FACTORS AFFECTING CONSUMERS' ONLINE IMPULSE BUYING: A CASE OF HUE CITY

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Abstract: This study investigates the influence of independent variables, namely, scarcity, serendipity, and trust on online impulse buying. Besides, the paper examines the moderation role of two variables (stimulating shopping and relaxation shopping) in the interaction effects between those independent variables on online impulse buying. Data were collected from a sample of 209 consumers in Hue city (Vietnam). A structural equation was used to test the hypothesized relationships. The results suggest that while serendipity significantly and positively affects online impulse purchasing, scarcity has a significant negative influence on this activity. Trust has an insignificant influence on impulsive online purchasing in this context. Furthermore, stimulating shopping moderates the interaction effect between independent variables (scarcity and serendipity) concerning online impulse buying. However, relaxation shopping is not significant with the moderation effect. By examining different types of drivers, this paper enriches knowledge on online impulse buying and suggests some implications for online retail managers and online trading platforms to attract more consumers and encourage more unplanned consumption.

Keywords: online impulse buying, scarcity, serendipity, stimulating shopping, relaxation shopping

1   Introduction

Among the top 30 countries that have the most vibrant retail market in the world, Vietnam is mentioned as a potential market and receives the investment from numerous reputed foreign investors [33]. According to a report of Savills Vietnam [29], Vietnam's retail sale 2019 grew 13% over the previous year and reached approximately 163 billion USD. Besides, the modern retail industry has advantages with a large young population and a developing economy.

With the development of the retail sector, the e-commerce market grows energetically and has a positive change. E-commerce business is gradually replacing the traditional trading method in the world, in general, and Vietnam, in particular. In 2017, the Internet users reached 50.05 million people, accounting for 53% of total Vietnam's population and 48% of the people using social networks. Furthermore, the popularity of using smart devices, Internet, virtual networks, and the variety of payment methods has opened numerous opportunities for online buying in Vietnam in recent years [30].

A study from Euromonitor shows that Vietnam's e-commerce value increased five times in 2017 and reached 25.7 thousand billion VND compared with that in 2012 [6]. The average

growth of this sector is approximately 33% per year. According to Savills Việt Nam [28], the forms of online trading are more and more diverse and significantly develop, including online stores, online trading platforms, online advertising, and online auctions. The number of online stores rises 20 times, from 647 in 2013 to 13,510 in 2016; the number of online trading platforms increases 7 times, around 90 in 2013 to 682 in 2016. Recently, e-commerce has become a race of finance and technology from some huge online trading platforms such as Tiki, Lazada, Shopee, and Sendo [32]. According to the forecast of the Euromonitor research company, with the evolution of the 4.0 industrial revolution and the trend in behavior, changing from the traditional way to the online method, the value of Vietnam e-commerce market in 2020 will double that in 2017 with an estimated value of 58.2 thousand billion VND [6].

Online shopping allows consumers to purchase products or services on the Internet by checking information, pictures, or videos. Before deciding whether to buy an item, the consumer is likely to go through an impulse buying process, which is a spontaneous experience, desires to buy something randomly with a quick decision making [25]. Similarly, impulse buying relates to when the consumer experiences a strong, durable, sudden, and urge to buy something immediately [18].

Besides, this online impulse buying is affected by some factors in the environment [4]. In reality, impulse buying occurs when the consumers themselves have not yet or do not have the demand for purchasing, but they are strongly stimulated during experiencing online shopping and make a surprise and unplanned buying decision.

According to the Portal of Thua Thien Hue province [23], the population of Thua Thien Hue province is over one million peopleof which more than 50% is employees who are over 15 years old and the resident of Hue city is over 300 thousand people [47]. Therefore, it brings a good opportunity for online retailers to develop their online business and satisfy consumers. According to the estimates, the total retail sales of goods reach over 26,000 billion VND in Hue city [48]. Besides, the trend of online consumption is increasing in this city with the young generation who are easy to be affected by impulse buying due to some reasons. Thus, this study deals with online impulse buying to help enterprises understand customer decision making and develop buying on the Internet.

2   Theoretical background and hypothesis development

2.1   Online impulse buying

Stern [31] indicates that impulse buying is an "unplanned buying", and consumers make purchase decisions without any intention in advance. Impulse buying behavior occurs when customers experience a sudden feeling, deep urge, and desire to buy a product immediately [25].

