTRACT

Today, with the increasingly improved standards of living, consumers' demands are becoming more diverse. As daily purchasing activities are becoming less planned, impulse purchases are increasingly the norm. This paper focuses on factors influencing consumers' impulse purchase behavior in three of Vietnam's largest cities (Hanoi, Da Nang and Ho Chi Minh) based on a review of previous research as well as an analysis of effects of marketing stimuli and situational factors. Data were obtained from 264 Vietnamese consumers who have made impulse purchases using an online survey. Hypothesis testing and path modeling demonstrated that among four marketing stimuli factors, except for price incentives, all have a significant positive impact on impulsive purchase behavior. In addition, time pressure and ability to pay have a significant impact on

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impulsive purchase behaviors of urban Vietnamese consumers. These findings enrich the extant knowledge on the relationship between marketing stimulation, situational factors and impulse purchasing behavior. They also have important implications for firms that aim to stimulate changes in consumers' psychological desires, thereby stimulating consumers to engage in impulsive purchase behavior.

Keywords: Impulse purchase; vietnamese consumers; marketing stimuli; situational factors.

1. INTRODUCTION

Impulse purchase is a common phenomenon and is becoming increasingly prevalent with modern consumption activities [1,2]. With the development of the economy, standards of living are also improving. Modern consumers purchase not only to meet basic needs but also to satisfy higher extrinsic needs. The diversification of consumer needs leads to larger and more complex purchasing possibilities; in which consumers will satisfy their needs through many different consumption behaviors. Consumers' traditional deliberate and planned shopping behavior is less prevalent, while impulsive shopping behavior is becoming more widespread.

In the early days of market research, during the 1945-1959 period, the American Dupont Company conducted a survey on the impulsive purchase behavior of American consumers. The results show that the rate of impulsive purchase behavior among US consumers increased from 38.2% to 50.9%. Furthermore, research by Rook [3] emphasizes that impulsive purchase is a prominent feature of American consumers' lifestyles [3]. The proportion of Chinese consumers making impulsive purchases is also relatively high. For some items in supermarkets, the impulsive purchase rate can be up to 80% [4].

Following the period of economic reforms and global integration, especially since Vietnam participated in the World Trade Organization (WTO), the country's economy has developed rapidly. According to the Vietnam Bureau of Statistics, during the 2000-2010 period, the average annual rate of Vietnam's gross domestic product (GDP) grew from 7 to 8.5% and GDP per capita increased from USD 402 in 2000 to USD 1,300 in 2011. As the living standards of Vietnamese consumers improve, the shopping behavior of Vietnamese consumers also changes significantly. This change is reflected in consumers' increasing preference for modern consumption methods. Consumers in most major cities shop at least five times a week, as more and more consumers choose to shop in "modern" places such as supermarkets and department

stores [5]. According to the results of the 2023 national population census published by General Statistics Office of Vietnam, the country's population is more than 100.3 million people, ranking 3rd in Southeast Asia and 15th in the world, over 38% of which are urban residents. This shows that Vietnam's market has a massive purchasing potential.

It is apparent that consumers' impulsive purchase behavior has become a very common phenomenon in both developed and developing countries which can be capitalized on by marketers to significantly increase sales and profits. Therefore, an understanding of this phenomenon to propose measures to stimulate consumers' impulsive purchase behavior is a highly relevant issue in the field of marketing.

As our above discussion has indicated, consumers' impulsive purchase behavior accounts for an increasing proportion of daily shopping activities. With the improvement of living standards, product diversification and modernization of shopping methods, consumers' needs and purchasing preferences are increasingly personalized. Different purchasing motivations such as seeking novelty and difference, seeking truth and low prices, seeking high quality and reputation, etc. coexist. At the same time, due to the rapid pace of work and life, consumers' perception of consumption and shopping styles also change. In a fiercely competitive market, consumers' impulsive purchase behavior has attracted a lot of attention from businesses. This is especially true for Vietnam, a newly booming economy with the third largest population in Southeast Asia and 15th in the world, and 63.8% of the population belonging in the 15-59 age group. Consequently, Vietnam's young population structure is highly valued by foreign investors. However, research on the impulsive purchase behavior of Vietnamese consumers is still very sparse. Because of this research gap, empirical research on marketing stimuli and situational factors affecting the impulsive buying behavior of Vietnamese consumers is especially meaningful.

2. THEORETICAL FOUNDATION AND DEVELOPMENT OF RESEARCH HYPOTHESES

2.1 Theoretical Foundation

2.1.1 Concept of impulsive purchase behavior

Impulsive purchase behavior refers to a sudden and urgent need to respond to subjective or external stimuli, often used to describe strongly motivated, compulsive, or irrational behavior; involving improvisation, rather than being controlled by reason or careful deliberation. Impromptu behavior demonstrates a lack of planning and immaturity which can be dangerous or inappropriate for the situation if this tendency is not kept in check. Impromptu behavior often leads to consequences that are well beyond the individual's control.

