

The shifting trend in online buyer's behaviour under the impact of COVID-19 pandemic in Vietnam

Ha Thu Nguyen¹, Thuy Dam Luong Hoang², and Huy Khanh Nguyen³

Abstract

COVID-19 temporarily hindered the development of physical stores, nevertheless, triggered the outbreak of online business. Consequently, there should be growing demands for purchasing over internet-based platforms. In order to investigate online purchase intention and online shopping behaviour, this study developed a research framework based on the analysis of 05 different variables, namely: subjective norm, attitude, behavioural control, trust, and perceived risk. A sample of 307 Vietnamese online customers has been surveyed, resulting in the findings that behavioural control and trust have a direct influence on online purchase intention, then indirectly generate online shopping behaviour. Especially, trust is considered to have the greatest effects, followed by behavioural control. From the results, implications can be established about marketing implementation in online shopping services. In other words, marketing campaigns in the COVID-19 context are aimed at highly productive purposes in order to cope with epidemic time.

Keywords: *Theory of Planned Behaviour (TPB); online shopping behaviour; online shopping site; the Covid-19 pandemic.*

Introduction

Covid-19 has marked a milestone in the E-commerce service history since it spread the world in 2020. Generally speaking, the progress of COVID-19 has recently been declared by the World Health Organization (WHO) as a public health emergency worldwide (WHO, 2020). When disease breaks out, the COVID-19 pandemic is far more than a health crisis; which have been affecting societies and economies at their core (UNDP, 2020). There is widespread agreement among economists that it has severe negative impacts on the global economy. To be specific, self-lockdowns, society-lockdowns and other restrictions, while are essential to slow the spread of virus, have been accompanied by a sharp reduction in global economic activities (Baldwin and Weder, 2020). The baseline forecast envisions a 5.2 percent contraction in global GDP in 2020, which is the deepest global recession in eight decades (World Bank, 2020). In reality, these unprecedented policies support that have been announced already far exceed those enacted during the 2008 – 2009 global financial crisis (World Bank, 2020). The pandemic highlights the urgency for both health and economic action in order to deal with its consequences, protect populations as well as cope with similar events in the future. Nevertheless, online shopping is growing so fast that global online shopping market size nearly hit 4 trillion in 2020 (Statista, 2020). As such, it is common knowledge that people need

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to drive their buying routine from physical stores to online platforms, namely: websites, mobile phone applications, trading pages... In other words, Covid-19 has completely changed the E-commerce industry by providing an effective method to achieve double goals: little interaction, more selling revenues. In case of Vietnam, during more than one year of pandemic onset, there have been some levels of uncertainty remaining in Vietnam's society and economy outlook; which changes people behavior, from fear to action, from face-to-face meetings to remote connections. Within a few short weeks, when the pandemic breaks out and reaches to the peak, the Government makes quick decisions to temporarily shut down service industry and implement social distancing across the country (VGP News, 2020).

From Vietnamese consumers perspective, it is outstandingly sophisticated in getting used to new circumstance. One of the most visible reactions in the way people accept the quarantine is to change their shopping awareness. This approach seems similar to the case of SARS pandemic situation in ASIAN countries (Forster and Tang, 2005; Wen and Kavanaugh, 2005). In 2003, when SARS broke out, people in both China and Hong Kong isolated themselves from social activities, which springs from Asian traditional culture and psychology (Wen and Kavanaugh, 2005). Forster and Tang (2005) reveal that demand of online shopping only rises up due to customer awareness of SARS epidemic spread. Nevertheless, although research results show the importance of online shopping in adjusting to epidemic outbreaks and supporting respondents' daily activities; customers are still unhappy with online service quality as well as product quality (Forster and Tang, 2005). Similarly, Klaus and Manthiou (2020) finds out a noteworthy feature related to Covid-19 is a marked shift in online shopping behaviour. In Vietnam, 58.49% of respondents have reduced their frequency of visits to brick-and-mortar stores and the amount of time that Vietnamese consumers spend online shopping increases by more than 25% after the Covid-19 outbreak; in which most popular goods being purchased are make-up remover, milk, napkins or diapers (Deloitte, 2020).