This impulse purchase indicates the complex emotional state and can create some conflicts in customers' thoughts and feelings.

Online buying allows a customer to purchase products and services conveniently and easily. With a click and an uncomplicated process, it is really simple for customers to experience their online shopping. During impulse buying, therefore, customers tend to care less about the consequences of their purchase. The characteristics of impulse buying behavior can be summarized as follows: purchasing decision occurs quickly [25, 27]; buying behavior associates with the customers' emotional happening, and it belongs to feeling more than thinking [25]; it is not involved in buying a product with a clear and planned purpose [4].

2.2   Scarcity

Scarcity represents one of the fundamental concepts of economics and highly valued in classical economics. Scarcity reports a lack when the demand for a product or service surpasses its supply [15]. The basic tactic of scarcity is based on the conception that consumers want scarce products more than other alternatives [2]. Therefore, communication with scarcity is considered one of the strategic levers of information transparency within online markets [10].

Scarcity increases the importance of products and services. With the reduction of the quantity of products, it can develop the demand of the consumers to a higher level. Lynn [19] indicates that impulse behavior is significantly increased by scarcity messages. Therefore, online retailers and sales professionals apply some special techniques, for example, using the limited quantity or limited time to make psychological pressure on their customers. Limited quantity means that the number of available products and services is narrowed. Similarly, limited time is that the period of buying products and services is reduced.

In an online buying environment, consumers have the abilities to choose the products and online retailers. Besides, they are attracted by scarcity messages to consume products or services, which are limited by quantity or time. With this method, customers are impulsive to buy those products immediately; otherwise, they may lose them. With online buying through websites or apps, the sellers are possible to apply some limited plans in quantity and time to invite their customers [24].

When dealing with shopping online, Wu et al. [41] indicate that both limited-quantity scarcity and limited-time scarcity encourage consumers' awareness and lead to impulse buying. In other studies, the effect of scarcity on consumers' behavior is performed in booking hotels online. As a result, the authors find that scarcity perception increases booking intention through impulsing [34]. Thus, they are more likely to have a positive effect between scarcity and online impulse buying behavior.

Therefore, the proposed hypothesis is "Scarcity has an impact on online impulse buying" (**H1**).

2.3   Serendipity

In different fields, the concepts of serendipity are diverse. Some researchers indicate that serendipity includes two defining properties: "unexpectedness (with semantic descriptors, such as "surprise", "fortunate", and "accident") and value (with surrogate terms, such as "insight", "happy", "useful", or "beneficial")" [11].

In the online platform, customers can find the information with different ways and keywords, which contain a specific word or a phrase. In this searching process, people can meet some interesting information that is related or unrelated to the finding content. People discover new information when they find it incidentally. Therefore, searching and discovering are two ways to get online information. Online buying is built on an online platform that should be easy to use, experience, as well as find and discover information.

Information that meets the consumer's demand and is displayed by accident is called serendipity information [36]. In some previous studies, the authors mentioned that serendipity improves a consumer's experience to a positive level [17]. Besides, some studies show that searching for new products or services through serendipity information enhances customers' satisfaction and delight [5].

When a consumer performs a search and finds a piece of serendipity information, this new information is attractive and surprising for them. This serendipity and impulse buying action are more likely to be performed than an available plan [1]. Thus, serendipity is an unexpected situation and can create spontaneity and affect customer's decision making [44]. Therefore, the study expects that serendipity can increase consumers' experience and has a positive effect on online impulse buying. Thus, the following hypothesis is proposed:

Serendipity has an impact on online impulse buying (**H2**).

2.4   Stimulating shopping

Stimulating shopping or value shopping has the same meaning. Stimulating shopping is related to enjoyment when consumers hunt for a bargaining point and search for discounts and sales [39]. Furthermore, consumers feel delighted when they get a better discount and think that they are clever shoppers [8]. Looking for a good price or deal may increase consumer's satisfaction. During online shopping, people are able to search for discounts and bargains through a large number of websites that can encourage them to do online purchases impulsively and shop without plans. Thus, the following hypotheses are proposed:

Stimulating shopping positively moderates the relationship between scarcity and online impulse buying (**H3a**).

