



International Journal of Economics and Business Research

ISSN online: 1756-9869 - ISSN print: 1756-9850

<https://www.inderscience.com/ijebr>

Factors affect consumers' online shopping behaviour via a mediator factor

Kim Quoc Trung Nguyen

DOI: [10.1504/IJEBR.2024.10063396](https://doi.org/10.1504/IJEBR.2024.10063396)

Article History:

Received:	28 August 2023
Last revised:	12 December 2023
Accepted:	31 December 2023
Published online:	03 June 2024

Factors affect consumers' online shopping behaviour via a mediator factor

Kim Quoc Trung Nguyen

Faculty of Accounting – Auditing,
University of Finance – Marketing,
778 Nguyen Kiem, Ward 4,
Phu Nhuan District, Ho Chi Minh City, Vietnam
Email: nkq.trung@ufm.edu.vn

Abstract: This study aims to estimate the factors affecting consumers' online shopping behaviour in Vietnam under the role of a mediating factor. Based on consumer behaviour theory, theory of planned behaviour, and theory of reasoned action, this study explores how personal and economic factors affect consumers' online shopping behaviour. Qualitative and quantitative methods show that the following factors have a significant and positive influence on consumers' shopping behaviour: perceived usefulness, risk perception, trust, promotion and advertising, website quality, and macroeconomic factors. These aspects establish a direct connection with online shopping behaviour, mediated by the intention to shop online. This study underscores the significance of motivating consumers to engage in online shopping, particularly during the COVID-19 pandemic.

Keywords: COVID-19; online shopping behaviour; online shopping intention; consumers; Ho Chi Minh City.

Reference to this paper should be made as follows: Nguyen, K.Q.T. (2024) 'Factors affect consumers' online shopping behaviour via a mediator factor', *Int. J. Economics and Business Research*, Vol. 27, No. 4, pp.693–711.

Biographical notes: Kim Quoc Trung Nguyen is currently a Lecturer at University of Finance – Marketing, Vietnam. His fields of research and teaching are banking, management, and accounting. He has published some articles in various international journals and conferences indexed by Scopus, including *International Journal of Economics and Finance Studies*, *The International Journal of Interdisciplinary Organizational Studies*, *Cogent Business & Management*, *Cogent Economics and Finance*, *International Journal of Procurement Management*, *Emerging Science Journal*; and has served as a reviewer of some international journals listed in Scopus, such as *Cogent Economics and Finance* and *International Journal of Law and Management*, and *Journal of Eastern European and Central Asian Research*.

1 Introduction

In the Fourth Industrial Revolution, with the development of artificial intelligence (AI), the prevalence of e-commerce websites is on the rise globally. With the continuous rise in Internet usage and changing consumer habits, there has been a remarkable increase in the

demand for online shopping options and digital payment solutions (Central and Eastern European and Chamber of Commerce in Vietnam, 2023). Moreover, with the surge in smartphone usage for online purchases, customers are more conveniently and swiftly engaging in shopping activities, benefiting from an array of appealing promotions and discounts with the rapid development of information technology and the internet (Al-Hattami et al., 2023; Esmeli et al., 2021).

The rapid surge in EC in Vietnam has spurred an expansion of the online shopping market. In particular, 71% of the enterprises in 2022 allowed consumers to conduct the entire ordering and purchase process via mobile devices, which decreased compared to 2021 but was still higher than in previous years. In addition, 61% of the enterprises provided customised promotion campaigns 2022 for mobile customers, which was much higher than that in previous years.

Furthermore, the emergence of COVID-19 in 2019 created favourable conditions for expanding online shopping volumes (Le et al., 2022). Hence, there is a considerable requirement for an update on emerging shopping patterns, particularly shifts in consumer behaviour stemming from the enduring effects of the COVID-19 pandemic. Evaluating the transition from traditional offline shopping to online shopping (Adibfar et al., 2022) is crucial.

The research objective was to estimate the factors affecting consumers' online shopping behaviour in Vietnam under the role of mediating online shopping intention during the COVID-19 pandemic. Hence, the author aims to answer the question, 'To what extent does online shopping intention intervene in the relationship between the factors affecting online shopping behaviour in Vietnam during COVID-19?'

2 Literature review and hypothesis development

2.1 Literature review

According to Markin (1970), theories of consumer behaviour rely on concepts developed in various fields of social sciences: economics, psychology, and sociology. Customer behaviour is influenced by four major factors: cultural, social, personal, and psychological (Kotler and Armstrong, 2018). The difference in consumer behaviour influences how consumers react to products, because consumer behaviour affects the search for and evaluation of product information (Solomon, 2011). Moreover, Turban et al. (2004) state that the goal of a consumer behaviour model is to assist vendors in understanding how consumers make purchasing decisions. If a firm is aware of a consumer's decision-making process, it can affect the buyer's choice, for example, through effective advertising and promotion.

