

# The Effect of Payment, Complaint Resolve, Delivery, Product Quality and Technical Problem to Different Group of Age, Location, and Gender in Vietnam

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**Abstract**—During the COVID-19 pandemic, the demand for online shopping has been surged since people were no longer to go to physical stores that leads to the dramatical change from traditional shopping behavior to online shopping behavior. Especially, the effect of payment, complaint resolve, delivery, product quality and technical problem is different from online customers grouped by different age, location, and gender. The objective of conducting the comparison is to understand how different respondents react within online shopping environment. The researcher collected 400 good samples from two big cities in Vietnam such as Ho Chi Minh and Ha Noi to analyse and verify the research model. According to the findings and the results after using structural equation modeling (SEM), it is evident that there is no significant effect from technical problem to all groups, also no significant effect from complaint resolve and product quality to Male group; and the rest of determinants effect significantly to different level of groups. There are many reasons to explain for these results based on culture, people and behavior of Vietnamese customers which will be showed in discussion and conclusion.

**Index Terms**—Online shopping, barrier, customer experience, customer satisfaction, Vietnam, COVID-19.

## I. INTRODUCTION

Vietnamese government has been gradually transforming the economy structure from traditional mechanism to modern one with the exploration of the opportunities from digital economy [1]. The objective of this transformation is to build a digital economy that is worthied by US\$ 43 billion by 2025 [2]. In fact, digital economy has been started for sometimes since the first marketplaces like Lazada and Sendo participated electronic commerce (e-market) in 2012 [3]. Up to now, the customers in almost cities and provinces are able to purchase goods online through their smartphone or their computers, thanks to the great the Internet and the mobile phone penetration rate. According to the [4], total revenues of e-commerce market in 2020 is exceeding US\$ 6 billion and it is expected growing at the speed of more than 9% during 2020-2024. The development of e-commerce is explained by the fact that it brings the convenience to the customers who do not want to take time to go to physical stores to purchase goods [5].

Based on the statement of facts, it is curious to capture how the online shopping behaviour in Vietnam in the context of pre-normal phase after the crisis created by the COVID-19.

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The researcher perceives that the study of online shopping behavior is more appropriate in this time since online customers have more time spending on online shopping activities and therefore their evaluation is more accurate compared to before the crisis. Behind of that, the researcher is promoted by the fact that there were no empirical evidences which were conducted in the way of studying online customer behavior in the negative influential context of relevant factors. Previous researchers like [6], [7], and [8] focused on the positive impact of factors but they ignored the importance of negative impact. In addition, previous researchers have not explored the difference between online customers grouped by different age, location, and gender. The objective of conducting the comparison is to understand how different respondents react within online shopping environment. Thus, the main objective of the study is to study the effect of factors on different group of age, location, and gender in Vietnam.

## II. LITERATURE REVIEW

### A. Online Customer Satisfaction and Experience

Customer satisfaction refers to the customer perception of service quality aspects provided by the providers [9]. In online business environment, customer satisfaction is appeared like the online shoppers' attitudes, beliefs, and intention to purchase products and services sold by online merchants [10]. Simply, online customer satisfaction is the result of customer perceive about online service quality [11].

Moreover, customer experience is considered as the cumulative responses of the customers during their consumption process [12]. When the customers purchase goods via online channel such as e-commerce marketplace, they also accumulate experiences that affect to their overall satisfaction and future purchase intention [13]. Moreover, online customer experience is also reflected through how the customers feel about interacted system that support online services delivery [14].

Ieva and Ziliani [15] highlighted the mediating role of customer satisfaction in the relationship between customer experience and customer loyalty and it confirmed the effect of customer experience on customer satisfaction was existed. During buying process, customer experience affects to the outcome of customer behaviour that consists of customer satisfaction [16]. However, Suchánek and Králová [17] proposed a concept of long-term customer satisfaction which was derived from overall customer experience prior-, during and post-purchasing process. Kim and Noh [18] argued that

customer satisfaction was derived from the evaluation of the customers towards their actual experiences with a product or service. Keiningham *et al.* [19], however, dictated that customer experience was complex process and they proposed to use customer satisfaction as useful proxy of customer experience.

## *B. Influential Factors of Online Customer Experience and Satisfaction*

### *1). Payment*

With the development of new information technologies, traditional payments (i.e., cash, cheque) have been transformed to digital payments with the introduction of digital wallets or electronic wallet (e-wallet), mobile banking, Internet banking, real time gross settlement, immediate payment services, etc. [20]. Payment in online business environment refers to any online accepted payment system such as credit card, PayPal, mobile money, etc. [21]. The quality of payment performance provided by online merchants is important factor since it creates both positive and negative experience and satisfaction of online customer. Indeed, the study of Adeniyi and Olutayo [22] highlighted that the customers today preferred cashless payments rather than cash payment and it significantly affected their satisfaction with electronic channels. Grawal and Gentry [23] argued that payment types and payment timing were two critical factors influencing online customer experience and satisfaction and different payment options were required by online customers due to each of them have different financial situations.