Stimulating shopping positively moderates the relationship between serendipity and online impulse buying (**H3b**).

2.5   Relaxation shopping

Relaxation shopping is another factor of shopping motivation. When consumers purchase necessary items during the shopping time, they also find it as a useful method to lease stress. Therefore, relaxation shopping can bring a positive mood to consumers [3].

Most consumers agree that they do shopping to diminish stress or stop considering their problems. They see shopping as a method to relax, improve negative emotion, or perform their demand to get away from reality. Thus, Yu and Bastin [43] prove that relaxation shopping is positively associated with impulse buying. Besides, Ozen and Engizek [21] mention that relaxation shopping has a positive relationship with impulse buying behavior. Therefore, the following hypotheses are proposed:

Relaxation shopping positively moderates the relationship between scarcity and online impulse buying (**H4a**).

Relaxation shopping positively moderates the relationship between serendipity and online impulse buying (**H4b**).

2.6   Trust

Trust is mentioned as a common mechanism to decrease the social complication and perceived risk of transactions by enhancing the positive results and perceived certainty regarding the expected behavior of trustees [16]. Thus, trust makes beliefs to consumers and encourages them to do shopping online.

Online impulse buying behavior is affected by the trust of consumers despite some risks [40]. Besides, Hsu et al. [14] indicate that when consumers feel unfaithful to online shopping websites, online transactions may not succeed. Thus, the following hypothesis is proposed:

Trust has an impact on online impulse buying (**H5**).

Figure 1 shows the research model and seven hypothesis which will be tested in this study.
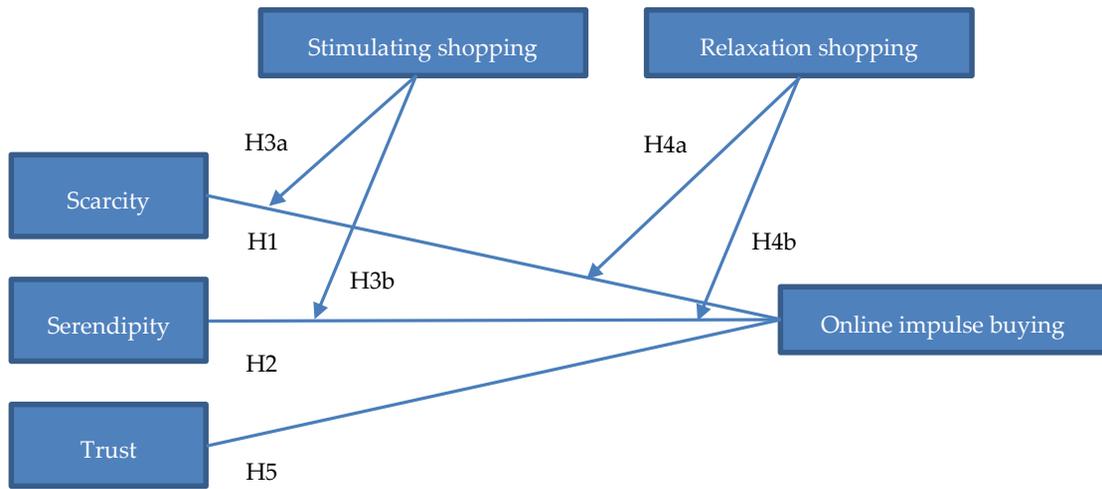
Figure 1. Research model and hypothesis

Methods

The purpose of this paper is to find the impacts of two factors, namely, scarcity and serendipity, on online impulse buying of consumers in Hue city. The study also explores the role of two shopping motivations: stimulating shopping and relaxation shopping in the moderator relationship between scarcity and serendipity, and online impulse buying.

A survey method was conducted to collect the data. Due to some disadvantages of the online survey, such as the difficulty in explaining complex questions, data errors, technology problems, and other related issues, data were obtained through both paper questionnaires and online surveys. In this study, a large part of respondents is university and college students because this young generation has a high ability to access online shopping more than other generations. Before performing the official survey, a pilot study with 20 participants was conducted to ensure that the respondents can understand the questions properly and to identify and refine the ambiguous measurement items in the model.