Within consumer behavior theory, researchers have provided a wealth of definitions of impulsive purchase behavior. Piron [6] summarized and analyzed previous definitions of impulsive shopping behavior and categorized them into the following three levels:

1. Impulse purchase is equivalent to unplanned purchase.
2. Impulse purchase equals unplanned purchases plus exposure to stimuli.
3. Impulse purchase is a "hedonically complex" experience

After reviewing previous definitions of impulse purchase behavior, we believe that: despite the variety of definitions put forth by the research community, they do not contradict each other. It is conceivable that these definitions illustrate the main characteristics of impulsive purchase behavior, which is a strong, unplanned desire to buy due to external stimulation, cognitive ability, or consumers' reduced reasonable control and rationality, lack of careful and immediate, on-the-spot purchasing decisions.

2.1.2 Characteristics of impulsive buying behavior

2.1.2.1 Unplanned nature

While researchers have different views on how to understand impulsive purchase behavior or proposed definitions that represent different levels of such behavior, they all emphasize that failure to plan is one of the main characteristics of this phenomenon. The unplanned nature refers to the fact that consumers do not have any

planning or understanding about their purchasing behavior before making the purchase decision. In other words, even though consumers have no prior purchase intention, they still follow sudden and immediate purchasing impulses due to external stimuli [7]. It can be seen that a failure to plan is an important characteristic of impulsive purchase behavior, the most apparent and easily measured characteristic. This is also the reason why impulse purchase is usually viewed as completely synonymous to unplanned purchase.

In general, previous literature has neglected to study this behavior from the consumer perspective. Instead, most studies were conducted from the perspective of retailers [8] while not distinguishing between unplanned purchase and impulse purchase. With the development of research on impulsive shopping behavior, later scholars have comprehensively defined and had a deeper understanding of this purchase behavior. Therefore, characteristics other than unplannedness have attracted the attention of researchers.

2.1.2.2 Susceptibility to stimulation by external factors

Consumers often experience a strong, continuous and sudden motivating influence before an impulse purchase occurs [6] Because when you see a certain product in the store, you suddenly have the desire to own it; or after receiving some stimulation in a shopping mall, its latent need will be aroused [9]. After consumers receive certain stimulation, their psychological state falls into a state of imbalance, leading to new conflicts and struggles [10] that is, consumers fall into a state of disequilibrium. In this state of psychological imbalance, it is difficult to decide whether to control your desire to buy or enjoy immediate pleasure. Typically, consumers experience an intense and complex emotional response that stems from the influence of stimuli and is expressed as a strong desire to purchase before the purchase act, a feeling of pleasure during it and a feeling of satisfaction or disappointment afterward [6].

Consumers' strong desire for impulse purchases due to the influence of stimuli is an important characteristic of impulsive purchase behavior. This is a crucial factor but to shed light on the very complex phenomenon of impulsive purchase behavior we need to consider other characteristics as well.

2.1.2.3 Poor control

Early studies focused on the definition of impulsive shopping by focusing on whether there was a pre-purchase plan but did not differentiate between impulse and unplanned purchases. Later research analyzed the phenomenon of impulse purchase from the consumer's perspective and emphasized the buyer's strong emotional response as well as the lack of rational control and poor cognitive ability that lead to the behavior. Weinberg and Gottwald [9] define impulsive shopping as a behavior that lacks rational awareness [9] Valence et al. [11] offer a similar explanation that impulsive purchase is a type of strong emotional arousal and low cognitive behavioral control. Wood [12] also emphasizes that lack of willpower is the core concept of impulsive purchase behavior. Consumers' lack of willpower and reduced cognitive ability are also understood as loss of self-control. Self-control in turn refers to the process by which an individual, to achieve predetermined goals, takes his actual ongoing activities as the object and continuously plans, checks and evaluates them, controls and regulates them actively and consciously. When an impulse purchase occurs, consumers' self-control systems are disabled and they seem to be controlled by a mysterious force, allowing their emotions to participate in the purchase activities [13].

2.1.2.4 Spontaneity and recklessness

Impulsive shoppers want to immediately buy the item they like without careful consideration or even demonstrate recklessness in making the buying decision. This is considered another important characteristic of impulsive purchase behavior. The biggest difference between impulsive purchase behavior and regular purchase behavior lies in the level of rational awareness and control ability of consumers when making purchases. The reason why consumers lack consideration and even disregard the consequences when making a purchase is because they feel the irresistible appeal of the product and choose to enjoy it immediately. During the purchasing process, they pay more attention to the satisfaction that can be brought by owning the product and ignore reasonable control and possible adverse consequences after purchase. A consumer's impulsive purchasing decision is not made to solve an existing problem or satisfy a known need. Previous research has shown that impulse buying is behavior that lacks

reasonable control, ignores consequences, and occurs instantaneously. This characteristic refers to the relatively short period from when consumers come into contact with a product until they decide to buy it on the spot; therefore, the purchase decision appears to take place on the spot or immediately [12]. "Spontaneous behavior" refers to a consumer's desire to purchase that overcomes the buyer's rational control during the impulse purchase process. This behavior is not a forced response but is spontaneous [7].