According to Ajzen (1991), intention is a factor that motivates an individual to be willing to perform a behaviour. When people have a strong intention to engage in a specific behaviour, they are more likely to perform that behaviour. Shopping intention is explained by someone's behaviour when he or she wish/considers buying a product (Khairunnisa et al., 2018). Rachbini (2018) concluded that there is a positive relationship between perceived risk, perceived benefit, trust, and shopping intention of Traveloka consumers. Trust and brand image substantially influence shopping intentions (Zamrudi et al., 2016). Besides, the intention to make online purchases serves as an indicator utilised to attain the objective of actual buying behaviour (Dewi et al., 2020). Fishbein

and Ajzen (1975) developed the theory of reasoned action (TRA) to determine behavioural tendencies, in which behavioural tendencies are part of the attitude towards the behaviour, and the other parts are subjective norms. According to the TRA, people have higher intentions (motivation) and are more likely to perform the suggested behaviour if they view it favourably (attitude) and believe that others want them to perform the behaviour (subjective norms). Numerous studies have demonstrated a strong relationship between attitudes, subjective norms, and behavioural intention and behaviour (Sheppard et al., 1988). While the TRA is used to predict behaviours in general and has become a theoretical basis for the further development of behavioural intent models, the theory of planned behaviour (TPB) (Ajzen, 1991) was created because of the limitations of the previous theory and shows all behaviours over which people can exert self-control.

According to Alrawad et al. (2023), the adoption of EC applications involve to customers' intentions and attitudes toward e-commerce, such as online shopping, online banking, mobile commerce... In detail, online shopping as a purchase made by a consumer from a business through an online channel (Le et al., 2022). Online shopping is a burgeoning technology in the 21st century. This has significantly enhanced convenience for customers (Müller et al., 2019; Suyanto et al., 2019), prompting continuous endeavours by vendors to enhance their online shopping experience for their clientele (Adibfar et al., 2022). Moreover, online shopping has facilitated decision-making for customers, diminishing their effort-associated factors such as time, costs, and risks (Adibfar et al., 2022). Based on Turban et al. (2017), online shopping is a service in which customers use Internet-connected electronic devices to complete their purchases. Searching for information, placing orders, and making payments online are all aspects of the online shopping experience. As they can lower transaction costs, close the gap between buyers and sellers, and expand their markets, some businesses have chosen online sales over traditional ones. Applying the technology acceptance model (TAM) (Davis, 1985) drew particular attention from researchers in the field of management information systems as it became the core theoretical foundation and was used for successful information system development (Taylor and Todd, 1995). In this study, the model was selected because it predicts behaviour using information technology (Davis, 1985). In addition, in the TAM, behaviour is influenced by attitude and sense of usefulness, whereas in the TRA model, it is influenced by subjective attitudes and norms.

2.2 Empirical studies

Nguyen and Nguyen (2020) demonstrate the factors affecting customers' online buying behaviour at Tiki.vn. The results show that five factors affect the online purchase behaviour of customers at Tiki.vn:

- 1 perceived ease of use
- 2 perceived usefulness
- 3 reliability
- 4 social influence
- 5 enjoyment.

Ta and Dang (2021) identify and evaluate the impact of factors affecting the online shopping intentions of Generation Z consumers. The results show that there are four

factors – perceived usefulness, trust, perceived risk, and psychological safety – that affect Generation Z’s online shopping intentions.

Furthermore, Gerber et al. (2014) studied the impact of risk perception on consumers’ online shopping behaviour. In particular, the characteristics of emerging markets are quite different from those of developed markets, in which consumers seem to be more cautious when buying online. Adnan (2014) explored the factors influencing consumers’ online buying behaviour in the Pakistani market. Specifically, perceived usefulness and psychological factors positively affect consumer attitudes and purchasing behaviour. However, risk perception has a negative impact on consumers’ buying behaviour. Zhang and Yu (2020) found an impact of risk perception on consumers’ cross-platform purchasing behaviour. The authors concluded that consumer buying behaviour depends on the perceived security and risk of digital platforms.

Significantly, Ali (2020) conducted a study on the relationship between COVID-19 and online consumer behaviour in Iraq has been conducted by Ali (2020). The authors suggested that COVID-19 may have led Iraqi consumers to embrace technology and adapt their lifestyles to limited circumstances. Another study conducted by Vu et al. (2021) explored the factors affecting the online shopping behaviour of students at Hanoi University in the context of the COVID-19 pandemic. The results show that attitudes, subjective norms, behavioural control perceptions, beliefs, website quality, and price directly affect consumers’ online shopping behaviour. This means that consumers were aware of the usefulness of online shopping during the COVID-19 pandemic. Music and Charlebois (2022), Nguyen et al. (2022) and Pham et al. (2020) also demonstrated that COVID-19 affects online consumers’ behaviour and attitudes.

Table 1 Statistics of factors affect online shopping behaviour based on empirical studies

<i>No.</i>	<i>Factors</i>	<i>Source</i>
1	Perceived usefulness	Iriani and Andjarwati (2020), Ellitan and Prayogo (2022) and Le et al. (2020)
2	Risk perception	Schiffman et al. (2013), Inouye (2014), Li et al. (2019), Fadare et al. (2016), Zhang and Yu (2020)
3	Sales promotion	Okazaki and Taylor (2013), Hilman et al. (2017), Jogi and Vashisth (2021), Khaleeli (2020)
4	Trust	Pavlou (2003), McCloskey (2006), Lee et al. (2018), Banu et al. (2019), Akter et al. (2021), Banu et al. (2019)
5	Website quality	Liang et al. (2011), Shang and Bao (2022), Hardiyanto and Firdaus (2021), Hasanov and Khalid (2015), Saleem et al. (2022), Adnan (2014), Kouser et al. (2018)
6	Macro-economic factors	Eger et al. (2021), Kirk and Rifkin (2020); Dalirazar and Sabzi (2020), Hardin and Twengström (2022), Jawaid and Karim (2021), Soares et al. (2022)

Based on previous studies, the author summarises the factors that affect shopping behaviour in Table 1; however, these studies have still not clarified the mediating factor that intervenes in the factors affecting online shopping behaviour in Vietnam during COVID-19.