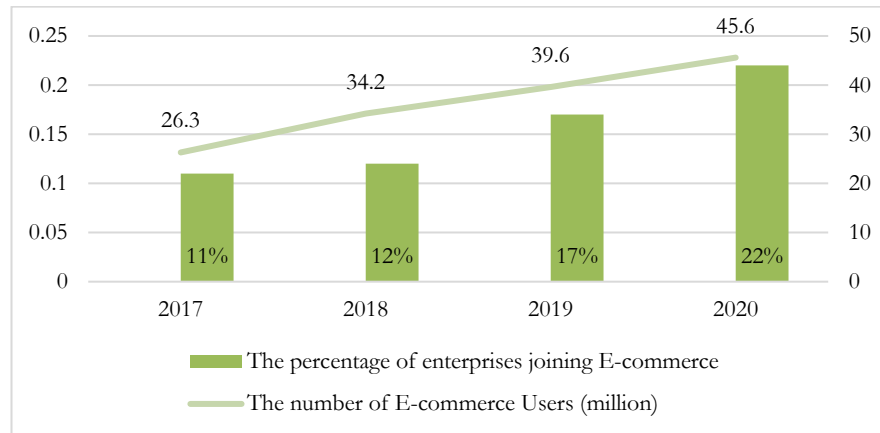
From Vietnamese retail sector perspective, it can be considered as a challenge as they have to think about how to sell basic products for customers – who always have accustomed to traditional in-person shopping before the COVID19 (Deloitte, 2020). In other words, in order to implement marketing communication comprehensively, it requires well-through background in both strategies and facilities. However, in the lead-up to the lockdown announcement in quarter 1, 2020, online retailers become significantly prominent and sales volumes exceed those of the same period of the previous year by up to 25% (Bank of New Zealand, 2020). As such, Vietnamese retailers can bring positive impact on customer behaviour through effective marketing campaigns in the time of Covid-19 pandemic. The overall trend of E-commerce in Vietnam through years have been stated in figure 1, presenting that 2020 witnesses a remarkably increase in both the number of E-commerce enterprises and number of E-commerce users. This reality poses a striking problem for online shopping participants as the number of demands enormously grew whereas the transition from offline to online platforms for businesses is remarkably increasing at a fast-developing rate.

Consequently, under the impact of COVID-19 pandemic, purchasing products online through business websites is becoming more necessary and useful than ever (Arora and Nangia, 2021; Khan et al., 2021). Along with it, the crucial problem is to improve the relationship between e-retailers and e-customers by investigating customer's perception towards online shopping sites in Vietnam. Nonetheless, regards to the specific nature and context of research, there are not many scientific studies relating to Vietnamese online



shopping perception and behaviour under the impact of epidemic. Based on the above issues, this study aims to find out key determinants having influence on Vietnamese e-consumer behaviour in the context of the Covid-19 pandemic. Thereby, it proposes a number of significant recommendations in order to enhance online customer behaviour as well as online businesses in Vietnam.

Figure 1. Vietnamese E-commerce in term of Users and Enterprises (2017 – 2020)



Source: Statista (2020)

Literature Review

Theory of Planned Behaviour

Researches on online intentions and buying behaviors have world-widely carried out. One of the best-known models is theory of planned behavior (TPB) which has been successfully applied in many scientific researches (Ajzen, 1991; Ajzen et al., 2020). The theory is consider as another evolution of the TRA (Davis, 1985), which focuses on cases when users cannot control over the choices, but are likely affected by non-motivational factors relating to available resources or certain requirements (Oliveira et al., 2017). According to TPB, the e-consumer behaviour is influenced by the intention, and previously purchase intention is influenced by three factors: attitude, subjective norm and behavioral control. Numerous prestigious researchers in marketing field have considered TPB model as main approach to understand certain consumer behaviour at a specific time and place (Koch et al., 2020; Veeragandham et al., 2020; Akar, 2021). More importantly, due to the special characteristic of the COVID-19 pandemic, each country received different effects and each people has different pandemic concerns. Therefore, it is essential to investigate consumer behaviour through both normative and informational variables in TPB model.

Behavioral control

Behavioral control is an individual's ability to perceive how easy or difficult it is to perform a behavior (Ajzen, 1991; Cheah et al., 2015). In the context of online shopping, cognitive behavioral control describes consumers' perceptions of available resources and knowledge that need to conduct online shopping process (Cheah et al., 2015). Currently, due to the Covid-19 pandemic, people have to stay at home and reduce physical contacts; therefore,

most of them have switched to online delivery services to reach familiar stores. This sudden and important change has increased the number of orders through retailer's businesses websites - a shopping channel that would have taken many years in order to convince Vietnamese people to switch to use (Fishbein, 2005). In addition, many researchers have also demonstrated that behavioral control has a positive impact on online shopping intention (Rehman et al., 2019; Dakduk et al., 2017). Therefore, the proposed research hypothesis (H1) is:

H1: Behavioral control has a positive impact on online purchase intention during the Covid19 pandemic in Vietnam