This research deals with the online shopping field, therefore the questionnaires are designed for respondents who have experience in online buying on diferent social media, such as websites, apps, and other online platforms. According to Statista [46], the percentage of Internet users in Vietnam is highest in the age of 15–24 years (23%), 25–34 years (38%), and 35–44 years (20%). In this research, therefore, the respondents should be aged 18 to 45 because this group is easily accessible to technology and follows the online shopping trend more than people over 45, and less dependent on finance. Therefore, a snow-ball sampling was used to find the appropriate number respondents as follows: first, after performing an online survey or paper survey on a group of random consumers, the respondents who had experienced online shopping were chosen to the next step. Then, the chosen respondents would be asked to introduce the

Table 1. Demographic of the respondents

Characteristics	Category	Frequency	Percent (%)
Gender	Male	87	41.6
	Female	122	58.4
Age	18–22	163	78
	23–34	38	18.2
	34–45	8	3.8
Educational level	High school	1	0.5
	College	3	1.4
	Undergraduate and above	205	98.1
Income (monthly, million VND)	<5	157	75.1
	5–10	43	20.6
	>0	9	4.3

survey to people whom they know that the new respondents get used to doing online shopping. Finally, this process continued until the sample is enough. Thus, the survey sample will ensure the representation of people who have been using online shopping.

According to Kline [45], the sample size in structural equation modeling (SEM) should be a minimum of 200 cases. Finally, 279 questionnaires were distributed by the author and respondents; 209 questionnaires were returned and fully completed for analysis; 17 questionnaires were unusable because of missing data, and 44 questionnaires were answered. Respondent profiles are presented in Table 1. Most respondents are younger shoppers aged from 18 to 22 (78%). The number of female respondents is higher than that of males (58.4% and 41.6%, respectively).

Measurement

We adopted existing measures from previous studies for the key constructs in our model. The scale in this paper is the Likert scale, which is represented as (1) "strongly disagree" to (5) strongly agree". These scales have at least three items to reflect the contents of the scales.

Scarcity was measured by the items adapted from Brock [7]. Four items were included for it. The measuring items for Serendipity were adapted from the measurement developed by McCay-Peet and Toms [20] and contained 3 items. The Trust scale was adapted from Xiao and Benbasat [42] with three dimensions. Stimulating shopping and Relaxation shopping were measured by the items adapted from a consideration of both Arnold and Reynolds [3] and To et al. [35] with three dimensions. The online impulse buying scale developed for this study was

based on the items adopted from Rook and Fisher [26] and Verhagen and van Dolen [37]. This scale contains four items.

3   Data analysis and results

3.1   Measurement model

In this study, exploratory factor analysis (EFA) was conducted to test the primary factor structure. In the next step, confirmatory factor analysis (CFA) was applied to test the measurement models and assess the convergent and discriminant validity of the constructs. The results of EFA indicate five independent factors, namely, Scarcity, Serendipity, Stimulating, Relaxation Trust, and one dependent factor - OIB which contains 4 items (OIB1, OIB2, OIB3 and OIB4). All the factors satisfy the requirement (factor loadings are greater than 0.5). Therefore, all the factors can be used in the next step with CFA except for OIB4.

Table 2. Reliability and convergent validity

Constructs	Items	Loading	Cronbach's	CR	AVE
Scarcity	SCA4	0.552	0.796	0.804	0.578
	SCA3	0.815			
	SCA2	0.742			
	SCA1	0.720			
Serendipity	SER3	0.563	0.746	0.757	0.513
	SER2	0.788			
	SER1	0.774			
Stimulating	STI3	0.593	0.750	0.755	0.547
	STI2	0.953			
	STI1	0.617			
Relaxation	REL3	0.540	0.770	0.802	0.588
	REL2	0.972			
	REL1	0.725			
Trust	TRU3	0.711	0.837	0.840	0.637
	TRU2	0.849			
	TRU1	0.829			
Online impulse buying	OIB1	0.831	0.741	0.797	0.573
	OIB2	0.868			
	OIB3	0.751			

Table 3. Discriminant validity

	Trust	Scarcity	Serendipity	Stimulation	Relaxation	OIB
Trust	0.798					
Scarcity	0.065	0.760				
Serendipity	0.019		0.716			
Stimulation	0.063	0.024	−0.032	0.740		
Relaxation	0.150	0.055	0.222	−0.070	0.767	
OIB	−0.018	−0.155	0.218	0.069	0.205	0.757

The CFA analysis was employed to confirm the factor structure extracted from EFA to improve the model fitness. This measurement model provides a good fit to the data: Chi-square/df = 1.487 (<2), GFI = 0.905 (>0.9), TLI = 0.937 (>0.9), CFI = 0.949 (>0.9), and RMSEA = 0.048 (<0,08) [12].