2.3 Hypothesis development

2.3.1 *Perceived usefulness affects consumers' intention to shopping online*

Perceived usefulness refers to the degree of belief that utilising a particular information system enhances job performance and provides advantages or rewards to users (Davis, 1989; Susanto and Aljoza, 2015). Furthermore, Iriani and Andjarwati (2020) underscored that perceived usefulness plays a pivotal role in determining the acceptance of information technology that supports online shopping systems offering quick and effortless use compared to traditional shopping methods while enhancing user performance. These findings align with the research conducted by Ellitan and Prayogo (2022), who emphasised the significance of perceived usefulness in shaping online shopping decisions, as well as the consensus among (Le et al., 2020), who concurred that perceived usefulness exerts a considerable influence on online shopping choices.

Hypothesis 1 (H1) Perceived usefulness has a positive effect on consumers' intention to shopping online in Ho Chi Minh City.

2.3.2 *Risk perception affects consumers' intention to shopping online*

Risk perception is an individual's ability to recognise a certain amount of risk and degree of risk acceptance (Inouye, 2014). Additionally, risk perception has an impact on evaluating risk and making decisions about how to behave (Li et al., 2019). According to Schiffman et al. (2013), risk perception can express the uncertainty that consumers face when buying a product.

Research based on TAM indicates that risk perception negatively influences behavioural intentions (Fadare et al., 2016). Li et al. (2019) demonstrate that purchase intention is negatively influenced by risk perception. In line with these authors, Fadare et al. (2016) observed that perceived risk has a detrimental effect on behavioural intentions. However, Adnan (2014), Gerber et al. (2014) and Zhang and Yu (2020) explored the positive correlation between risk perception and purchase intention.

Based on the above arguments, the proposed hypothesis is as follows.

Hypothesis 2 (H2) Risk perception has an effect on consumers' intention to shop online in Ho Chi Minh City.

2.3.3 *Sales promotion affects consumers' intention to shopping online*

Sales promotion is considered a crucial communication method for engaging with customers on social media platforms, as advocate It is defined as any promotional activities a company undertakes on social media platforms, as articulated by Okazaki and Taylor (2013). Hilman et al. (2017) highlight that sales promotions on social media appeal to customers and can substantially impact their purchase intentions. Social media sales promotions encompass discount codes, special offers, and coupons, as noted by Shen and Bissell (2013), and non-monetary incentives such as gifts, as discussed by Buil et al. (2013) and Chi (2011). Jogi and Vashisth (2021) and Khaleeli (2020) demonstrated that promotion positively affects consumers' intention to shop online.

Hypothesis 3 (H3) Sales promotion has a positive effect on consumers' intention to shop online in Ho Chi Minh City.

2.3.4 Trust affects consumers' intention to shopping online

Pavlou (2003) integrated the concepts of trust and perceived risk into TAM and demonstrated that trust has a significantly positive influence on consumers' intention to make a purchase. McCloskey (2006) also examined the case of trust in the intention to buy online. Lee et al. (2018) elaborated on the idea that when a consumer places a higher level of trust in a technological platform, it diminishes their perception of risk and promotes a more positive view of the benefits derived from using that platform. In contrast, a lack of trust poses a significant obstacle to the acceptance and adoption of e-banking, and consumer dissatisfaction with e-banking often stems from this lack of trust (Banu et al., 2019). Therefore, if e-banking providers can effectively address concerns related to perceived risk and trust, this is likely to result in significant improvements in the acceptance and adoption of e-banking services. Akter et al. (2021) and Banu et al. (2019) find a significant and positive relationship between trust and intention to use e-banking services. Hence, we propose the following hypotheses:

Hypothesis 4 (H4) Trust has a positive effect on consumers' intention to shop online in Ho Chi Minh City.

2.3.5 Website quality affects consumers' intention to shopping online

In e-commerce, websites serve as the primary platform for interactions between customers and e-retailers, facilitating transactions (Liang et al., 2011). Disseminating information and connecting with current and potential customers underscores the significance of website quality (Shang and Bao, 2022). Ahn et al. (2004) emphasised the pivotal role of web quality in electronic shopping, as customers are more likely to revisit a website if it offers an entertaining experience (Lin, 2007), leading to increased purchase behaviour (Chiu et al., 2012). Studies by Hardiyanto and Firdaus (2021), Hasanov and Khalid (2015) and Saleem et al. (2022) demonstrate that website quality has an indirect impact on online purchase intentions, whereas other studies show that website quality positively impacts the intention to shop online (Adnan, 2014; Kouser et al., 2018).

Hypothesis 5 (H5) Website quality positively affects consumers' Intention to shop online in Ho Chi Minh City.

2.3.6 Macro-economic factors affect consumers' intention to shopping online

Macroeconomic factors include political, legal, and epidemic factors (COVID-19). The pandemic has profoundly impacted our lives and altered our work and shopping behaviours, as noted by Eger et al. (2021). In particular, online grocery shopping has substantially increased during the pandemic, as highlighted by Pantano et al. (2020). Moreover, apart from the rapid growth of online retailing, other distribution alternatives that require no in-person interaction have the potential to gain popularity (Eger et al., 2021; Kirk and Rifkin, 2020). The intention to shop online is positively influenced by macroeconomic factors, especially COVID-19 (Dalirazar and Sabzi, 2020; Eger et al., 2021; Hardin and Twengström, 2022; Jawaid and Karim, 2021; Soares et al., 2022). Macroeconomic factors include political, legal, and epidemic factors (COVID-19).