Payment is also part of reliability component of online service quality [24] and safe payment system allows e-service providers to gain higher customer trust [25]. Rita *et al.* [16] obtained empirical evidence of which security and privacy in payment system affected positively and significantly overall e-service quality and it also has significant indirect effect on online customer satisfaction, online customer trust, online repurchase intention, positive e-WOM, and online site visit. Vasić *et al.* [26] commenced that payment was the most important part of online shopping security and it had positive and significant effect on online customer satisfaction. However, some other researchers found unsupported empirical evidence related the role of payment. For instance, Deyalage and Kulathunga [27] found insignificant effect of security in payment system on online customer satisfaction. Al-Dweeri *et al.* [28] highlighted that security and privacy in payment system did not affect significantly online customer satisfaction.

### *2). Complaint resolve*

Complaint resolve refers to a process initiated by the firms to recover the services from the failures [29]. This factor is important to online customer experience and satisfaction because of fair complaint resolve represents for the quality of perceived justice from the customers that make them feel their rights are not ignored [30]. Dos Reis *et al.* [31] indicated that customer satisfaction was not resulted from a service failure but how service performance is recovered, and it directly linked to the performance of complaint handling. However, von Aswege and Kemper [32] indicated that e-commerce companies should conduct other marketing

campaign such as discount after an event related service failure beside service performance recovery.

In addition, complaint resolve also provides the values added to the products and services providers since they understand their weakness, leading to the innovation and bringing more positive records into customer experience and satisfaction [33]. Therefore, rapid response in handling complaint not only helped to retain the customer [34], but also reduced customer dissatisfaction, and it was even more important in case of online shopping environment [35].

### *3). Delivery*

Delivery is a process of shipping products from the sellers to the buyers through an order platform [36]. It is considered as one of decision factor towards in-store and online shopping since the customers prefer online shopping in order to enjoy the value of delivery time savings as well as time spent for searching goods [37]. Common delivery problems of online customers are the products are not shipped within agreed time frame, goods are delivered with damages since there are no proper product packaging and product handling during shipping period [38]. Cao *et al.* [39] agreed that online customer experience was depended on the prior experience of the customers with shipping performance, product return performance, and order tracking performance. In addition, the customers satisfy with online shopping platform if they perceive that ordered products are able to ship to their doorstep and they are able to exchange and return errored products [40]. Coşar *et al.* [41] surveyed online customers in different social networking platforms and obtained empirical evidence that confirmed the role of delivery in online shopping. They indicated that any difficulties in delivery process that returned late delivery negatively affected customer purchase intention as well as customer satisfaction.

### *4). Product quality*

Product quality is a combination of multiple product-related aspects that enable the product features and functions as committed with the customers [42]. The evaluation of product quality is not only based on tangible attributes (i.e., technical specification) but also intangible attributes (i.e., brand name) [43]. According to Johan *et al.* [44] fast delivery was a prominent factor affecting online customer satisfaction. Behind of speed, delivery effectiveness which is measured through how the products are not damaged during delivery process is also an important influential factor to online customer experience and satisfaction [45]. Therefore, one of the main determinants of online shopping behaviour is customers' perceived product quality [46].

In addition, Al-Shukri and Udayanan [47] addressed that low product quality was among perceived risks when the customers shopped online. However, other researchers obtained different finding. For example, Foster and Johansyah [48] examined the effects of product quality and price on interest of online purchasing. They obtained empirical evidence of which only price affected significantly interest of online purchasing while the effect of product quality on interest of online purchasing was not statistically significant. Guo *et al.* [49] conducted a research, and they collected the data from 350 online shoppers in China. Product quality was selected as one of explanatory variable for online

customer satisfaction. Obtained result showed that product quality had positive and significant effect on online customer satisfaction and when product quality was improved by 1-unit, online customer satisfaction was improved by 0.088 unit.

5). *Technical problem*

When the customers purchase products online, they may expose to technical problems such as too much pops-up or technical errors [50]. The effect of payment as technical issues on online shopping experience and online shopping satisfaction was also highlighted by previous researchers. When Cheng *et al.* [51] explored the factors that explained customer retention in high volume and low volume of online shopping, they confirmed the role of mobile payment and importance of proper billing system. Regarding the pop-ups issue, it is considered as one of online advertising channels [52]. It is inconvenience when the customers receive a pop-up that provides better deals after they place an order successfully [53]. Detecting and resolving technical problems are important in online shopping environment since they reduce customer experience and satisfaction [54]. When technical problems happen, they disrupt the online customer experience, leading to the dissatisfaction [55], especially when they repeat facing similar problems during the product usage [56].

C. *Demographic Characteristics*

Previous researchers also studied the online customer satisfaction and experience regarding their difference in demographic characteristics. Empirical evidence from Sarkar and Das [57] confirmed that online shopping behavior in India was significantly influenced by gender, age, etc. Before that, Ling and Yazdanifard [58] found that male customers had more positive and more willingness to purchase products online than female customers. Zolait *et al.* [59] summarised the difference between male and female customers regarding online shopping. They described that male and female customer had different perception related trust, risk, ease of use, and satisfaction when they shop online. Location of the customers is important factor because of the customers in far areas have different requirement related delivery options and delivery timing [60]. In fact, location of the customers refers to their place of location and previous researchers explored how this factor affected online shopping behaviour of the customers. Djeri *et al.* [61] found supportive evidence of place of residence significantly affected all phases inside decision-making process. Datta and Acharjee [62] collected the data from 166 young online customers and found that place of residence had significant influence on their online shopping attitude. However, the findings from previous researchers were varied. For instance, Juneja and Mehta [63] did not find significant impact of gender and age on online customer satisfaction. Other empirical evidences provided by Rahman *et al.* [64] indicated that both male and female respondents shared the same reason of choosing online shopping that was home delivery.