Furthermore, the CFA provided support for convergent and discriminant validity for all constructs. According to Hair et al. [12], convergent validity is assessed according to three metrics: (1) item loading greater than 0.7 and statistical significant; (2) composite reliability (CR) should be more than 0.8, and Cronbach's alpha should be greater than 0.7; (3) Average variance extracted (AVE) should be greater than 0.5. The squared root of AVE was assessed to test the discriminant validity between constructs, and it should be greater than its correlations with different constructs [9].

Table 2 reports the indices of reliability and convergent validity for the scale. The standardized factor loadings for all constructs in this study are from 0.552 to 0.972 and are significant (p < 0.05). The Cronbach's alpha values exceed 0.7, and the AVE values are all above 0.5. The composite reliability values for all constructs range from 0.757 to 0.840. Thus, the model satisfies a high level of reliability and convergent validity. All constructs achieve discriminant validity as all AVE values are greater than the squared correlation estimate (Table 3).

3.2   Hypothesis testing

Testing main effects

A structure model was built to examine the correlative relationships among the constructs in this research model. The hypothesized relationships were tested through structural equation modeling with the path analysis technique in AMOS 20. The effects of scarcity, serendipity, and trust on online impulse buying were tested on the structure model. The direct effects, except for trust, show a good fit of the model with the data: Chi-square/df = 1.994 (<2), GFI = 0.943 (>0.9), TLI = 0.931 (>0.9), CFI = 0.951 (>0.9), and RMSEA = 0.069 (<0.08). As can be seen from Table 4,

Table 4. Results of hypothesis

Variables	p	β	Results
Scarcity	0.024	–0.192	H1 supported
Serendipity	0.005	0.249	H2 supported
Trust	0.913		H5 not supported

scarcity and serendipity are related to online impulse buying. The first main path from scarcity to online impulse buying is negative (β = –0.192, p = 0.024), supporting H1, which means that scarcity influences on online impulse buying negatively. The path from serendipity to online impulse buying is significant with p = 0.005, and β = 0.249. It indicates that H2 is supported, and serendipity has a positive and significant effect on online impulse buying.

Testing the moderating effects

To estimate the moderation effects of simulating shopping and relaxation shopping between two main factors (scarcity and serendipity) on online impulse buying, we applied Process macro v.3.4 for SPSS created by Andrew F. Hayes. Then, model 2 in the software was used to test these two moderation effects on the relationship between independent variables and the dependent variable. According to Hayes [13], the moderation effect is significant when the p-value of the product independent variable × moderation variable is less than 0.05.

In this process, H3a and H3b test the moderating effects of stimulating shopping between independent variables (scarcity and serendipity) on online impulse buying. As can be seen from Table 5, serendipity and scarcity significantly affect online impulse buying ($p \leq 0.05$), and it is also

Table 5. Moderation analysis

Items		β	t	p	Results
Scarcity	Scarcity	–0.13	–1.95	0.05	
	Stimulating shopping	0.09	1.37	0.16	H3a supported
	Scarcity × Stimulating shopping	0.14	2.04	0.04	
	Relaxation shopping	0.14	2.16	0.03	H4a not supported
	Scarcity × Relaxation shopping	–0.03	–0.56	0.56	
Serendipity	Serendipity	0.20	2.98	0.00	
	Stimulating shopping	0.08	1.23	0.21	H3b supported
	Serendipity × Stimulating shopping	0.13	2.09	0.03	
	Relaxation shopping	0.08	1.28	0.20	H4b not supported
	Serendipity × Relaxation shopping	–0.05	–0.72	0.46	

confirmed that H1 and H2 are supported by running SEM analysis. While the effect of stimulating shopping does not have significant relation with online impulse buying (β = 0.09, t = 1.37, p = 0.16), stimulating shopping is proved to have a significant moderating interaction effect between scarcity and online impulse buying (β = 0.14, t = 2.04, p = 0.04). Thus, H3a is supported. Similarly, the effect of stimulating shopping does not have significant relation with online impulse buying (β = 0.08, t = 1.23, p = 0.21), and the effect of stimulating shopping is proved to have significant moderating interaction effect between serendipity and online impulse buying (β = 0.13, t = 2.09, p = 0.03). Thus, H3b is supported.