Subjective norm

According to Ajzen (1991, 2020), subjective norm is an individual's perception of surrounding effects on whether a behavior should be performed or not. Many previous studies also divided types of impact on consumers in two aspects: the impact from the reference groups and the impact from society (Laohapensang, 2009). Impacts from the reference groups include callings from friends, colleagues or family; while the social impact refers to information coming from media such as newspapers, radio, television and expert advice. Besides, there are some prior researchers that consider subjective norms and their focus on participation in online purchase community (Jamil and Mat, 2011; Tseng et al., 2011; Zhou, 2011). For more detail, in the area of e-commerce, subjective norm reflects consumers' perceptions of reference groups and media towards the ability to purchase products online (Dakduk et al., 2017). Within the scope of the study - the real situation of the Covid19 pandemic in Vietnam, subjective norm dimension is understood as the effects from reference groups, government policies and the communication agencies' propaganda. Therefore, the research hypothesis (H2) is proposed as below:

H2: Subjective norm has a positive impact on online purchase intention during the Covid19 pandemic in Vietnam

Attitude

According to the TPB model, an attitude is individual's judgment of whether it is good or bad to perform a behavior (Ajzen, 1991; Aizen et al., 2020). When customers shop online, attitude comes from their assessments in the process of goods and services purchasing from retail websites including incentives and benefits for consumers; convenience or compatibility of online services (Chang et al., 2005). In specific context like Covid-19 pandemic, research of Hans et al. (2020) is demonstrated that except for incentive policies, increasingly complicated epidemic also helps to change consumer attitudes towards online shopping a little. Favourite attitudes towards e-shopping as well as e-retailers are positively associated with consumers' e-shopping intention and behaviour (Lin, 2007; Cheah et al., 2015). Therefore, the proposed hypothesis is:

H3: Attitude has a positive impact on online purchase intention during the Covid19 pandemic in Vietnam

Trust

From an extensive literature review, it is found that most of studies focus the relationship between TPB factors, online purchase intention and shopping behaviour on normal e-



commerce or other online industries. There are limited studies that propose the framework of e-consumer behaviour in Vietnam and especially in the Covid-19 pandemic. Therefore, this study adopted TPB model and proposed two new scales including trust and perceived risks in the analytical framework in order to fit to online context (Hung et al., 2013; Hujran et al., 2015) and Vietnamese e-consumer behaviour (Nguyen et al., 2019; Tran, 2020; Nghia et al., 2020).

Numerous studies have emphasized on the importance of trust when comprising the interaction between buyers and sellers in both offline and internet shopping (Choi and Mai, 2018; Nguyen et al., 2019; Rehman et al., 2019). When looking specifically at the online context, trust is defined as one's attitude of accepting online risks or vulnerabilities that will not be exploited (Beldad et al., 2010). In other words, trust refers to the degree to which a person believes technologies or process during online shopping journey, especially online payment or internet banking (Pantano and Priporas, 2016; Ozturk et al., 2017). So, trust in online store can be conceptualized as the perceived credibility under customer's perception (Ganguly et al., 2010). Therefore, trust is a significant premise in influencing and enhancing actual behaviour of consumers (Hsu et al., 2013; Rehman et al., 2019; Nghia et al., 2020). In long term evolvement, it is critical for e-vendors to promote customer trust in order to transform a potential usage to actual usage as well as transacted customers to loyal customers (Wang et al., 2016). The next hypothesis is proposed as below:

H4: Trust has a positive impact on online purchase intention during the Covid19 pandemic in Vietnam

Perceived Risks

Perceived risk relates to uncertainty and seriousness of an outcome. In other words, it is about consumer awareness towards the bad consequences after certain actions (Xie et al., 2017). Theoretically, many prior researchers have investigated the influence of perceived risks on customer online purchase intention; however, results from such researches still are different. According to Palvou (2003) and Chang and Chen (2008), perceived risk brings negatively effect on online purchase intention because consumers cannot control the internet due to the internet's impersonal and unpredictable nature. On the other hands, Gefen et al. (2003) and Roy et al. (2015) argues that perceived risk does not have any direct relationship with online shopping intention.

In reality, online risks can originate in several vulnerabilities like failed products, bad seller reputation, financial loss or personal data leak (Xie et al., 2017; Tran, 2020). In analogy with e-business research, users with rich experiences are likely to bear more risks and when social risks decrease, consumers may have more intentions to do online shopping (Xie et al., 2017). To some extent, it means that perceived risk is associated with online purchase intention. Thus, the hypothesis 5 (H5) is proposed as follow:

H5: Perceived risk has a negative impact on online purchase intention during the Covid19 pandemic in Vietnam