III. RESEARCH METHODOLOGY

This study was based on previous related theories,

empirical evidence and pilot study to design several variables in questionnaire to collect reliable data. Online survey refers to the respondents' evaluation towards actual experience with online shopping. Each factor developed and highlighted in the research model is constructed from several items as displayed on Table I below. Each item is then evaluated by Likert scale of 5 points: "Strongly Disagree", "Disagree", "Neutral", "Agree", and "Strongly Agree".

Moreover, this study is conducted in Ho Chi Minh city and Ha Noi city with the sample size is 400 respondents after rejecting unsuitable or out of quota samples. By using convenience sampling, the researcher collects the data from the sample, and it captures how the respondents' opinions and their evaluation towards to each questionnaire's items. The respondents are willing to participate into the survey, without any remuneration motivation or forced to participate. Behind of that, the researcher aims to collect questionnaire from equal number of the respondents in Hanoi and Ho Chi Minh City as well as equal number between under 30 and above 30 years old groups. To do that, the researcher starts collect the data from male respondents with age below 30 years old in Hanoi until the number of successful questionnaires reached target number of 100 and then start collecting the data from male group and above 30 years old in this city until the number of observations reaches 100. Similar step is conducted in Ho Chi Minh City. The demographic characteristics of 400 respondents will be divided as: gender (Male: 130, Female: 270), age (18-30 years old: 200, 31-50 years old: 200), location (Ho Chi Minh city: 200, Ha Noi city: 200).

The quantitative data analysis technique was proposed and used in this study is structural equation modeling (SEM). AMOS software – Version 20 is utilised to help the researcher runs different data analysis techniques for each group of age, location, and gender, then obtain desired results with conclusion.

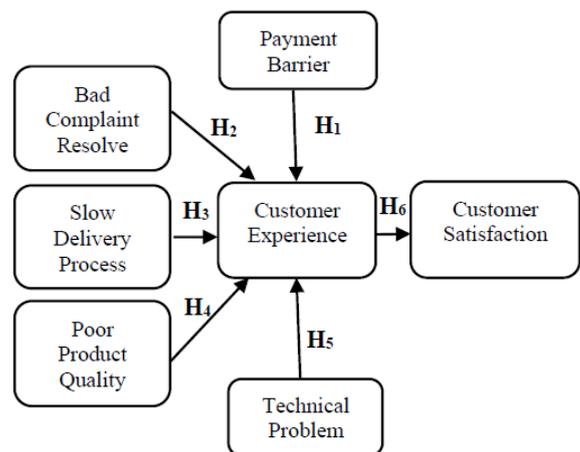


Fig. 1. Conceptual framework.

For this research model, the researcher measures these factors by 18 observed variables in Table I.

TABLE I: OBSERVED VARIABLES FOR EACH FACTOR IN RESEARCH MODEL

Factors	Code	Observed Variables
Payment Barrier	PB1	Distrust online transaction

(PB)	<b>PB2</b>	High risk of leakage information (data security)
	<b>PB3</b>	Charge additional fee
	<b>PB4</b>	Complex check out processes
	<b>PB5</b>	No wide range of payment method
Bad Complaint Resolve (CR)	<b>CR1</b>	Response for questions and concerns poorly
	<b>CR2</b>	Not resolve complaint immediately
	<b>CR3</b>	No or bad return and refund policy (long time, difficult to refund and extra fee)
Slow Delivery Process (DP)	<b>DP1</b>	Long delivery time
	<b>DP2</b>	No same-day delivery service
	<b>DP3</b>	No tracking numbers
Poor Product Quality (PQ)	<b>PQ1</b>	Different quality as expectation (as description)
	<b>PQ2</b>	Damage / defective products during delivery process but no exchange
	<b>PQ3</b>	Not worth for money
Technical Problem (TP)	<b>TP1</b>	Low quality website / applications design (unclear or no zoom-in function for visual image, poor product description, no ease of use, not friendly website layout)
	<b>TP2</b>	Sudden pop-ups advertising
	<b>TP3</b>	No offer product categories or products search facility
	<b>TP4</b>	Not accept guest's purchasing (require to create account with full profile and need to sign in before buying)

IV. DATA ANALYSIS AND FINDINGS

Multigroup analysis is data analysis technique in the study. It is embedded into SEM data analysis technique but concentration on the difference between gender, location, and age regarding the effect of payment barrier, bad complaint resolve, slow delivery process, poor product quality, and technical problems on online customer experience and online customer satisfaction.

At first, multigroup analysis is conducted for gender with male and female as group of analysis. Based on the SEM estimate for male and female group, the researcher is able to compare the coefficient for each relationship as Table II below.