Hypothesis 6 (H6) Macroeconomic factors have a positive effect on consumers' intention to shop online in Ho Chi Minh City.

2.3.7 *Macro-economic factors affect online shopping behaviour*

According to Cardona et al. (2015) and Hardin and Twengström (2022), online shopping behaviour is affected by macroeconomic factors such as political, economic, social, legal, and environmental aspects. In particular, during the COVID-19 pandemic, consumers changed their habits from in-store shopping or physical store shopping to online shopping to avoid risking their health. Thus, macroeconomic factors positively affect online shopping behaviour (Bisaria, 2021; Chinazzi et al., 2020; Vázquez-Martínez et al., 2021).

Hypothesis 7 (H7) Macroeconomic factors have a positive effect on the online shopping behaviour of consumers in Ho Chi Minh City.

2.3.8 *Intention to shopping online affects online shopping behaviour*

Ajzen's (2002) model concludes that a consumer's intention is the best antecedent and predictor of consumer behaviour, which means that consumers take a specific action, especially their readiness to engage in online shopping. Furthermore, intentions are widely recognised as the primary predictor of actual behaviour, as corroborated by the findings of Brewer and Sebyy (2021), Kim and James (2016), Lim et al. (2016) and Peña-García et al. (2020). Online shopping behaviour is influenced by online shopping intentions, as posited by the TAM. These studies collectively establish that consumers' online purchase intentions positively impact online purchase behaviour.

Hypothesis 8 (H8) The intention to shopping online has a positive effect on consumers' online shopping behaviour in Ho Chi Minh City.

3 **Research model and methodology**

3.1 *Research model*

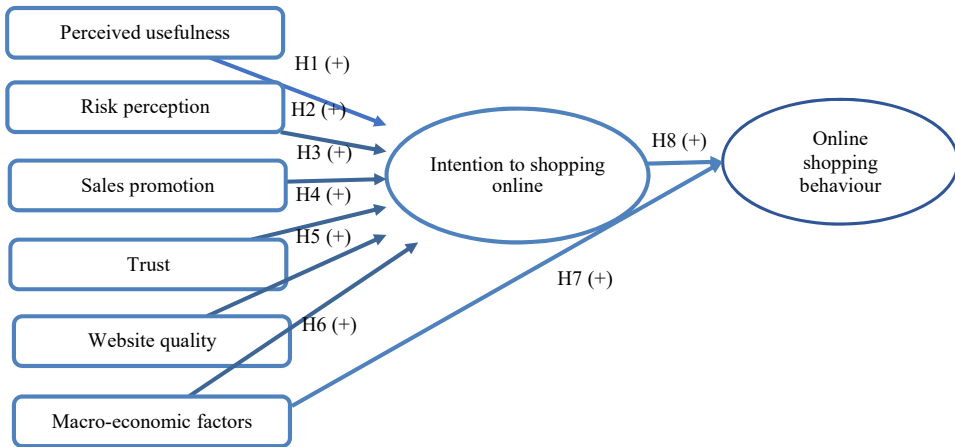
Based on the TPB, TRA, TAM, and related studies mentioned in Table 1, the author builds a research model as follows (Figure 1).

3.2 *Sample size*

The minimum sample size should be five times the number of observed variables (Bollen, 1989). Moreover, according to Hair et al. (2017), the minimum sample size should be 100–150. From October 2022 to March 2023, questionnaires were distributed to 300 consumers who shop in districts 1, 3, 5, 7, 10, and Tan Binh District. A total of 288 valid questionnaires were collected, accounting for 96% of the total number of distributed questionnaires (Table 2). Hence, the sample size satisfied the requirements for the EFA analysis, as pointed out by Bollen (1989) and Hair et al. (2017).

Table 2 Customer survey results

<i>Criteria</i>	<i>Number of survey questionnaires</i>	<i>Percentage</i>
Number of forms distributed	300	100%
Number of forms collected	291	97%
Number of valid forms	288	96%

Figure 1 Research model (see online version for colours)

3.3 Research methods

This study applies qualitative and quantitative methods with three stages, as follows.

In the first stage, qualitative methods (expert interviews and customer surveys) are used to adjust and supplement the observation variables in the draft scales. In this stage, the author applies a qualitative method to identify relevant factors (Dawadi et al., 2021) in the current sector through interviews with ten experts from retailers and service companies in Ho Chi Minh City. They are the head of the department, marketing managers from Lienhiep HTX Coop Mart, Van Hanh Mall, and AEON shopping centres. The author then setup a group discussion with 50 consumers to adjust suitable factor scales that aim to complete the survey questions with high reliability.

In the second stage, the author randomly surveyed consumers shopping in supermarkets, malls, and other shopping centres using convenience sampling. In the last stage, the author conducts a quantitative research method using SmartPLS 4, which allows measurement and structural models to test the proposed hypothesis.

In addition, quantitative methods were applied to estimate the effect of perceived usefulness, risk perception, trust, promotion, website quality, and macroeconomic factors on consumers' online shopping behaviour in Ho Chi Minh City. The author collected, coded, and screened the data for analysis using the SmartPLS 4. PLS-SEM is adopted to predict research orientation to determine consumers who are over 18 years old and have online shopping behaviour during the COVID-19 pandemic.