The effect of relaxation shopping on online impulse buying and its moderating interaction effect between serendipity and online impulse buying are not significant, indicating that H4b is not accepted (β = 0.08, t = 1.28, p = 0.2; β = –0.054, t = –0.72, p = 0.46). Although relaxation shopping is found to have a significant effect on online impulse buying in the relationship with scarcity (β = 0.14, t = 2.16, p = 0.03), the insignificant moderation effect is found with the product scarcity × relaxation on online impulse buying (β = –0 .03, t = –0.56, p = 0.56). Therefore, H4a is not supported.

4   Conclusion

4.1   Conclusion and discussion

This study aims to investigate factors affecting online impulse buying in the current market. Thereby, two main factors present the effects on online impulse buying, namely, serendipity and scarcity. Moreover, the study found some moderation interaction effects of stimulating shopping and relaxation shopping between two independent variables (scarcity and serendipity) and online impulse buying.

In the e-commerce environment, scarcity is found as a direct factor affecting online impulse buying. Interestingly, scarcity has a negative influence on online impulse buying, while other studies find a positive impact [1, 41, 34]. In fact, when a consumer is invited by a scarcity message relating to a product or a service in websites or applications, that person will act in a negative way to face the message. It means that the limited quantity or limited time makes customers reluctant to purchase that item. Hue city is a city with a small population compared with other large cities in Vietnam. According to Vietnam e-commerce Association [38], e-commerce purchasing occurs mainly in two biggest cities, namely, Hanoi and Ho Chi Minh City, and other cities such as Bac Ninh, Vinh Phuc, Dong Nai, Binh Duong, Da Nang, Hai Phong, and Can Tho. Online businesses in most of the other provinces are weak and tend to fall behind the top two cities. Besides, Hue residents are not easy to adapt to a new business market and worry about buying things online due to their indigenous psychology. They prefer to experience a real product to limited time or limited products during shopping online. Hue consumers do not worry about

the limited products because they might think that there are various places to find and even try the products, for example, other websites, shops, and stores. Furthermore, because of the frequency of this scarcity program, which can open from four to six times per day, they have more opportunities to think, choose, and decide which items to buy rather than to buy those items on a particular site immediately. Therefore, Hue consumers are likely not to take attention to scarcity messages. That do not attract and lead them to think more instead of purchasing the items.

According to Zhang et al. [44], serendipity is an unexpected situation affecting customer decision making. The result of this study once again confirms the positive and significant relation between serendipity and online impulse buying. Therefore, serendipity can increase consumers' experience and encourage them to do online purchase impulsively.

This study shows that stimulating shopping does not significantly affect online impulse buying. However, stimulating shopping is found to have significant moderating relation between two independent variables (scarcity and serendipity) and online impulse buying. Then, consumers feel happy and eager with discounts or good deals and encourage them to purchase items during online shopping in the correlation with the scarcity and serendipity.

In another way, shopping is a method to release stress as well as improve people's emotions. The results reveal that online impulse buying is significantly influenced by relaxation shopping in connection with scarcity. This information confirms the results of Ozen and Engizek [21], which state that relaxation shopping has a positive relationship with impulse buying behavior. However, the findings of this study show that relaxation shopping does not significantly moderate the interaction effect between two independent variables (scarcity and serendipity) and online impulse buying.

In previous studies, trust is confirmed as an element affecting consumers' making decisions in online purchasing [14]. However, the results of this study do not prove the role of trust in the context of impulsively online buying. The reason could be the impulse. The specific characteristics of impulse buying behavior are quick purchasing decisions, feeling more than thinking, and unplanned shopping [4, 25, 27], which are different from only shopping online.

As a result, this study illustrates the growth of the e-commerce environment in Vietnam's market, in general, and Hue city's, in particular. Hue is considered as a potential market in the short future. According to the e-Conomy SEAR 18 reported by Google and Temasek, the compound average growth rate of Vietnam's e-commerce is estimated at 25% in the period from 2015 to 2018, and the market will reach 33 billion USD in 2025 [38]. With the growth of the retail sector and the development of e-commerce in Vietnam's market, people have more opportunities to find and purchase a variety of products and services. Besides, it brings great chances to the retailers and e-commerce trading floors to satisfy the consumers.