2.1.3 Classification of impulsive purchase behavior

Stern [14] divided impulsive purchase behavior into four types according to assessment of purchase desire, purchase experience, purchase plans and impulsive purchase time. They are discussed in more detail as follows:

2.1.3.1 Pure impulse purchase

Pure impulse purchase is the most obvious and easily recognizable form of impulse purchase. The consumer has no pre-purchase intention and does not go through the usual consumer decision-making process. They decide to buy spontaneously because they are curious about the product or trying to avoid a certain problem. This purchase completely bypasses the typical purchasing process and happens spontaneously.

2.1.3.2 Reminder impulse purchase

Reminder-type impulsive purchase behavior refers to the situation in which consumers see a certain product and think that the inventory at home is insufficient or depleted, recall advertisements or other information related to the product and previous purchasing decisions, and then immediately make a purchase. The main characteristic of this type is that consumers recall their experience or knowledge about the product, which stimulates their purchasing behavior.

2.1.3.3 Suggestion impulse purchase

Suggestion impulse purchase means that even if consumers have no knowledge about the product before coming into contact with it, when they see it and evaluate its quality, functionality and other aspects, their desire to purchase will be stimulated. This type is different from the impulsive reminder type of buying. Suggestions impulse buyers have no prior knowledge about

the products they see to help make a purchasing decision and do not evaluate the product until it is released to the market.

2.1.3.4 Planned impulse purchase

“Planned” impulsive purchases may seem illogical, but this type of impulsive shopping does happen in reality. This occurs when a consumer has a specific purchase intention before entering the store, makes the purchase but still wants or has the tendency to buy more of the same product. This additional purchase behavior is dependent upon price or interest in the product. This is a common purchase behavior and one of the most effective purchasing patterns.

2.1.4 Factors affecting impulsive buying behavior

Studying factors affecting impulsive shopping behavior from as early as the 1960s, Stern [14] discovered that impulse purchase is not merely unplanned buying. Rather, this behavior is also affected by price, time, health and other factors. These may include low price, marginal demand for the product, large-scale distribution, self-service, extensive advertising materials prominently displayed in the store, products' short shelf life, small size or lightweight and the ease with which one can store the product [14]. Later researchers conducted more in-depth studies on those issues. This article focuses on two factors that impact impulsive purchase behavior, which are marketing stimuli and situational factors.

2.1.4.1 Marketing stimuli

Marketing stimuli are also known as controllable external stimuli. Many factors stimulate marketing, this article focuses on exploring product incentives and store incentives. These factors mainly include price incentives, product features, promotions and advertising.

Since the 1960s, many scholars have studied the impact of product prices on consumers' impulsive purchase behavior [15,16,14]. Their research results show that the lower the product price or the amount to be paid, the more likely consumers are to make impulse purchases. As for expensive products, consumers often collect and evaluate information before making the final purchase decision.

The frequency of consumers' impulsive purchase behavior varies across product types. Products that are convenient, low value, easy to consume, compact, easy to carry and store are the most common products to be bought on impulse [14]. Conversely, research by Gotalizadeh et al. [17] indicates that consumers who buy luxury goods primarily for enjoyment are easily motivated by hedonic preferences, therefore luxury products will be more likely to stimulate more impulsive purchase behavior. Compared with ordinary consumer products, the symbolic meaning of luxury products has a better capacity to meet consumers' need for self-distinction, therefore consumers who make purchases to compensate for self-distinction tend to buy a lot of those products [18]. D'Antoni and Shenson [19] believe that impulsive purchase behavior is influenced by product features [19] Parboteeah [20] believes that some products are more likely to be impulsively purchased than others and that the type, price and symbolic meaning of the product will influence consumers' impulse purchases [20].

Regarding the impact of advertising and promotion activities on impulsive purchase behavior, research by Stern [14] shows that large-scale advertising is one of the important factors affecting impulsive purchase behaviors. Findings by Lyu et al. [21] suggest that sellers use advertising information to make consumers aware of the existence and differences of products, thereby stimulating consumers' impulsive purchases. In addition, consumers' impulse purchases are influenced by the level of transaction costs and promotional activities. Therefore, when such efforts convince consumers that purchasing can save money, they easily trigger purchase intentions. For products with the same price, promotional programs will significantly influence consumers' product preferences. For high-priced products, consumers prefer discount-based promotion methods, while for low-priced products, consumers prefer quantity-based promotion methods [22].

2.1.4.2 Situational factors

Belk [23] defines situational factors as certain factors existing at a particular time and place that influence current behavior. Two factors related to this issue include time pressure and the ability to pay.

The time it takes consumers to make a purchase will have a significant impact on their impulse

purchase behavior. As analyzed in the literature review above, impulsive purchase behavior occurs when consumers feel a strong desire to make purchases within a short period.

This is a knee-jerk reaction, demonstrating a lack of rational understanding. Therefore, when consumers are under time pressure, their sense of control is reduced, rendering impulse purchase decisions easier to make [24].

A consumer's high purchasing ability at the time of purchase has a significant positive impact on impulsive purchase behavior. If consumers have less money, they will think and calculate more carefully before making a purchase and thus will be less prone to making impulsive purchases [7].