4 Research results and discussion

4.1 Descriptive statistics

Descriptive statistics were used to analyse the characteristics of the respondents using SPSS software. Three questions were asked about the characteristics of the respondents: gender, age group, and educational background. The demographic data obtained from the survey are shown in Table 3.

Table 3 Demographic analysis

<i>Index</i>	<i>Frequency</i>	<i>Percentage (%)</i>
1 Gender		
Female	167	58.0%
Male	121	42.0%
Total	288	100%
2 Age		
18–22	61	21.2%
23–35	152	52.8%
36–55	53	18.4%
Over 55	22	7.6%
Total	288	100%

Table 3 presents the demographic information of 288 respondents. The statistics in Table 3 show that 167 customers were female (58%), whereas the rest were male. This means that women tend to shop online more frequently than men. These findings are consistent with (Iris Marketing Agency, 2021; Nguyen, 2023).

The number of customers aged 23–35 accounted for the highest proportion (52.8%), followed by 21.2% of the group aged 18–22 years and 18.4% of the group aged 36–55 years. The lowest proportion fell into the age group of over 55 years (7.6%). These results imply that younger shoppers spend time online.

4.2 Research results

First, the measurement model was evaluated based on indicator reliability, construct reliability, convergent validity, and discriminant validity. The reliability and validity of the constructs are presented in Table 4.

Based on Table 4, all constructs have Cronbach's alpha values above 0.8, suggesting that the constructs are acceptable (Henseler et al., 2015). In addition, the composite reliability (CR) and average variance extracted (AVE) are greater than 0.7, and 0.5 respectively to establish reliability and convergent validity, respectively (Hair et al., 2017). All constructs satisfy the conditions of CR and AVE, and thus have reliability and convergent validity.

Table 4 Composite reliability

<i>Constructs</i>	<i>Cronbach's alpha</i>	<i>Composite reliability</i>	<i>Average variance extracted (AVE)</i>
Perceived usefulness	0.983	0.984	0.952
Risk perception	0.939	0.945	0.844
Promotion and advertising	0.999	0.999	0.996
Trust	0.979	0.979	0.960
Website quality	0.866	0.872	0.788
Macro-economic factors	0.951	0.954	0.911
Intention to shopping online	0.907	0.908	0.783
Online shopping behaviour	0.948	0.957	0.865

Table 5 Composite reliability

	<i>BH</i>	<i>MF</i>	<i>PA</i>	<i>PR</i>	<i>PU</i>	<i>TR</i>	<i>WEB</i>	<i>YDM</i>
BH	0.930							
MF	0.414	0.954						
PA	0.429	0.317	0.998					
PR	0.272	0.325	0.329	0.919				
PU	0.297	0.283	0.521	0.469	0.976			
TR	0.245	0.303	0.176	0.297	0.386	0.980		
WEB	0.380	0.335	0.528	0.411	0.482	0.220	0.888	
YDM	0.515	0.425	0.660	0.481	0.654	0.365	0.558	0.885

Table 5 shows that the Fornell-Lacker criterion can be achieved when the square root of AVE values is higher than the assessment of (partial) cross-loadings in the same column and row (Fornell and Larcker, 1981), indicating that the scales have good discriminant validity.

In addition, to examine discriminant validity using the PLS approach, heterotrait-monotrait (HTMT) correlation values of less than 0.900 are acceptable (Henseler et al., 2015). The calculated values, which are presented in Table 6, are less than the HTMT discriminant validity; therefore, the discriminant validity was accepted. Thus, the validity of the research model was established.