4.2   Implications

The research findings contribute to an understanding of businesses, retailers, and e-commerce trading floors on how online impulse buying and its dimensions are created. The results indicate that both scarcity and serendipity affect online impulse buying. Besides, the paper proves that stimulating shopping positively moderates the relation between two independent variables (scarcity and serendipity) and online impulse buying. Relaxation shopping has a significant influence on online impulse buying but does not succeed as a moderation role.

The development of online buying in the e-commerce market brings advantages and problems for online retailers particularly and e-commerce trading floors generally. On the one hand, the growth of the e-commerce market leads to an increase in a large number of customers in different areas. On the other hand, online enterprises or retailers face lots of competition and have the ability to understand consumers to apply effective methods to encourage online purchasing. Although the study performs the analysis at the consumer level, the relationship found has contributions to retailers and online trading websites. By recognizing the key drivers, the retailers, online enterprises, and e-commerce trading floors know how to focus on the elements to encourage online impulse buying and enhance their competitive advantage in the dynamic market.

In recent years, domestic e-commerce has faced the race of some online trading platforms with foreign companies, such as Tiki, Lazada, Shopee, and Sendo [32]. This is the race of finance and technology to attract as many customers as possible. Numerous strategies and programs are applied and consumed a large amount of money among these companies. Scarcity and serendipity are being recognized as a crucial element to attract consumers. For instance, Shopee is leading in applying scarcity strategy, in which it provides some special times a day with limited products to attract consumers by using some programs, such as a Flash sale for different times a day and a Flash sale with one price for some special days (Valentine day, Women's day or Family day, etc.). Similarly, Lazada and Tiki also follow this trend and open Flash deal to call consumers. To get more benefits, online retailers should extend the scarcity messages to consumers by various forms, such as sending messages through SMS mobile and emails. Besides, they should apply the scarcity strategy effectively more than frequently. Consumers are likely to have a normal feeling with the sale programs, which are time-limited and product-limited if they are applied very often.

Furthermore, the study indicates that stimulating shopping contributes as an important moderation impact of both two key drivers (scarcity and serendipity) on online impulse buying. In other words, consumers are easily attracted by some promotions, such as discounts and coupons or sale, and feel delighted to use them. In different online trading floors, a variety of forms of promotions, discounts, and good deals are used in different online trading platforms as well as online retailers to satisfy the consumers. For instance, Shopee opens Supper international

sale starting with 0 VND, many vouchers for different brands with 50 to 150 thousand VND discounts, or even free shipping with Freeship Extra program. In addition, Lazada often opens Hot deals with over 50-percent discounts or Supper deals at a very low price. To encourage online impulse buying, it is important to make consumers feel the value of the products, which are bought at a cheaper price compared with the same product in different shops or stores. Therefore, the online retail manager should increase the range of sale programs in a variety of ways, such as discounts, coupons, and one cheap price per day.

According to the Vietnam e-commerce Association [38], VECOM presents top 10 products, popularly purchased online: (1) Clothes and shoes; (2) Electronic devices; 3) Products for mother and baby; 4) Books and stationery; 5) Handicrafts items and fine arts; 6) Components and accessories; 7) Cosmetics; 8) Furniture; 9) Food and drink; 10) Fast food. It is easy to realize that a vast number of online buyers are the young generation, who are interested in fashion and technology devices. Therefore, from the perspective of serendipity, online retailers should increase the diversity of products or services and develop the recommendation systems to allow consumers to find a new item. As for the best seller in online purchasing, for example, online retailers or manufacturers should update fashion and new trends as well as introduce real images or videos for more and more types of clothes to attract all kinds of consumers.

5.3   Limitation and further research

This study was conducted in a medium-sized city in Vietnam with a sample of only 209 consumers. For future research, it will be interesting to make a larger scale by performing in some bigger cities to generalize the results and make a comparison of online impulse buying in different sizes of cities. In addition, the sample size should be increased to reduce errors. Furthermore, the study may consider adding some mediating variables to find the mediating effects between key drivers and online impulse buying.

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