2.1.5 Studies on impulsive purchase behavior of vietnamese consumers

Currently, there are not many related studies on the impulsive shopping behavior of Vietnamese consumers. The pioneering study by Mai et al. [25] is one of the most notable pieces of research in this area. Through exploratory analysis, the authors found that four factors influence the impulsive purchase behavior of Vietnamese consumers, namely: cultural factors, geography, demographic characteristics (gender and age), income and product type. Research shows that while individualism has a positive impact on impulsive shopping behavior, collectivism has the opposite effect. Southern consumers make more impulsive purchase than those from other regions of the country. In the North, age hurts impulsive purchase behavior, while income has the opposite effect. Overall, Vietnamese consumers often make impulsive purchases for personal items. In addition, there are several studies on the antecedents and consequences of impulsive purchase behavior in Vietnam. In particular, the tendency to enjoy shopping and the modern view of the self are important predictors of impulsive purchase behavior, while the traditional view of the self is not considered to have an impact on this purchasing behavior [26]. Alternatively, the increased focus on store space and packaging design will attract more attention and emotion from domestic tourists, which can positively affect sales growth. Besides, other factors including advertising and promotional videos all have a significant direct and indirect impact on impulse purchase behavior through the mediating role of positive emotions [27]. Most recently, Nguyen and Ha [28] and Pham et. al [28] studied impulsive purchase behavior

following fast fashion trends and impulsive buying on social networks. They suggest that emotions, hedonic values, and promotions at fast fashion stores have a significant influence on impulse purchase behavior [28,29]. While consumer trust and visibility from celebrities' social media posts have a positive impact on impulse purchases, the perception of celebrity influence will directly impact trust in the celebrity's posts themselves rather than directly affecting impulsive purchase tendencies [29]. Regarding the outcomes of impulse purchases, the findings show that although Vietnamese consumers enjoy positive emotions while engaging in impulse purchases, they must deal with financial problems stemming from them and opposition from other people. However, the findings of this study reject the relationship between impulsive purchase behavior and feelings of regret and guilt [30].

Thus, according to the analysis above, studies on the impulsive purchase behavior of Vietnamese consumers are still very sparse, save for only a few studies on consumers' personal emotional factors influencing impulsive purchase behavior [28,29,5,31]. Therefore, empirical research on marketing stimuli and situational factors affecting the impulsive buying behavior of Vietnamese consumers is highly relevant.

2.2 Development of Hypotheses

2.2.1 The impact of marketing stimuli

Previous research has shown that low prices have a significant positive impact on impulse purchases. The lower the price of the product, or the less money the consumer has to pay, the easier it is to make impulse purchases. In other words, the lower the product's price is, or the smaller the payment is on the consumer's part, the consumer's budget limit is less likely to be affected and impulsive purchase behavior is more likely to occur. For expensive goods, due to the high payment amount, consumers often collect and evaluate information before purchasing, then make the final purchase decision, according to Stern [14]. Furthermore, impulse purchase behavior is influenced by the product itself. Based on the above analysis, this study proposes the following hypotheses:

H1: Product characteristics have a significant positive impact on impulsive purchase behavior.

H2: Price incentives have a significant positive impact on impulse purchase behavior.

Advertising is one of the important factors influencing impulsive purchase behavior. Advertising information can make consumers aware of the product's existence, thereby stimulating consumers' demand. The more convincing and attractive advertising information is, the easier it is to attract consumers' attention and stimulate their desire to purchase [21].

Promotion activities can also stimulate consumers to make impulse purchases. Purchase decisions are influenced by transaction costs, therefore consumers' impression that discounts or promotions enable savings further stimulates purchase intentions or make them more likely to make impulse purchases [22]. Based on the above analysis, this study proposes the following hypotheses:

H3: Promotions have a significant positive impact on impulsive purchase behavior.

H4: Advertising has a significant positive impact on impulsive purchase behavior.

2.2.2 The impact of situational factors

An important characteristic of impulsive purchase behavior is that consumers take less time to make purchase decisions. The process from a strong purchase desire inspired by external stimuli to a purchase decision is shorter than with conventional purchase behaviors. When making purchases, consumers often ignore rational evaluation of their behavior and act without careful consideration. Therefore, if pressed for time, they are likely to make impulse purchases [24].

Purchasing ability is also a very important situational factor affecting impulsive purchase behavior. If consumers have strong purchasing ability and their rational control over purchasing behavior is reduced, impulsive purchase behavior will be more likely to occur. The less money consumers have, the more carefully they will consider and calculate before making a purchase, making impulsive purchasing behavior less likely [31,32]. Based on the above analysis, this study proposes the following hypotheses:

H5: Time pressure has a significant positive impact on impulse purchase behavior.

H6: The ability to pay has a significant positive impact on impulse purchase behavior.