TABLE II: REGRESSION WEIGHTS FOR GENDER

Relationship	Male		Female	
	Estimate	p-value	Estimate	p-value
OCE ← PB	-0.27	***	-0.14	***
OCE ← CR	-0.04	0.307	-0.13	***

OCE ← DP	-0.25	***	-0.28	***
OCE ← PQ	-0.06	0.130	-0.13	***
OCE ← TP	-0.06	0.271	-0.05	0.359
OCS ← OCE	0.72	***	0.67	***

With p-value of coefficient of CR, PQ, TP in male group is 0.307, 0.130, 0.271 in order and TP in female group is 0.359, higher than 0.05. It leads to the conclusion of there is no significant effect from TP on both group and CR, PQ on male. Therefore, in Table III, the researcher only compares the impact of the rest of factors.

TABLE III: STANDARDIZED REGRESSION WEIGHTS FOR GENDER

Relationship	Male	Female
OCE ← PB	<b>-0.46</b>	-0.22
OCE ← CR	—	<b>-0.22</b>
OCE ← DP	-0.33	<b>-0.42</b>
OCE ← PQ	—	<b>-0.21</b>
OCE ← TP	—	—
OCS ← OCE	<b>0.64</b>	0.60

Table above shows that online customer experience has stronger effect on online customer satisfaction in male group. Similarly, the effect of payment barrier on online customer experience is also greater in male group. Otherwise, the effect of bad complaint resolve, slow delivery process, and poor product quality on online customer experience are stronger in female group.

Then, multigroup analysis is conducted for city with Hanoi City and Ho Chi Minh City as group of analysis. Based on the SEM estimate for Hanoi city and Ho Chi Minh city group, the researcher is able to compare the coefficient for each relationship as Table IV below.

TABLE IV: REGRESSION WEIGHTS FOR CITY

Relationship	Hanoi city		Ho Chi Minh city	
	Estimate	p-value	Estimate	p-value
OCE ← PB	-0.20	***	-0.19	***
OCE ← CR	-0.09	0.005	-0.11	0.008
OCE ← DP	-0.17	***	-0.37	***
OCE ← PQ	-0.15	***	-0.08	0.035
OCE ← TP	-0.06	0.295	-0.07	0.143
OCS ← OCE	0.65	***	0.72	***

With p-value of coefficient of TP in both Hanoi city and Ho Chi Minh city group is 0.295 and 0.143 in order, higher than 0.05. It leads to the conclusion of there is no significant effect from TP on both cities. Therefore, in Table V, the researcher only compares the impact of the rest of factors.

TABLE V: STANDARDIZED REGRESSION WEIGHTS FOR CITY

Relationship	Hanoi city	Ho Chi Minh city
OCE ← PB	<b>-0.35</b>	-0.28

OCE ← CR	-0.18	-0.18
OCE ← DP	-0.26	<b>-0.46</b>
OCE ← PQ	<b>-0.25</b>	-0.14
OCE ← TP	—	—
OCS ← OCE	0.58	<b>0.66</b>

Table above shows that the effect of online customer experience on online customer satisfaction is higher in Ho Chi Minh City. It is also identified that Ho Chi Minh City receives a greater effect from slow delivery process on online customer experience. In the contrast, the effect of payment barrier and poor product quality on online customer experience was higher in Hanoi. Both cities also pay attention to bad complaint resolve when purchasing online.

Finally, multigroup analysis is conducted for age with 18-30 years old and 31-50 years old as group of analysis. Based on the SEM estimate for 18-30 years old and 31-50 years old group, the researcher is able to compare the coefficient for each relationship as Table VI below.

TABLE VI: REGRESSION WEIGHTS FOR AGE

Relationship	18-30 years old		31-50 years old	
	Estimate	p-value	Estimate	p-value
OCE ← PB	-0.21	***	-0.19	***
OCE ← CR	-0.10	0.012	-0.10	0.002
OCE ← DP	-0.23	***	-0.28	***
OCE ← PQ	-0.12	0.009	-0.10	0.002
OCE ← TP	-0.10	0.109	-0.02	0.584
OCS ← OCE	0.66	***	0.71	***

With p-value of coefficient of TP in both age group is 0.109 and 0.584, higher than 0.05. It leads to the conclusion of there is no significant effect from TP on group 18-30 years old and 31-50 years old as well. Therefore, in Table VII, the researcher only compares the impact of the rest of factors.

TABLE VII: STANDARDIZED REGRESSION WEIGHTS FOR AGE

Relationship	18-30 years old	31-50 years old
OCE ← PB	<b>-0.32</b>	-0.31
OCE ← CR	-0.17	<b>-0.20</b>
OCE ← DP	-0.31	<b>-0.40</b>
OCE ← PQ	-0.18	<b>-0.20</b>
OCE ← TP	—	—
OCS ← OCE	0.57	<b>0.67</b>

Table above shows that the effect of online experience on online customer satisfaction is higher in the group of 31-50 years old compared to the group of 18-30 years old. In 18-30 years old, only payment barrier on online customer experience has higher effect than, but not much in age group. It is also captured that the effect of bad complaint resolve, slow delivery process and poor product quality are higher in

31-50 years old group.