Online Purchase Intention

According to Fishbein and Ajzen (2005), intention is a factor to encourage and motivate an individual to perform willingly future behavior. Similar to this point of view, TPB theory also figures out that intention is indication of how hard people are willing to try and how much

effort they are planning to exert in order to perform a specific buying behavior (Ajzen, 1991). In online context, Delafronz et al. (2011) have pointed out that intention to buy online is the possibility of surely consuming products through websites. Prior studies in e-commerce context also reveal that intention leading to actual purchase is impacted by attitude, subjective norms, and behavioural control (Cheah et al., 2015; Dakduk et al., 2017). In comparison to retail shopping in stores, the nature of online environment may have influence on customer purchase intention and then purchase behaviour (Sethna et al., 2017). Moreover, Xie et al. (2017) also demonstrates that perceived risks, trust and buying intention can be explained online behaviour. Therefore, the relationship between intention and actual behaviour of consumer is consistent, the proposed hypothesis is:

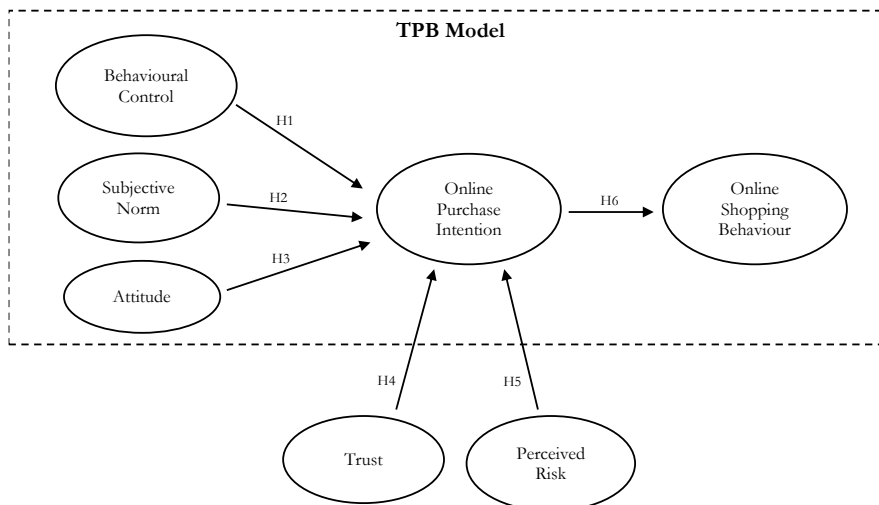
H6: Online purchase intention has a positive influence on online shopping behavior during the Covid19 pandemic in Vietnam

Research Methodology

Analytical Framework

The proposed framework of Vietnamese e-consumer behaviour in the Covid-19 pandemic and hypotheses are presented in Figure 2

Figure 2. Proposed analytical framework



Analytical Process

This study attempts to propose the conceptual model of e-consumer behaviour in Vietnam and suggest some marketing communications for e-managers in the Covid-19 pandemic. By identifying these factors, namely *behavioural control*, *subjective norm*, *attitude*, *trust*, *perceived risk*, *purchase intention* and *shopping behaviour*, it will help managers to know how to delight customers satisfaction, propose useful marketing communication strategies and gain competitive advantages over their competitors. A full step of this study is conducted as following:



Step 1: Based on the findings from literature review, 37 variables are built from 7 factors, namely *Subjective Norm, Behavioural Control, Attitude, Trust, Perceived Risk, Purchase Intention and Shopping Behaviour*. Particularly, together with 5 variables of TPB model, two new scales (Trust and Perceived Risk) are added in order to test correlation of these factors and E-commerce behaviour in the Covid-19 pandemic comprehensively.

Step 2: Developing a questionnaire uses 5-point Likert scale ranging from (1) Strongly disagree to (5) Strongly agree. Especially, prior to actual survey, these items are conducted in a Pilot test with a small group of participants such as marketing professors, E-commerce managers and customers in order to adjust and complete this questionnaire. As a result, the final questionnaire to gather data includes 37 items, in which 5 items were removed due to incompatibility in Vietnamese context and 2 items were added based on pretest's result.

Step 3: Collecting data by using the method of online survey questionnaire to customers who used to purchase products through e-commerce websites in Vietnam. In this study, the number of variables included in the factor analysis is 37, so the minimum required sample size is $37 \times 5 = 185$ observations. In order to ensure the reliability of the study, the survey has been distributed to 350 customers who have had online shopping experience on business websites in Vietnam during the Covid-19 pandemic. Time to collect data is from April 2020 to July 2020. The total number of votes collected was 307 (reaching 87.7%), because 43 of them had not filled in the information; which meet the required sample size and are significant enough for other tests (Hair et al., 2013). The sample was selected basing on non-probability sampling method and taking into account the balance of gender, age, monthly income, education level, frequency of purchase of respondents. This method is chosen because it is fast and convenient to obtain data, as well as easy to maximize the number of respondents of online survey (Hair et al., 2013). Due to the context of the Covid-19 pandemic, electronic link of questionnaire was public in social media platforms such as Facebook, Instagram...or sent to target respondents through their E-mail.