Based on the above analysis, the paper proposes the following research model:

3. METHODOLOGY

3.1 Survey Design

3.1.1 Questionnaire design

The questionnaire was developed on the foundation of previous studies and revised to reflect the context, subjects and purpose of the current study. Improvements were made to the questionnaire based on references of various studies and a small-scale pilot was conducted before the questionnaire was administered on a larger scale. The pilot survey subjects were 50 Vietnamese people who had made impromptu purchases. Because most of the questions in the survey are translated from English, it is very important to test the questionnaire to evaluate the clarity, understandability, logic, length and importance of each item. The questionnaire employs a five-point Likert scale with the options of "strongly disagree, disagree, neutral, agree and strongly agree" corresponding to the rating points from 1 to 5. For the variables of price, product features, advertising and promotion the questionnaire items are based on three rating scales used by Rook and Fisher [33], Dittmar, Beattie and Friese [34]. Dittmar et al., [34] Rook & Fisher, [33], Time pressure items are designed based on three rating scales used by Ceng Hao [35] He Wei [36] (Ceng Hao, [35] He Wei, [36]. Affordability items are based on three rating scales used by Beatty and Ferrel [7], Finally, impulse purchasing behavior items are based on four rating scales used by Jones et al. [37] Rook [3].

3.1.2 Selection of sample

This study employs online questionnaire of consumers in three major cities of Vietnam: Hanoi, Da Nang and Ho Chi Minh City. The survey period is November and December 2023. Screening conditions for research subjects are consumers who have made impulse purchases.

3.2 Analysis Method

For this study, software analytics programs SPSS 23.0 and AMOS 23.0 were used to analyze the collected data. The data analysis

methods used in this study include descriptive analysis, reliability and validity of measurement and structural equation modeling.

4. RESULTS

4.1 Descriptive Statistical Analysis

395 responses were collected over the research duration. After careful revision and elimination of unusual responses, 264 valid responses were recorded for further processing. In particular, the proportions of male and female respondents were mostly balanced, being 44% and 56% respectively. The age of respondents is mainly concentrated in the 25-34 years old age group, accounting for 62% of the total sample, the proportion of people with university degrees is relatively high, accounting for 58% of the total. The occupation of respondents is mainly sales staff, accounting for 45% of the total; Average monthly income is concentrated at the 5 to 10 million VND threshold, accounting for 38% of the total.

4.2 Reliability and Validity Of Measurement

4.2.1 Reliability

The survey includes 7 categories with 22 items, specifically: impulsive purchase behavior, marketing stimuli (price incentives, product features, advertising, promotions), situational factors (pressure time, purchasing ability). SPSS 23.0 was used to conduct reliability analysis of the rating scales. The results of the analysis are shown in Table 1.

Based on our analysis of reliability, the values of seven measure scales: price discount, product feature, promotion, advertising, time pressure, purchasing ability and impulsive purchase behavior are 0.922, 0.902, 0.945, 0.899, 0.868, 0.866 và 0.914. The Cronbach's α for each scale is larger than 0.70 which indicates every rating scale is highly reliable.

4.2.2 Exploratory factor analysis

This study uses SPSS 23.0 conduct exploratory factor analysis. The results show that the KMO value is 0.898 and the result of the Bartlett

sphericity test is significant ($P=0.000$). Furthermore, the classification of each item by factor was the same as expected in the questionnaire design, of all variables being greater than 0.5; While the factor loading variance of the variables with more than two factors is greater than 0.3, the scale has convergent validity. This shows that the scale has good convergent and discriminant validity. The results of the analysis are shown in Table 2.

4.2.3 Confirmatory factor analysis

Based on the results of exploratory factor analysis, this study used AMOS 23.0 to conduct confirmatory factor analysis to further verify the relationship between each factor and the overall fit index of data.

4.2.3.1 Confirmatory factor analysis of the marketing stimuli rating scale

The results in Table 3 indicate that the model of confirmatory factors for the marketing stimuli rating scale is satisfactory with all values being extremely good [38].

The analysis results in Table 4 show that the factor loading coefficient of each item ranges from 0.50 to 0.95. The larger the standardized regression coefficient loading is, the more effectively it reflects the characteristics of the latent variables to be measured. Furthermore, the critical ratio C.R value (or T value) of each variable is greater than 2.58 and the probability value is significant with $p<0.001$, which shows that the parameter estimates have reached the significance level. 0.01. Based on the above analysis, it can be concluded that the convergent validity of the marketing stimulation scale is satisfactory. In addition, no observed variables (items) were found to include two factors. The different measurement variables initially established all lie on the expected factor structure, indicating that discrimination is guaranteed.

4.2.3.2 Confirmatory factor analysis of the situational factor rating scale

The analysis results in Table 5 show the overall suitability of the scale in terms of situational factors [38].

Table 1. Reliability of the research instrument

Category	Value	Cronbach's α
Price incentives (P)	—	0.922
P1	0.835	—
P2	0.862	—
P3	0.798	—
Product features (Pro)	—	0.902
Pro1	0.812	—
Pro2	0.810	—
Pro3	0.796	—
Advertising (A)	—	0.945
A1	0.895	—
A2	0.899	—
A3	0.896	—
Promotions (Prom)	—	0.899
Prom1	0.822	—
Prom2	0.798	—
Prom3	0.786	—
Time pressure (Tp)	—	0.868
Tp1	0.721	—
Tp2	0.752	—
Tp3	0.749	—
Purchasing ability (PA)	—	0.866
PA1	0.767	—
PA2	0.678	—
PA3	0.780	—
Impulsive purchase behavior (IBB)	—	0.914
IBB1	0.814	—
IBB2	0.790	—
IBB3	0.794	—
IBB4	0.762	—