V. DISCUSSIONS

Regarding multigroup analysis, online experience of male customers receives higher impact from payment barrier compared to female customers. In one hand, the higher effect of payment barrier in male group is explained by the fact payment in online shopping is supported by certain technologies such as mobile money, Internet banking. In overall, the higher knowledge in term of technologies and technical areas is the primary reason for the higher effect of payment barrier on online experience of male customers. In the contrast, female customers do not have good understandings about these things, leading to the fact that the effect of payment barrier is smaller. The effects of complaint resolve, delivery process, and product quality on online experience of female customers are higher than male customers. It is explained by the fact that female customers often consider the detail, and they have a tendency of comparing the products with the advertisement context or product image shown in the platform. It is also explained for the higher complaint resolve since female customers often consider whether the solution provided by the sellers satisfy them. Female customers also take care of delivery process since they want to receive the convenience of receiving a product. In overall, the effect of online experience on online shopping satisfaction is higher in male group but not too much, and it refers to one of the explanations as male customers do not take into account the details lead to more easily to satisfy to the experience.

Multigroup analysis also explore the difference between two groups of locations (Hanoi and Ho Chi Minh City). It is confirmed that the effect of online customer experience on online customer satisfaction is higher in the group of Ho Chi Minh City and this finding is true since online shopping is more developed in this city compared to Hanoi. In addition, Ho Chi Minh City has a lower level of brand loyalty due to its tendency to be more focused on experience and service enjoyment, while Ha Noi City focuses on brand value rather than experiencing the brand's movement and innovation. Therefore, customer experience plays a small role for customer satisfaction level in Ha Noi city. The effect of payment barrier and product quality on online customer experience is higher in Hanoi Group and it is explained by the characteristics of people who are living in Hanoi as well as payment infrastructure of this city. In more detail, people in Hanoi is more conservative consumption and they concern more about product quality. Hanoi is less developed compared to Ho Chi Minh City in term of payment infrastructure that is an explanation for the higher effect of payment barrier. Otherwise, the effects of delivery process on online customer experience are higher in Ho Chi Minh City. The reason is people at Ho Chi Minh City are more service performance oriented and they would like to receive the best service quality provided by the sellers. It also can be explained to the reason of Ha Noi's characteristics. As Vietnamese people usually said a funny sentence as "Do not rush in Ha Noi" to express about the living habit in here, especially in some cases that they are willing to wait for a long time to enjoy a delicious food although the service

performance is absolutely bad. Moreover, the effect of complaint resolve is equal for both locations. It shows that two cities pay attention to complaint handling system, whatever they prefer more to product or service oriented.

Other finding from multigroup analysis also confirms the difference between group 18-30 years old and 31-50 years old. The effect of online experience on online satisfaction is higher in 31-50 years old group and it is explained by the fact that, although older customers emphasize more factors than younger customers during online shopping process, they are also more likely to have empathy for the customer experience. Barriers can be reduced if their past experiences with a product or service was good, resulting in a higher level of satisfaction. It is also identified that the effects of product quality and complaint resolve on online customer experience are higher in 31-50 years old group. The main reason is, unlike older customers who want to identify the way to resolve problem happened, young people tend to accept problems more easily than they try to handle it. The reasons can be mentioned as: being afraid to return the goods due to the complicated process, easy to accept the use of the defective goods even though it is not the same as the description or advertising, the fear of express their feelings whether the service experience is bad or sometimes it is not confident to speak directly to the seller, ... Otherwise, the effect of slow delivery process on online customer experience is higher in the group of 31-50 years old and it is explained by the fact that older customers are busier than younger customers and therefore they want to receive products as quick as possible. Finally, the level of payment barrier in 18-30 years old is higher than, but not different much between two groups as -0.32 and -0.31. Young people may not have difficulty when facing to payment method with the development of technology but the barrier to payment is that they still do not self-control and not yet financial stability. Meanwhile, the elder tend to feel insecure for transactions and payments through online platforms. They have cautious about financial risks as well as personal information being leaked and used illegally.

## VI. CONCLUSIONS

Obtained result from multigroup SEM analysis shows that the effect of online experience of male customers on their online satisfaction is stronger compared to female customers. In addition, the effect of online customer experience on online customer satisfaction is stronger in the group of Ho Chi Minh City as living location and the age group above 30 years old. It means online shopping platforms in Vietnam should develop different business strategies for male and female customers, for those are living in different locations, and by age of the customers. Online shopping platform should take into account its user interface design in both web-based and mobile applications. website design of high-tech SMEs must be reviewed critically. The website must be designed in clear manner and easy to use to the end-users. The website must be integrated with the utilities to end-users such as online payment, online ordering system, and virtual contact.

In the long-run, online shopping platform should collaborate with other fintech companies in order to develop

more innovative services and solutions to the customers. Some fintech companies with strong experience and innovative solutions in blockchain should be approached by online shopping platform since they can provide safer payment method to the customers. Online shopping platform should work with peer-to-peer lending companies in Vietnam to develop a solution for higher value products such as electronic equipment, smartphones so that the customers can take a loan from those companies to purchase these products. The integration with different mobile money services such as Momo, Vimo, VNPAY is also required since all online shopping platform in Vietnam only rely on single service.