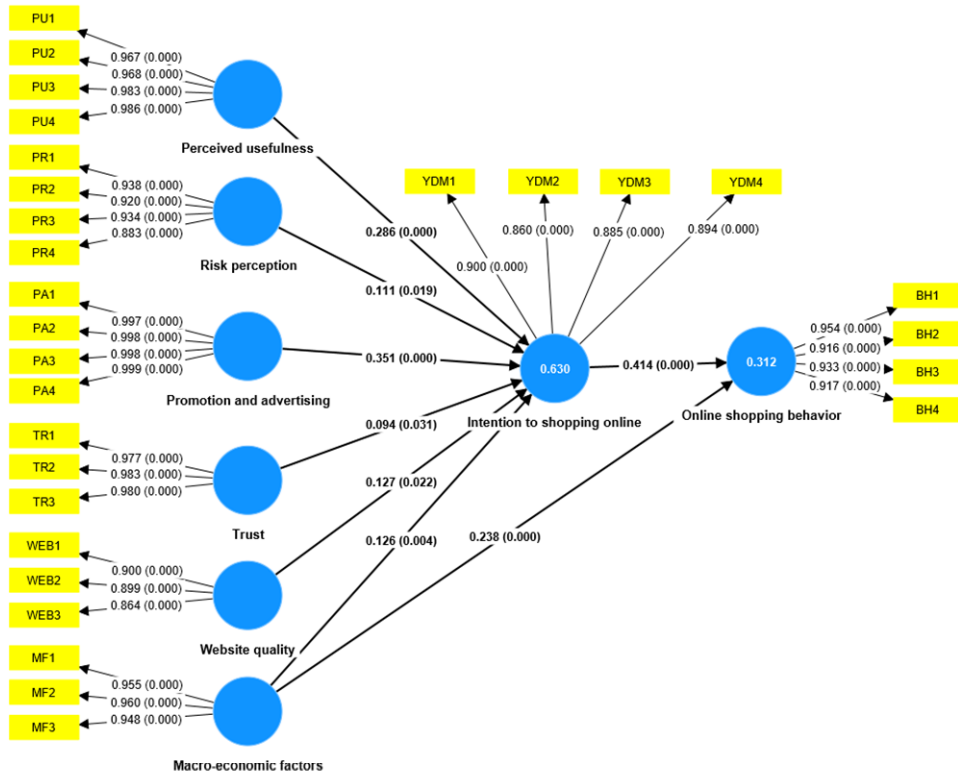
Table 6 HTMT ratio – matrix

	<i>BH</i>	<i>MF</i>	<i>PA</i>	<i>PR</i>	<i>PU</i>	<i>TR</i>	<i>WEB</i>	<i>YDM</i>
BH								
MF	0.432							
PA	0.440	0.325						
PR	0.284	0.342	0.341					
PU	0.304	0.293	0.525	0.485				
TR	0.252	0.314	0.178	0.308	0.394			
WEB	0.416	0.369	0.564	0.452	0.520	0.238		
YDM	0.550	0.455	0.693	0.518	0.692	0.387	0.627	

Additionally, both the model's predictive power and the causal relationships between the variables' constructs were statistically significant (Figure 2). The figure shows that the R-square value for the estimated equation is 0.630, which is significant at the 1% level of probability, whereas the adjusted R-square explains that 62.3% of the variation in online shopping behaviour is described by perceived usefulness, risk perception, promotion and advertising, Trust, Website quality, macroeconomic factors, and intention to shop online. In addition, macroeconomic factors and the intention to shop online explain 31.2% of the online shopping behaviour.

Table 7's results show the comprehensive outcomes of the analytical bootstrapping technique used to test the hypotheses. The technique describes the level of significance of the path between the variables, 5000 re-sampling bootstrapping procedure utilised by SmartPLS.

Figure 2 Structural equation modelling (PLS-SEM) (see online version for colours)



The findings in Table 7 demonstrate that perceived usefulness, risk perception, promotion and advertising, Trust, Website quality, macroeconomic factors, and intention to shop online have a positive and significant effect on online shopping behaviour, because their p-values are less than 5%. Furthermore, our results are consistent with those of Adnan (2014) and Nguyen and Nguyen (2020). Therefore, all hypotheses proposed in this study are accepted. The path coefficients are expressed as follows:

- Perceived usefulness affects Intention to shopping online with coefficient of 0.286 and p-value of 0.000.
- Risk perception affects Intention to shopping online with coefficient of 0.111 and p-value of 0.019.
- Promotion and advertising affect Intention to shopping online with coefficient of 0.351 and p-value of 0.000.
- Trust affects intention to shopping online with coefficient of 0.094 and p-value of 0.031.
- Website quality affect intention to shopping online with coefficient of 0.127 and p-value of 0.022.
- Macro-economic factors affect Intention to shopping online with coefficient of 0.126 and p-value of 0.004.

- Macro-economic factors affect online shopping behaviour with coefficient of 0.238 and p-value of 0.000.
- Intention to shopping online affects online shopping behaviour with coefficient of 0.414 and p-value of 0.000.

Table 7 Hypothesis testing

<i>Hypotheses</i>	<i>Path</i>	β	<i>P values</i>	<i>Decision</i>
H1	Perceived usefulness -> Intention to shopping online	0.286	0.000	Accept
H2	Risk perception -> Intention to shopping online	0.111	0.019	Accept
H3	Promotion and advertising -> Intention to shopping online	0.351	0.000	Accept
H4	Trust -> Intention to shopping online	0.094	0.031	Accept
H5	Website quality -> Intention to shopping online	0.127	0.022	Accept
H6	Macro-economic factors -> Intention to shopping online	0.126	0.004	Accept
H6'	Macro-economic factors -> Online shopping behaviour	0.238	0.000	Accept
H7	Intention to shopping online -> Online shopping behaviour	0.414	0.000	Accept

Table 8 Inner VIF values

	<i>Online shopping behaviour</i>	<i>Intention to shopping online</i>
Online shopping behaviour		
Macro-economic factors	1.220	1.263
Promotion and advertising		1.629
Risk perception		1.420
Perceived usefulness		1.789
Trust		1.256
Website quality		1.611
Intention to shopping online	1.220	

Table 8 presents the results of the inner variance inflation factor (VIF) values for testing multicollinearity. All VIF values in Table 8 satisfy the rule of thumb; therefore, there is no multicollinearity, and the model is estimated reliably and unbiased (Hair et al., 2013).

4.3 Discussion

The findings reveal that all the constructs used in this study have positive relationships. Specifically, *perceived usefulness* had a positive impact on the intention to shop online in Ho Chi Minh City (due to the positive regression coefficient). These findings are consistent with those of Adnan (2014), Ali (2020), Nguyen and Nguyen (2020), Nguyen et al. (2022), Pham et al. (2020) and Ta and Dang (2021). These authors claim that perceived usefulness is expressed through consumers' perceptions of the benefits they receive when shopping online, such as saving time and costs. Another advantage of

online shopping is that consumers can conduct transactions at home or anywhere they wish. During the lockdown period, online shopping was the best solution for consumers purchasing goods or commodities through the Internet, with payment using ATM cards and credit/debit cards conveniently. Consumers can enjoy discounted items, free shipping, and other promotions. Online shopping is convenient and offers various products that consumers can find more quickly than they can shop in physical stores. Customers should be aware that their health is protected during corona virus disease 2019 when shopping online.