Step 4: Valid data are analyzed through following steps: (1) Descriptive analysis; (2) Reliability and validity test; (3) Structural equation model (SEM).

Step 5: Proposing some online marketing communication strategies for online retailers, especially in term of online shopping sites during the COVID-19 pandemic

Research Results

Descriptive Statistics

The statistical results described in Table 1 show:

- 71% of survey participants are female, which is understandable because women are often decision makers in the family. Moreover, it shows that 41.7% of products purchased online are food and beverage.
- In regards to purchasing frequency, all respondents have online shopping experience, in which nearly half of respondents do online shopping around 2-4 times / month (49.2%).

Table 1. Descriptive analysis

	Frequency	Percent %		Frequency	Percent %
Gender			Frequency		
Male	83	27.0	About 1 time/month	103	33.6
Female	218	71.0	About 2-4 times/month	151	49.2
Others	6	2.0	Over 4 times/month	53	17.3
Age			Product types		
Under 18 years old	4	1.3	Food and Beverage	128	41.7
18 – 25 years old	191	62.2	Household Appliances	39	12.7
25 - 40 years old	95	30.9	Clothes, shoes and cosmetics	98	31.9
40 - 55 years old	16	5.2	Others	42	13.7
Over 55 years old	1	0.3			

Source: Analytical results from authors

Reliability and Validity Test

Reliability and convergent validity of the constructs are calculated by composite reliability and average variance extracted (see Appendix 1). According to Hair et al (2013), the composite reliability for all constructs is ideally above 0.7 level. Besides, convergent validity should be assessed by the average extracted variances (AVE) and is above recommended 0.5 level (Fornell and Larcker, 1981). Moreover, convergent validity can be assessed by factor loading.

The research has 307 samples, so the “ideal” factor loading is 0.4 according to the guidelines set by Hair et al. (2013). If factor loading is below 0.4, which may indicate a weak correlation among these items. Given this exploratory, those items with factor loadings of more than 0.4 are retained and used for further test (structural equation model). Therefore, items having factor loadings under 0.4 should be removed such as AT3, AT5, SN1, SN6, PR5 and PI5. These left items having greatest influence on Vietnamese customer perception of online shopping during the Covid-19 pandemic are finally summarized and strongly loaded on particular factors, meeting the requirements of convergent validity (Cohen et al., 1992).

In order to examine discriminant validity, it compares the shared variances between constructs with the AVE of individual constructs. According to Fornell and Larcker (1981), the square root of AVE in each construct should generally be higher than the correlations between this construct and any others in the model (Table 2).

Structural Equation Model (SEM)

This study aims to identify the relationships among five independent factors (subjective norm, behavioural control, attitude, trust and perceived risk), online purchase intention and online shopping behaviour during the Covid-19 pandemic. In order to attain study object, the SEM is used in order to test the relationships among research constructs, as well as to compare the modelled relationships with observed scores. The proposed structural model is presented in Figure 2. Before analyzing the structural model, the overall model fit must be assessed to ensure that the model adequately represents the entire set of causal relationships (Table 3,4). X2 statistic is not used because of its sensitivity to large sample size. Instead, the ratio of X2 to degree-of-freedom (df) is used, and a value of 3 is obtained, in keeping with the suggested value of smaller or equal to 3 (Carmines & McIver, 1981). Also, the goodness of fit index (GFI) and adjusted goodness-of-fit index (AGFI) are 0.932 and 0.885, respectively.