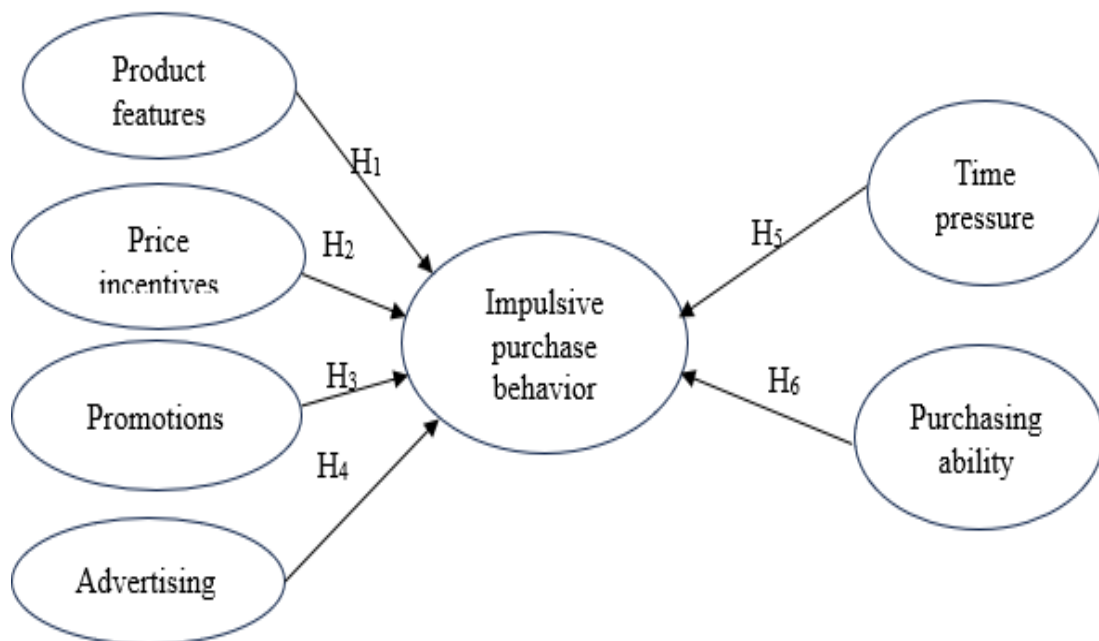


Fig. 1. Proposed research model

Table 2. Exploratory factor analysis results

Item	Price incentives	Product features	Promotions	Advertising	Purchasing ability	Time pressure	Impulse purchase behavior
P1	0.889	—	—	—	—	—	—
P2	0.897	—	—	—	—	—	—
P3	0.846	—	—	—	—	—	—
Pro1	—	0.688	—	—	—	—	—
Pro2	—	0.769	—	—	—	—	—
Pro3	—	0.635	—	—	—	—	—
Prom1	—	—	0.742	—	—	—	—
Prom2	—	—	0.732	—	—	—	—
Prom3	—	—	0.753	—	—	—	—
A1	—	—	—	0.911	—	—	—
A2	—	—	—	0.899	—	—	—
A3	—	—	—	0.902	—	—	—
PA1	—	—	—	—	0.871	—	—
PA2	—	—	—	—	0.892	—	—
PA3	—	—	—	—	0.875	—	—
Tp1	—	—	—	—	—	0.823	—
Tp2	—	—	—	—	—	0.793	—
Tp3	—	—	—	—	—	0.825	—
IBB1	—	—	—	—	—	—	0.787
IBB2	—	—	—	—	—	—	0.779
IBB3	—	—	—	—	—	—	0.694
IBB4	—	—	—	—	—	—	0.755

Table 3. Fit index model of marketing stimuli rating scale

	χ^2/df	GFI	RMSEA	PGFI	PNFI	NFI	NNFI (TLI)	CFI
Standard value	<3	>0.9	<0.08	>0.5	>0.5	>0.9	>0.9	>0.9
Value	1.234	0.932	0.035	0.684	0.781	0.928	0.981	0.949

Table 4. Convergent validity and discriminant validity of the marketing stimulation scale

Variable	Item	Standardized Regression Weight	Critical Ratio (T value)	P
Promotion	Prom3	0.814	—	—
	Prom2	0.823	14.451	***
	Prom1	0.911	15.755	***
Price incentives	P3	0.832	—	—
	P2	0.903	17.623	***
	P1	0.881	16.881	***
Product features	Pro3	0.867	—	—
	Pro2	0.879	16.541	***
	Pro1	0.872	16.525	***
Advertising	A3	0.936	—	—
	A2	0.942	25.281	***
	A1	0.933	24.459	***

Note: *** $P < 0.001$

Table 5. Fit index model of the situational factor rating scale

	χ^2/df	GFI	RMSEA	PGFI	PNFI	NFI	NNFI (TLI)	CFI
Standard value	<3	>0.9	<0.08	>0.5	>0.5	>0.9	>0.9	>0.9
Value	1.242	0.986	0.034	0.522	0.590	0.598	0.994	0.997

According to the analysis results in Table 6, it can be concluded that the convergent validity of the situational factor scale is good. In addition, no observed variables (items) were found to include two factors. The different measurement variables initially established were all on the expected factor structure, so it can be concluded that the scale is guaranteed to have the desired level of distinction [39].