Future researchers may use the conceptual model of this study, but put in a different context, such as during the ongoing COVID-19 or post-pandemic period. From there, it is possible to compare how the impact of barriers on groups is different during and after the pandemic. In addition, the effect of online shopping behaviour on the over 50 age group can also open up new research directions, as they began to change their shopping habits from traditional to online channel and realized the convenience of this activities, especially during social distancing.

## CONFLICT OF INTEREST

The authors declare no conflict of interest.

## AUTHOR CONTRIBUTIONS

Anh Tuan Pham conducted the literature review and wrote the paper. Both Anh Tuan Pham and Dr. Khashayar jointly developed the proposed conceptual model and hypothesis for this study. All authors have approved the final version.

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## REFERENCES

- [1] Vietnam investment review. (2020). Country to go digital through decade of all-purpose action. [Online]. Available: <https://www.vir.com.vn/country-to-go-digital-through-decade-of-all-purpose-action-77077.html>
- [2] O. Dione, "Digital economy in Vietnam: Building the foundations for future growth," *World Bank Blogs*, 2020.
- [3] EU-Vietnam business network, "E-commerce industry in Vietnam: Edition 2018," *Research Report*, 2018.
- [4] Statista. (2020). eCommerce: Vietnam. [Online]. Available: <https://www.statista.com/outlook/243/127/ecommerce/vietnam>
- [5] KPMG. (2017). The truth about online consumers. [Online]. Available: <https://assets.kpmg/content/dam/kpmg/sg/pdf/2017/01/the-truth-about-online-consumers.pdf>
- [6] V. Pham and N. Ngo, "Examining online marketing influence on Vietnamese young travelers' purchase decision," in *Proc. International Conference on Marketing in the Connected Age (MICA-2018)*, October 6th, 2018. Danang City, Vietnam.
- [7] T. Tran, "Blockchain technology and potential applications in online advertising," *International Conference on Marketing in the Connected Age (MICA-2018)*, October 6th, 2018. Danang City, Vietnam.
- [8] P. T. Nguyen and T. K. T. Ngo, "Factors affecting online purchase intention on Facebook: The role of online customer experience," in *Proc. International Conference on Marketing in the Connected Age (MICA-2018)*, October 6th, 2018. Danang City, Vietnam.
- [9] S. C. Vetrivel, J. Rajini, and V. K. Krishnamoorthy, "Influence of internet banking service quality on customer satisfaction – An Indian experience," *Journal of Critical Reviews*, vol. 7, no. 2, pp. 546-551, 2020.