Table 2. The result of reliability tests

Items	Factor loading (>0.4)	Composite reliability (>0.7)	Ave. var extracted (>0.5)
Behavioral control - BC		0.937	0.627
BC1- It is a useful way to reduce the risk of infection from crowd exposure in the Covid-19 pandemic	0.62		
BC2- It is an appropriate way to ensure the requirement of restricting crowd exposure from the Government in the Covid-19 pandemic	0.57		
BC3- It is a suitable way for quickly responding customers' requirement when the Government decided to close commercial stores in the Covid-19 pandemic	0.64		
BC4- It is a convenient way for customers in the Covid-19 pandemic	0.64		
Subjective norm - SN		0.817	0.567
SN1- Due to the severity of the Covid-19 pandemic, I use online shopping on purpose	0.07		
SN2- Due to the severity of the Covid-19 pandemic, I have to use online shopping	0.63		
SN3- Due to influence from reference groups (friends, family, colleagues), I change to online shopping	0.63		
SN 4- Due to the propaganda from the Government, I chose to online shopping	0.42		
SN5- Due to communication messages such as "Stay at home", "Still happy to stay at home", "Stay home – it could save lives" on social medias, I chose to online shopping	0.50		
SN6- I chose online shopping because I find it is essential by myself	0.23		
Attitude - AT		0.880	0.524
AT1- It's economical because business websites provide products with cheaper price in Covid-19 pandemic	0.43		
AT2- It's convenient because business websites provide more offers on product delivery in Covid-19 pandemic	0.52		
AT3- It's easy to choose because business websites provide more product choices in Covid19 pandemic	0.20		
AT4- It's guaranteed because business websites provide convenient return policies	0.41		
AT5- It's safe because online shopping helps me not to stay in crowded place in Covid19 pandemic	0.22		
Trust - TR		0.898	0.513
TR1 – I trust product quality when shopping online	0.53		
TR2 – I trust service quality when shopping online	0.66		
TR3 – I feel secured when providing personal information through business website	0.58		
TR4 – I trust the banking payment method when shopping online	0.42		
TR5 – I believe that online stores will execute my orders rightly	0.41		
Perceived Risks – PR		0.836	0.632
PR1 – Products may not come to my expectation	0.53		
PR2 – It is possible to buy low quality products	0.66		
PR3 – Personal information may be leaked during online transaction	0.57		
PR4 – It is possible to lost money due to unsafe online payment transaction	0.51		
PR5 – It wastes useless time when waiting for delivery	0.30		
Online Purchase Intention – PI		0.791	0.573
PI1- I only intends to buy products online if I have requirement	0.88		
PI2- I am planning to buy products online in the Covid-19 pandemic	0.90		
PI3- I intends to choose to buy products online in the Covid-19 pandemic	0.61		
PI4- I will continue to buy products online in the future	0.48		
PI5- I will suggest my circle of friends to choose online shopping	0.08		
Online shopping behavior – BE		0.834	0.678
BE1- I always uses online shopping method	0.83		
BE2- I prefers to use online shopping rather than goes to physical stores	0.80		
BE3- I will continue to do online shopping often	0.89		
BE4- I have plans to buy more products online in the future	0.84		

The normalized fit index (NFI), non-normalized fit index (NNFI) and comparative fit index (CFI) are three other indices of fit. Values typically range from 0 to 1, with values greater than 0.9 representing reasonable model fit. For the measurement model, we observe values of 0.953, 0.956 and 0.975 for NFI, NNFI and CFI, respectively; which all indicate a good model fit. Finally, root mean square residual (RMSR) provides an indication of the variance proportion that is not explained by the model, whereas root mean square error of approximation (RMSEA) describes the discrepancy between the proposed model and the population covariance matrix. In this study, RMSR and RMSEA values are 0.081 and 0.072, which is within the recommended cut-off values of 0.10 (RMSR) and 0.08 (RMSEA) for good fit (Byrne, 2013). Therefore, the path coefficients of the structural model can be proceeded to examine.

In conclusion, the estimated path coefficients of the structural equation model and the squared multiple correlations (SMC) for dependent latent construct are shown in table 6. Because the overall goodness of fit is promising, further significance of the path structural coefficients can be recommended. Table 6 also indicates that extended theory of planned behaviour has a significant impact on customer online purchase intention and shopping behaviour. These results seem to indicate that the interrelationships among extended theory of planned behaviour, customer purchase intention and shopping behaviour are specifically significant.

Table 3. Discriminant validity testing

Variables	1	2	3	4	5	6	7
Behavioral Control	0.628						
Subjective Norm	0.350	0.567					
Attitude	0.469	0.437	0.524				
Trust	0.529	0.327	0.593	0.513			
Perceived Risks	0.312	0.192	0.230	0.273	0.632		
Purchase Intention	0.604	0.441	0.503	0.603	0.370	0.573	
Shopping Behavior	0.552	0.423	0.496	0.586	0.235	0.661	0.578

Notes: correlation coefficients are included in the lower triangle of the matrix, and the square root of AVE is on the diagonal. $p < 0.05$; values below the diagonal are correlation estimates.

Source: Analytical results from authors

Table 4. Model fit evaluation

Measure	Recommended criteria	Structural model
Chi-square/df	≤ 3.0	2.604
Goodness-of-fit (GFI)	> 0.9	0.932
Adjusted goodness-of-fit (AGFI)	> 0.8	0.885
Normalized fit index (NFI)	> 0.9	0.953
Non-normalized fit index (NNFI)	> 0.9	0.956
Comparative fit index (CFI)	> 0.9	0.975
Root mean square residual (RMSR)	< 0.1	0.081
Root mean square error of approximation (RMSEA)	< 0.08	0.072

Source: Analytical results from authors

As discussed above, only two of independent variables in framework (behavioral control and trust) have significantly influence on customer's purchase intention to shop online in the Covid-19 pandemic (H1 and H4 are supported). Besides, online shopping behavior is significantly affected by online purchase intention (H6 is also supported) (figure 3). These results are in conformity with the theories of experiential consumer behaviour.