4.2.3.3 Confirmatory factor analysis of impulse purchase behavior rating scale

Analysis results in Table 7 indicate the overall fit of the impulsive purchase behavior rating scale [38].

According to analysis results in Table 8, it can be concluded that the impulsive purchase behavior rating scale is satisfactory in terms of convergent and discriminant validity.

4.3 Hypothesis Testing

This study employs AMOS 23.0 to conduct structural equation modeling analysis to verify

whether the hypothesized path corresponding to the research model was established, results are showed in Fig. 2.

According to the results of hypothesis testing and path modeling in Fig. 2 and Table 9, it is apparent that product features; promotions, advertising, time pressure and purchasing ability all positively influence impulsive buying behavior because the standard coefficients for these categories all have positive values, C.R (T) values are all greater than 2.58 and *p* all reach the threshold of less than 0.001, less than 0.01 or less than 0.05 respectively. Among them, product features have the greatest influence on impulse buying behavior, while advertising has the lowest influence with influence coefficients of 0.345 and 0.046, respectively. Thus, all hypotheses in the study are accepted, except for hypothesis H₂.

As for price incentives, because the C.R value (T value) is less than 1.96 and *p* is greater than 0.05, it has no effect on impulsive buying behavior, meaning that hypothesis H₂ is rejected.

Table 6. Convergent validity and discriminant validity of the situational factor scale

Variable	Item	Standardized regression weight	C.R value	P
Purchasing ability	PA1	0.850	—	—
	PA2	0.719	11.692	***
	PA3	0.880	13.335	***
Time pressure	Tp1	0.797	—	—
	Tp2	0.831	12.483	***
	Tp3	0.826	12.449	***

Note: *** *P*<0.001

Table 7. Fit index model of impulsive purchase behavior rating scale

	χ^2/df	GFI	RMSEA	PGFI	PNFI	NFI	NNFI (TLI)	CFI
Standard value	<3	>0.9	<0.08	>0.5	>0.5	>0.9	>0.9	>0.9
Value	1.765	0.932	0.049	0.512	0.536	0.940	0.968	0.972

Table 8. Convergent and discriminant validity of impulse purchasing behavior rating scale

Variable	Category	Standardized regression weight	C.R value	P
Impulsive purchase behavior	IBB4	0.816	—	—
	IBB3	0.862	14.946	***
	IBB2	0.827	14.211	***
	IBB1	0.841	15.284	***

Table 9. Results of hypothesis testing and path modeling

Hypothesis	Path		Standard value	C.R Value (T value)	Decision
H ₁	Product features →	Impulsive purchase behavior	0.345***	4.542	Support
H ₂	Price incentives →	Impulsive purchase behavior	0.013	0.667	Not support
H ₃	Promotions →	Impulsive purchase behavior	0.198**	2.664	Support
H ₄	Advertising →	Impulsive purchase behavior	0.046 **	2.759	Support
H ₅	Time pressure →	Impulsive purchase behavior	0.148**	2.638	Support
H ₆	Purchasing ability →	Impulsive purchase behavior	0.234*	2.599	Support

Note:*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$

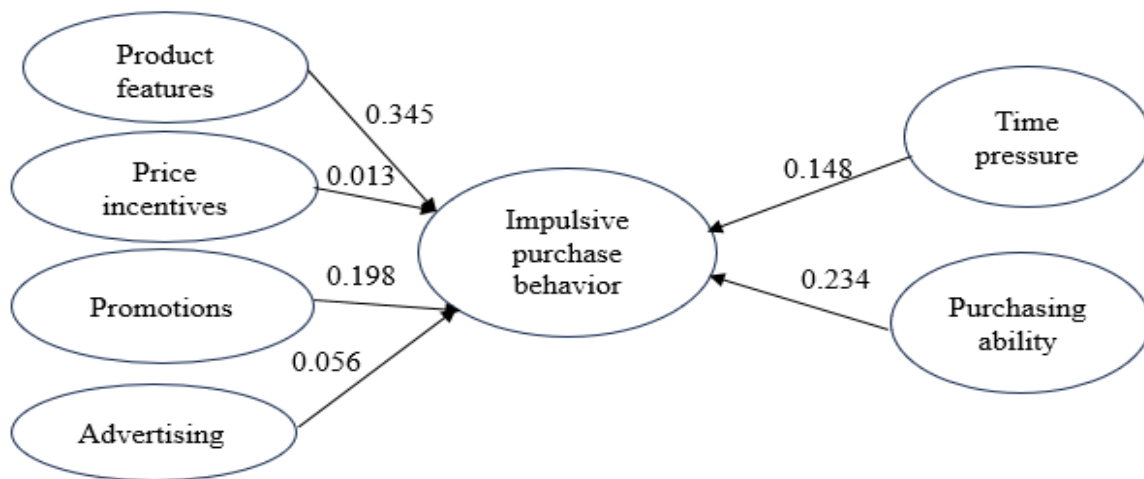


Fig. 2. Hypothesis path model results

5. DISCUSSION

Regarding the impact of marketing stimuli on impulsive purchase behavior, the initial hypothesis of this article is that four marketing stimuli factors, except for price incentives, all have a significant positive impact on impulsive purchase behavior. These conclusions are consistent with previous research results