- [10] T. S. Vijay, S. Prashar, and V. Sahay, "The influence of online shopping values and web atmosphere cues on e-loyalty: Mediating role of e-satisfaction," *Journal of Theoretical and Applied Electronic Commerce Research*, vol. 14, no. 1, pp.1-15, 2017.
- [11] A. Siraij, J. Guo, M. W. Kamran, Q. Li, and Y. Zhu, "Characteristics for e-satisfaction in e-retailing – Evidence from Chinese e-commerce," *International Journal of Innovation, Creativity and Change*, vol. 12, no. 5, pp. 370-393, 2020.
- [12] L. Becker and E. Jaakola, E. "Customer experience: Fundamental premises and implications for research," *Journal of Academy of Marketing Sciences*, vol. 48, pp. 630-648, 2020.
- [13] N. Kampani and D. Jhamb, "Analyzing the role of e-CRM in managing customer relations: A critical review of the literature," *Journal of Critical Reviews*, vol. 7, no. 4, pp. 221-226, 2020.
- [14] D. V. Thiel, "Explaining customer experience in digital finance advice," *Economics World*, vol. 5, no. 1, pp. 69-84, 2017.
- [15] M. Ieva and C. Ziliani, "Expanding the lens on the customer experience-loyalty link: the role of satisfaction and shopping enjoyment," in *Proc. Colloquium on European Research in Retailing*, University of Surrey, pp. 206-210, 2018.
- [16] P. Rita, T. Oliveira, and A. Farisa, "The impact of e-service quality and customer satisfaction on customer behavior in online shopping," *Heliyon*, vol. 5, no. 10, pp. 1-14, 2019.
- [17] P. Suchánek and M. Králová, "Customer satisfaction and different evaluation of it by companies," *Economic Research-Ekonomska Istraživanja*, vol. 31, no. 1, pp. 1330-1350, 2018.
- [18] H. S. Kim and Y. Noh, "Elicitation of design factors through big data analysis of online customer reviews for washing machines," *Journal of Mechanical Science and Technology*, vol. 33, pp. 2785-2795, 2019.
- [19] T. Keiningham, J. Ball, S. Benoit, H. L. Bruce, A. Buoye, J. Dzenkovska, L. Nasr, Y. C. Ou, and M. Zaki, "The interplay of customer experience and commitment," *Journal of Services Marketing*, vol. 31, no. 2, pp. 148-160, 2017.
- [20] A. M. Franciska and S. Sahayaselvi, "An overview on digital payments," *International Journal of Research*, vol. 4, no. 13, pp. 2101-2111, 2017.
- [21] B. U. I. Khan, R. F. Olanrewaju, A. M. Baba, A. A. Langoo, and S. Assad, "A compendious study of online payment systems: Past developments, present impact, and future considerations," *International Journal of Advanced Computer Science and Applications*, vol. 8, no. 5, pp. 256-271, 2017.
- [22] A. A. Adeniyi, and S. O. Olutayo, "Cashless policy and customers' satisfaction: A study of commercial banks in Ogun State, Nigeria," *Research Journal of Finance and Accounting*, vol. 6, no. 2, pp. 37-47, 2015.
- [23] A. Agrawal and J. W. Gentry, "Why do many consumers prefer to pay now when they could pay later?" *The Journal of Consumer Affairs*, vol. 54, no. 2, pp. 607-627, 2019.
- [24] P. Kalia, N. Kaur, and T. Singh, "Consumer satisfaction in e-shopping: An overview," *Indian Journal of Economics and Development*, vol. 13, pp. 569-576, 2017.
- [25] G. Sharma, "Service quality, satisfaction and loyalty on online marketing: An empirical investigation," *Global Journal of Management and Business Research: E Marketing*, vol. 17, no. 2, pp. 57-66, 2017.
- [26] N. Vasić, M. Kilibarda, and T. Kaurin, "The influence of online shopping determinants on customer satisfaction in the Serbian market," *Journal of Theoretical and Applied Electronic Commerce Research*, vol. 14, no. 2, pp. 70-89, 2019.
- [27] P. A. Deyalage and D. Kulathunga, "Factors affecting online customer satisfaction: The Sri Lankan perspective," *International Journal of Business and Management*, vol. 14, no. 2, pp. 99-114, 2019.
- [28] R. M. Al-Dweeri, Z. M. Obeidat, M. A. Al-Dwiry, M. T. Alshurideh, and A. M. Alhorani, "The impact of e-service quality and e-loyalty on online shopping: Moderating effect of e-satisfaction and e-trust," *International Journal of Marketing Studies*, vol. 9, no. 2, pp. 92-103, 2017.
- [29] G. Shams, M. A. Rehman, S. Samad, and R. A. Rather, "The impact of the magnitude of service failure and complaint handling on satisfaction and brand credibility in the banking industry," *Journal of Financial Services Marketing*, vol. 25, pp. 25-34, 2020.
- [30] S. Mathew, A. Jose, G. Rejikumar, and D. P. Chacko, "Examining the relationship between e-service recovery quality and e-service recovery satisfaction moderated by perceived justice in the banking context," *Benchmarking: An International Journal*, vol. 27, no. 6, pp. 1951-1980, 2020.
- [31] J. C. G. D. Reis, M. Amorim, and N. Melao, "Service failure and recovery in technology-based business networks," *International Journal of Quality and Service Sciences*, vol. 11, no. 1, pp. 2-15, 2019.
- [32] F. von Aswege and J. Kemper, "Who gets what? How online companies can appease their complaining customers?" Research Paper No. 87, Association for Information Systems (AIS) Electronic Library, 2018.
- [33] McKinsey and Company. (2017). Customer experience: New capabilities, new audiences, new opportunities. [Online]. Available: <https://www.mckinsey.de/~media/mckinsey/industries/public%20and%20social%20sector/our%20insights/cx%20compendium%202017/customer-experience-compendium-july-2017.pdf>
- [34] Y. W. Fan, Y. F. Miao, and S. C. Wu, "Customer complaints and service policy in electronic commerce," *South African Journal of Business Management*, vol. 44, no. 3, pp. 15-20, 2013.
- [35] Y. Cho and I. Im, "An analysis of online customer complaints: Implications for web complaint management," in *Proc. 35th Hawaii International Conference on System Sciences*, 2002.
- [36] C. Li, M. Miroso, and P. Bremer, "Review of online food delivery platforms and their impacts on sustainability," *Sustainability*, vol. 12, pp.1-17, 2020.
- [37] B. Schmid and K. W. Axhausen, "In-store or online shopping of search and experience goods: A hybrid choice approach," *Journal of Choice Modelling*, vol. 31, pp. 156-180, 2019.
- [38] I. C. Dig, M. L. Domingo, and M. Consignado, "Perceived risks and online purchase intention of young professionals in the Fifth District of Cavite," *The DLSU Research Congress 2017 De La Salle University, Manila, Philippines June 20 to 22, 2017*.
- [39] Y. Cao, H. Ajjan, and P. Hong, "Post-purchase shipping and customer service experiences in online shopping and their impact on customer satisfaction: An empirical study with comparison," *Asia Pacific Journal of Marketing and Logistics*, vol. 30, no. 2, pp. 400-416, 2018.
- [40] T. Hussain and S. Gour, "Customer Satisfaction of shopping experience on Amazon," *International Journal of Advanced Science and Technology*, vol. 29, pp. 3888-3899, 2020.
- [41] C. Coşar, K. Panyi, and A. Varga, "Try not to be late! - The importance of delivery service in online shopping," *Organizations and Markets in Emerging Economies*, vol. 8, no. 2, pp. 177-192, 2017.
- [42] A. K. Albari, "The influence of product quality, service quality and price on customer satisfaction and loyalty," *Asian Journal of Entrepreneurship and Family Business*, vol. 3, no. 1, pp. 49-64, 2019.
- [43] W. Xu, Y. Yu, and Q. Zhang, "An evaluation method of comprehensive product quality for customer satisfaction based on intuitionistic fuzzy number," *Hindawi Discrete Dynamics in Nature and Society*, pp. 1-12, 2018.
- [44] I. S. Johan, R. Indriyani, and Z. Vincēviča-Gaile, "Measuring repurchase intention on fashion online shopping," *SHS Web of Conferences*, vol. 76, pp. 1-10, 2020.
- [45] R. Jane and S. Sharma, "Determinants of customer satisfaction in online shopping," *Mukt Shabd Journal*, IX(VI), pp. 1427-1441, 2020.
- [46] A. B. Santhi, "A study on the customer satisfaction towards online shopping in Tirupati Town," *IOSR Journal of Business and Management (IOSR-JBM)*, vol. 19, no. 6, pp. 12-16, 2017.
- [47] H. K. H. A. Udayanan, "Factors influencing online shopping intention: A study among online shoppers in Oman," *International Journal of Academic Research in Business and Social Sciences*, vol. 9, no. 3, pp. 691-709, 2019.
- [48] B. Foster and M. D. Johansyah, "The effect of product quality and price on buying interest with risk as intervening variables," *International Journal of Innovation, Creativity and Change*, vol. 9, no. 12, pp. 66-78, 2019.
- [49] X. Guo, K. C. Ling, and M. Liu, "Evaluating factors influencing customer satisfaction towards online shopping in China," *Asian Social Science*, vol. 8, no. 13, pp. 40-50, 2012.
- [50] S. Sabou, B. Avram-Pop, and L. A. Zima, "The impact of the problems faced by online customers on e-commerce," *Studia Universitatis Babeş-Bolyai Oeconomica*, vol. 62, no. 2, pp.77-88, 2017.
- [51] B. L. Cheng, S. S. Gaur, and R. A. Rahim, "Factors leading to customer retention in the high volume – Low volume service context: Evidence from the mobile service industry," *Asian Journal of Business Research*, vol. 10, no. 1, pp. 68-103, 2020.
- [52] N. G. Nwokah and D. Ngirika, "Online advertising and customer satisfaction of e-tailing firms in Nigeria," *Intelligent Information Management*, vol. 10, pp. 16-41, 2018.
- [53] T. S. H. Pham and M. F. Ahammad, "Antecedents and consequences of online customer satisfaction: A holistic process perspective," *Technological Forecasting and Social Change*, vol. 124, pp. 332-342, 2017.
- [54] X. L. Pei, J. N. Guo, T. J. Wu, W. X. Zhou, and S. P. Yeh, "Does the effect of customer experience on customer satisfaction create a sustainable competitive advantage? A comparative study of different shopping situations," *Sustainability*, vol. 12, pp. 1-19, 2020.