Table 5. Variable's coefficients and composite reliability (CR)

Variables	Standardized coefficients	C.R.	Variables	Standardized coefficients	C.R.
Behavioral Control	0.891	17.24	Perceived Risks	0.296	2.48
	0.886	16.39		0.355	2.57
	0.835	22.70		0.384	2.98
	0.811	A		0.408	7.05
Subjective Norm	0.533	4.98	Purchase Intention	0.730	10.67
	0.459	5.50		0.517	8.41
	0.983	14.83		0.655	10.30
	0.997	A		0.691	10.33
Attitude	0.586	9.98	Shopping Behavior	0.627	A
	0.688	11.54		0.609	11.70
	0.610	10.08		0.755	12.68
Trust	0.736	11.55		0.774	11.56
	0.720	11.64			
	0.829	14.30			
	0.784	12.43			
	0.778	A			

Source: Analytical results from authors

Table 6. Path coefficient and hypothesis test result

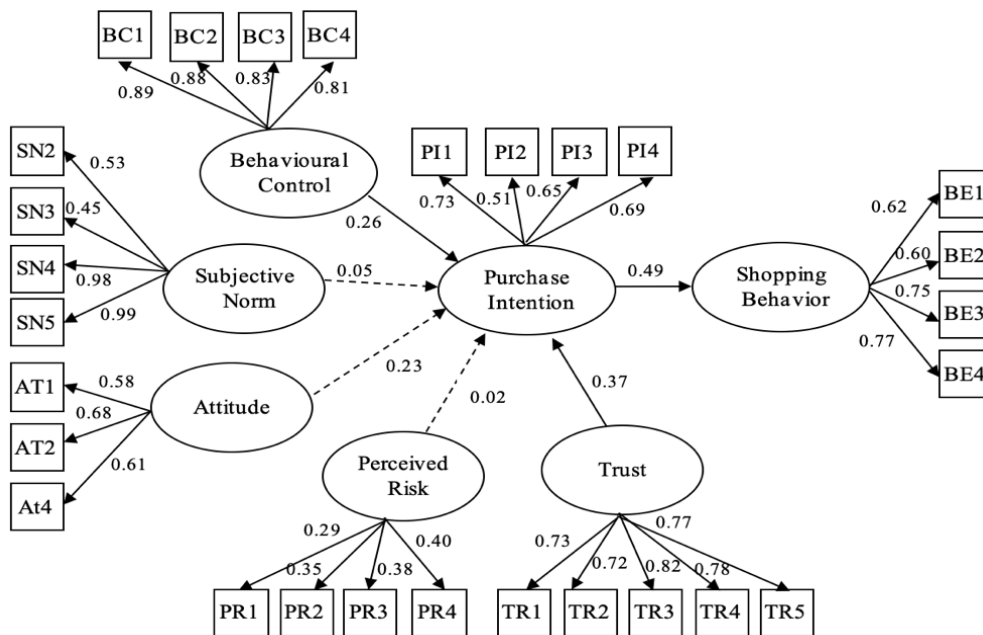
Path	Path Coefficient	C.R	Result
H1 Behavioral Control -> Purchase intention	0.262	3.396	Supported
H2 Subjective Norm -> Purchase intention	0.056	2.529	Not supported
H3 Attitude -> Purchase intention	0.230	2.787	Not supported
H4 Trust -> Purchase intention	0.375	4.208	Supported
H5 Perceived Risk -> Purchase intention	0.027	3.408	Not supported
H6 Purchase intention -> Shopping behavior	0.498	5.021	Supported

Source: Analytical results from authors

Discussion

Main purpose of this study is to evaluate the impact of Covid-19 pandemic on consumer behaviour in Vietnam e-retailing market. Through extensive literature review, an analytical framework is proposed. After running reliability test, validity test and structural equation model to define the impact coefficient, it can be concluded that only **three hypotheses (H1, H4, H6) are accepted**. The main findings of this study are discussed as below.

First, *trust factor* with the coefficient of 0.375 is recognized to have the largest impact on online purchase intention and shopping behavior during the Covid-19 pandemic. This result is consistent with the finding of Rehman et al. (2019), in which trust is an important determinant in online shopping process. The lack of e-trust will deter any purchase over the internet and then deter positive brand attitude as well as repeat purchases due to no interactivity from online consumes. Together with the sharply development of e-commerce in Vietnam and the current situation of Covid-19 pandemic, most of Vietnamese consumers have willingness to put their belief on online shopping. Nonetheless, most of Vietnamese only trust to purchase in guaranteed websites because it helps to ensure product and service quality.