[15,21,14]. Among them, product features have the greatest impact on impulsive purchase behavior of consumers in three major cities of Vietnam. The remaining factor (price incentives) does not have a significant impact on the impulsive purchase behavior of urban Vietnamese consumers. This conclusion is different from the research results of some scholars [40]. One possible explanation is that

Vietnamese urban shoppers perceive favorable prices mean lower quality. Vietnam's economic conditions have improved only in recent years, but due to poor market management, inconsistent production and business development strategies, the overall quality of goods sold on the market still leave a lot to be desired. Therefore, it is understandable that consumers use price as a measure to evaluate product quality.

Regarding the impact of situational factors on impulse purchase behavior, this study hypothesizes that situational factors such as time pressure and ability to pay have a significant impact on impulsive purchase behaviors of urban Vietnamese consumers. This conclusion is consistent with the research results of previous authors [7,41-43].

6. CONCLUSIONS

The research of purchasing behavior is getting the major attentions pursuant to the dramatic changes in consumer income, preference, technological influence and the dynamism of demographic characteristics. So this paper makes an important contribution to impulsive purchase behavior research. Some new initiatives to stimulate consumers' intrinsic needs in the following paragraphs.

(1) Product features

Through empirical research, the study finds that product features have the most recognizable impact on Vietnamese consumers among marketing stimuli. Products are the fundamental element to meet customers' needs and therefore create the core motivation for consumers to make purchase decisions. Most consumers surveyed in this study believe that their impulsive purchase behavior is closely related to product features. This article measures product features in three aspects: product design, use and brand awareness. Therefore, it is highly recommended that companies focus on developing product designs suitable for Vietnamese consumers, including contents related to product features, usage and design. In particular, attractive product design can effectively stimulate consumers' desire to purchase.

(2) Advertising

Although we find that advertising does not have a significant impact on the purchasing impulse of

Vietnamese consumers, they have a high preference for well-known brand name products when purchasing. Therefore, businesses have the responsibility to do a good job of promoting and maintaining brand images. Businesses need to reevaluate whether current advertising methods and messages are effective in impressing consumers. Besides improving advertising methods, businesses also need to improve product quality and product diversification.

(3) Promotion

In this aspect, the findings of this article are consistent with those of previous research which indicate that Vietnamese consumers tend to perform impulse purchases when encountering products with promotional activities, much like in other countries. Promotional activities can effectively stimulate consumers' purchasing intentions and rapidly increase sales. This article suggests that companies can stimulate consumers' intrinsic needs through promotional methods. However, when businesses use promotions to attract customers, they need to consider the preferences and acceptance of Vietnamese consumers and fully consider consumers' psychological reactions to prices.

(4) Price incentives

Our findings demonstrate that when encountering products with lower prices, consumers not only do not make impulse purchases but also cast doubt on their quality. Therefore, businesses can make reasonable adjustments in this aspect to meet customers' psychological requirements for high quality and low price. It is optimal for businesses to combine other promotional methods, including gift vouchers, discount coupons, gifts, limited-time promotions, etc. and use various promotion methods to stimulate changes in consumers' psychological desires, thereby stimulating consumers to engage in impulsive purchase behavior.

(5) Situational factors

Purchasing ability has a greater influence on impulsive purchase behavior than time pressure. This phenomenon is similar for consumers in other countries. Consumers' with higher ability to pay is greater reduced ability to reasonably control their purchasing behavior more likely to engage in impulsive purchase.

7. LIMITATIONS AND FUTURE RESEARCH DIRECTIONS

With regard to the limitations of research subjects, the author was only able to survey consumers in three major cities of Vietnam: Hanoi, Da Nang and Ho Chi Minh City. This does not mean that the characteristics of consumers in these three places can represent the characteristics of urban consumers in Vietnam. In addition, the number of samples collected in this study is limited and barely meets the data requirements of the study. The small total sample size may reduce the generalizability of the study's conclusions. The sample size expansion research method will allow selecting the same sample size in different regions for comparative research or expanding the sample size for in-depth research in the same region.

Concerning the limitations on research contents, although this article comprehensively analyzes the process of influencing marketing stimuli on impulsive purchase behavior, it does not explore the effects of marketing on services such as staff, processes and infrastructure. Because there are many factors affecting impulsive purchase behavior, this study only focuses on a few representative factors to answer the research questions. This also leads to a lack of in-depth investigation into the impact of personal characteristics and environment factors on consumers' impulsive purchase behavior. In addition, this article does not explore consumers' post-impulse purchase process. Therefore, future research directions can begin with these limitations.

DISCLAIMER (ARTIFICIAL INTELLIGENCE)

Author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc) and text-to-image generators have been used during writing or editing of manuscripts.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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