- [55] L. Bell, R. McCloy, L. Butler, and J. Vogt, "Motivational and affective factors underlying consumer dropout and transactional success in e-commerce: An overview," *Frontiers in Psychology*, vol. 11, pp. 1-13, 2020.
- [56] S. Meinzer, "Translating the determination of subjective customer perceptions from the health care sector to the service industry: A study for the automotive industry," Doctoral Thesis, FAU University Press, 2018.
- [57] R. Sarkar and S. Das, "The role of gender in online shopping," *International Journal of Scientific Development and Research (IJS DR)*, vol. 1, no. 5, pp. 865-868, 2016.
- [58] L. P. Ling and R. Yazdanifard, "Does gender play a role in online consumer behavior?" Center for Southern New Hampshire University, Help College of Arts and Technology, 2014.
- [59] A. H. Zolait, S. M. Isa, H. M. Ali, and V. P. K. Sundram, "Men vs. women: Study of online shopping habits and factors influencing buying decisions in Bahrain," *International Journal of E-Services and Mobile Applications*, vol. 10, no. 4, pp. 61-73, 2018.
- [60] Y. Vakulenko, P. Shams, D. Hellström, and K. Hjort, "Online retail experience and customer satisfaction: The mediating role of last mile delivery," *The International Review of Retail, Distribution and Consumer Research*, vol. 29, no. 3, pp.306-320, 2019.
- [61] L. Djeri, T. Armenski, D. Tesanovic, M. Bradić, and S. Vukosav, "Consumer behaviour: influence of place of residence on the decision-making process when choosing a tourist destination," *Economic Research-Ekonomska Istraživanja*, vol. 27, no. 1, pp. 267-279, 2014.
- [62] A. Datta and M. K. Acharjee, "Consumer attitudes towards online shopping: Factors influencing, young consumers to shop online in Dhaka, Bangladesh," *International Journal of Management Studies*, vol. 3, no. 4, pp. 1-13, 2018.
- [63] R. M. Juneja and P. B. Mehta, "A study on impact of customer's demographic characteristics on online customer satisfaction (with reference to Surat City)," *International Journal for Research in Engineering Application & Management (IJREAM)*, vol. 4, no. 3, pp. 312-317, 2018.
- [64] M. A. Rahman, A. Islam, B. H. Esha, N. Sultana, S. Chakravorty, and A. Molnar, "Consumer buying behavior towards online shopping: An empirical study on Dhaka city, Bangladesh," *Cogent Business & Management*, vol. 5, no. 1, pp. 1-22, 2018.



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