Figure 3. Results of structural modelling analysis

Finally, *online purchase intention* is found to have significant impact on Vietnamese online shopping behaviour with the coefficient of 0.498, which is in line with many studies about purchase intention and actual shopping behaviour, such as Fishbein and Ajzen (2005) or Delafrooz et al. (2011). In fact, during inconvenient time of the Covid-19 pandemic, no matter do they plan to buy products online or not, customers still have to use this shopping type. It is especially effective when the Covid-19 epidemic continues to have complicated developments. However, if people have purchase intention to buy online, they will have detailed awareness about this context; which help online shopping process be better and smoother.

On the other hand, attitude, subjective norms and perceived risk do not have significant influences on Vietnamese online purchase intention during the Covid-19 pandemic. In other words, **H2, H3 and H5 are rejected**. As mention above, Vietnamese people have no choices but purchase products through online channels when Vietnam Government decided to close most of physical stores. As a result, the number of people buying through websites goes up sharply. Most popular FMCG stores in Vietnam such as Vinmart, BigC, Lotte, Saigon Co.opmart...offer programs "Order at home, stay away from Covid-19" with many supportive delivery policies and invoices discount such as fast delivery (3-5 hours) or up to 50% discount (Ministry of Finance, 2020). Moreover, due to the serious of Covid-19, Vietnamese people do not tend to care about risk, they realize the importance of online shopping and still use digital platforms to buy online no matter how risk it is.

Implication and Limitations

Marketing includes advertisements. However, this tool may not be reliable to customers as they have strong disagreement with advertising contents with the perception that



advertisements go beyond the reality. Therefore, the determinant of Trust would be beneficial to online shopping. Customer need to trust the quality before handling in the financial payment. Moreover, online shopping behavioural control describes consumers' perceptions of available resources and knowledge that need to conduct online shopping process (Cheah et al., 2015). Marketing planners may utilize the reality in order to influence on the customer behaviours by numerous marketing techniques focusing on product description, pricing, marketing and promotion (Arora and Nangia, 2021). The more customers' intentions are converted into online shopping behaviour, the more revenue that enterprises should collect.

In addition, Vietnamese retailers should promote special methods through marketing campaigns in order to improve customer experiences and behavioural control such as *ease of payment* and *point collection*. Online payment must be the first thing to be secured and managed in shopping journey to meet customer requirements. In pandemic onset, it is essential to limit cash using in transaction, which are trendy strategies and applied in many worldwide famous online shopping sites (Deloitte, 2020). However, this poses a big problem for Vietnam when most consumers still consider cash as a main form of payment. Therefore, business should offer more promotions when paying by e-wallets or bank accounts. Moreover, flexible and safe collecting points also need to be implemented in Vietnam market which creates higher quality of marketing campaigns. Currently, some young businesses have started to open safe collection points at drugstores, supermarkets under the form of smart lockers (iLogic Smartbox) so that people can take goods automatically. Smart lockers are extremely convenient and safe because it requires OTP or QR codes to open, as a result, customers don't have to worry about losing your goods. On the other hand, they also can take products on their own initiative in any time and do not need directly transaction with people.

It is important to view this study under its limitations. To begin with, the biggest limitation is the number of participants, which is not diverse and big enough to be considered as representativeness. The research sample is also favoured by the segment of young and middle-aged people, being familiar with computers and internet in big cities. Further studies can apply this proposed analytical framework to assess the content of economic, social and political impacts on consumer behavior on a large scale. In addition, because Covid-19 is an outstandingly serious field and needs to be paid attention to current research, other studies should continue this topic and evaluate consumers' online behavior through various factors such as such as ease of use, personalization or branding. Last but not least, this study is conducted in the first wave of Covid-19 pandemic, thus, consumer behaviour can be slightly different to its of current situation. Vietnamese business needs to have long-term commitment towards this reality.

Conclusion

By developing the analytical framework, this study provided empirical evidence from Vietnam. Thus, this study found key determinants of Vietnamese e-consumer behaviour in the COVID-19 pandemic, which are behavioural control and trust. Data sample were collected from 307 respondents in Vietnamese e-commerce industry that are diverse in age, genders, workplace, shopping frequency and purchasing product types. Results of this study confirm significant effect of trust and behavioural control on Vietnamese customer's online purchase intention, and online purchase intention was found as a determinant of online shopping behaviour. Most of findings are in line with other prestigious literature reviews

(Rehman et al., 2019; Ha et al., 2019; Dakduk et al., 2017). Practically, the most important implication of the study is the implementation of marketing campaigns which not only increases customer trust but also behavioural control. Moreover, in the recovery phase of global business after COVID-19 pandemic, the advancements in marketing campaigns focusing on consumer behaviour would be important for online shopping firms.

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