Second, risk perception had a positive impact on the intention to shop online in Ho Chi Minh City. These findings are consistent with (Adnan, 2014; Gerber et al., 2014; Zhang and Yu, 2020). This factor is associated with the risks incurred when consumers engage in online transactions, such as damaged products/commodities, delayed delivery, expired vouchers, financial losses, or wasted time getting wrong products.

Third, sales promotion positively affects the intention to shop online in Ho Chi Minh City. The positive and significant relationship indicates that consumers appreciate and react only to shopping online, which is associated directly with certain benefits, such as discounts, offers, and other benefits they can receive. These findings are consistent with Jogi and Vashisth (2021). Thus, the findings of this research draw the attention of companies that need to focus mainly on sales promotion and advertising when they want their products and services to reach consumers via online tools.

Fouth, trust had a positive impact on intention to shop online in Ho Chi Minh City. These findings are consistent with (Nguyen and Nguyen, 2020; Ta and Dang, 2021; Vu et al., 2021). Trust plays an essential role in e-commerce transactions because it reflects consumer confidence and experience in shopping for quality goods and services. After consumers have purchased goods/commodities and are satisfied with them, they are willing to believe in or trust certain online suppliers. Consequently, consumer behaviour and attitudes towards e-commerce are significantly enhanced.

Fifth, website quality had a positive impact on the intention to shop online in Ho Chi Minh City. These findings are consistent with (Adnan, 2014; Ashraf et al., 2019; Chiu and Yang, 2016). Website quality is another factor that is directly related to consumers' online shopping behaviour in Ho Chi Minh City. Therefore, suppliers must maintain the quality of their websites at high standards in order to attract consumers. Specifically, websites need to focus on decoration, convenient functions, and engaging content combined with responsiveness, accessibility, and mobile-friendliness so that consumers can access the website anytime and anywhere they want.

Sixth, macroeconomic factors had a positive impact on the intention to shop online in Ho Chi Minh City. These findings are consistent with (Dalirazar and Sabzi, 2020; Eger et al., 2021; Hardin and Twengström, 2022; Jawaid and Karim, 2021; Soares et al., 2022). Macroeconomic factors include political, legal, and epidemic factors (COVID-19). The COVID-19 outbreak has changed our lives, working and shopping behaviours, among others. This study expands the findings of Vietnamese surveys conducted in a selected context (Ho Chi Minh City, a large city with rapid population growth) during the COVID-19 pandemic (Eger et al., 2021), which aims to clarify how consumers react to their habits when shopping online to protect their health. The findings also predict a more effective implementation of online shopping during the pandemic (Eger et al., 2021), leading to the modification of existing habits (Sheth, 2020).

Additionally, *macro-economic factors* have a positive impact on online shopping behaviour in Ho Chi Minh City, China. These findings have been demonstrated by

Cardona et al. (2015) and Hardin and Twengström (2022). Online shopping behaviour is affected by macroeconomic factors such as political, economic, social, legal, and environmental aspects. This correlation supports the hypothesis that macroeconomic factors positively correlate with consumers' online shopping behaviour. In particular, during the COVID-19 pandemic, consumers who are loyal only to traditional shopping have considered shopping online to avoid risking their health. As shown in practical terms, in 2020, because of the COVID-19 outbreak, consumers switched to online shopping, which led to supermarkets being the segment that received the highest web traffic growth, accounting for a 35% growth rate increase compared to 2019.

Finally, the intention to shop online had a positive impact on online shopping behaviour in Ho Chi Minh City. The findings are confirmed in the model of Ajzen (2002), who concludes that intention is the best antecedent and predictor of behaviour. Online shopping behaviour is influenced by online shopping intentions, as predicted by the TAM model. Furthermore, the results are consistent with (Brewer and Sebby, 2021; Lim et al., 2016; Nguyen et al., 2022). In particular, the six independent constructs affected online shopping behaviour, with online shopping intention acting as a mediator.

5 Conclusions and limitations

This study employed qualitative and quantitative research methods to examine how perceived usefulness, risk perception, trust, website quality, and macroeconomic factors influence online shopping behaviour in Ho Chi Minh City. These findings confirm that online shopping is more convenient than physical shopping is. Specifically, this study documents the role of e-commerce and consumers' online shopping behaviour patterns that emerged during the COVID-19 crisis in Ho Chi Minh City.

Although specific results were obtained, some limitations still exist. First, the sample was limited to Ho Chi Minh City; therefore, the results were only obtained with a certain level of confidence. Therefore, it is possible for future studies to widen the scope of surveys across the country, instead of just within Ho Chi Minh City. Second, other factors, such as attitudes and subjective norms, need to be considered in the model to make the research results more general and reliable. Finally, additional indirect connections among the factors should be explored to further elucidate and investigate practical concerns.

References

- Adibfar, A., Gulhare, S., Srinivasan, S. and Costin, A. (2022) 'Analysis and modeling of changes in online shopping behavior due to Covid-19 pandemic: a Florida case study', *Transport Policy*, Vol. 126, pp.162–176, <https://doi.org/10.1016/j.tranpol.2022.07.003>.
- Adnan, H. (2014) 'An analysis of the factors affecting online purchasing behavior of pakistani consumers', *International Journal of Marketing Studies*, Vol. 6, <https://doi.org/10.5539/ijms.v6n5p133>.
- Ahn, T., Ryu, S. and Han, I. (2004) 'The impact of the online and offline features on the user acceptance of Internet shopping malls', *Electronic Commerce Research and Applications*, Vol. 3, No. 4, pp.405–420.
- Ajzen, I. (1991) 'The theory of planned behavior', *Organizational Behavior and Human Decision Processes*, Vol. 50, No. 2, pp.179–211.

- Ajzen, I. (2002) 'Perceived behavioral control, self-efficacy, locus of control, and the theory of planned behavior 1', *Journal of Applied Social Psychology*, Vol. 32, No. 4, pp.665–683.
- Akter, S., Jang, S-Y. and Kim, T-J. (2021) 'Study of determinants of behavior intention in online banking of Bangladesh', *East Asian Journal of Business Economics (EAJBE)*, Vol. 9, No. 4, pp.113–129.
- Al-Hattami, H.M., Abdullah, A.A.H., Al-Okaily, M., Al-Adwan, A.S., Al-Hakimi, M.A. and Haidar, F.T. (2023) 'Determinants of interaction intention to purchase online in less developed countries: the moderating role of technology infrastructure', *Cogent Social Sciences*, Vol. 9, No. 1, p.2213918, <https://doi.org/10.1080/23311886.2023.2213918>.
- Ali, B.J. (2020) *Impact of COVID-19 on Consumer Buying Behavior toward Online Shopping in Iraq*, SSRN Scholarly Paper 3729323, <https://papers.ssrn.com/abstract=3729323>.
- Alrawad, M., Lutfi, A., Alyatama, S., Al Khattab, A., Alsoboa, S.S., Almaiah, M.A., Ramadan, M.H., Arafa, H.M., Ahmed, N.A. and Alsyouf, A. (2023) 'Assessing customers perception of online shopping risks: a structural equation modelling-based multigroup analysis', *Journal of Retailing and Consumer Services*, March, Vol. 71, p.103188.
- Ashraf, N., Faisal, C.M., Jabbar, S. and Habib, M.A. (2019) 'The role of website design artifacts on consumer attitude and behavioral intentions in online shopping', *Technical Journal*, Vol. 24, No. 2, pp.50–60.
- Banu, A.M., Mohamed, N.S. and Parayitam, S. (2019) 'Online banking and customer satisfaction: evidence from India', *Asia-Pacific Journal of Management Research and Innovation*, Vol. 15, Nos. 1–2, pp.68–80, <https://doi.org/10.1177/2319510X19849730>.
- Bisaria, C. (2021) 'Impact of COVID-19 on consumer behaviour', *Revista de Investigaciones Universidad Del Quindio*, Vol. 33, No. 2, pp.86–96, <https://doi.org/10.33975/riuj.vol33n2.506>.
- Bollen, K.A. (1989) *Structural Equations with Latent Variables*, Vol. 210, John Wiley & Sons, Canada [online] <https://psycnet.apa.org/record/1989-97716-000>.
- Brewer, P. and Sebby, A.G. (2021) 'The effect of online restaurant menus on consumers' purchase intentions during the COVID-19 pandemic', *International Journal of Hospitality Management*, April, Vol. 94, p.102777.
- Buil, I., De Chernatony, L. and Martínez, E. (2013) 'Examining the role of advertising and sales promotions in brand equity creation', *Journal of Business Research*, Vol. 66, No. 1, pp.115–122.
- Cardona, M., Duch-Brown, N., Francois, J., Martens, B. and Yang, F. (2015) *The Macro-Economic Impact of E-Commerce in the EU Digital Single Market*, Institute for Prospective Technological Studies Digital Economy Working Paper.
- Central and Eastern European and Chamber of Commerce in Vietnam (2023) *Doing Business in Vietnam 2023–2024*, Central and Eastern European [online] <https://ceecvn.org/news/doing-business-in-vietnam-2023/> (accessed 15 September 2023).
- Chi, H-H. (2011) 'Interactive digital advertising vs. virtual brand community: exploratory study of user motivation and social media marketing responses in Taiwan', *Journal of Interactive Advertising*, Vol. 12, No. 1, pp.44–61, <https://doi.org/10.1080/15252019.2011.10722190>.
- Chinazzi, M., Davis, J.T., Ajelli, M., Gioannini, C., Litvinova, M., Merler, S., Pastore y Piontti, A., Mu, K., Rossi, L., Sun, K., Viboud, C., Xiong, X., Yu, H., Halloran, M.E., Longini, I.M. and Vespignani, A. (2020) 'The effect of travel restrictions on the spread of the 2019 novel coronavirus (COVID-19) outbreak', *Science*, Vol. 368, No. 6489, pp.395–400, <https://doi.org/10.1126/science.aba9757>.
- Chiu, C-C. and Yang, H-E. (2016) 'The impact of website design features on behavioral intentions', *International Journal of Scientific & Technology Research*, Vol. 5, No. 9, pp.71–78 [online] <https://www.semanticscholar.org/paper/The-Impact-Of-Website-Design-Features-On-Behavioral-Chiu-Yang/40f799099cd0c98045a8951dbd6cc4c4153f5247> (accessed 15 September 2023).

- Chiu, C.-M., Hsu, M.-H., Lai, H. and Chang, C.-M. (2012) 'Re-examining the influence of trust on online repeat purchase intention: the moderating role of habit and its antecedents', *Decision Support Systems*, Vol. 53, No. 4, pp.835–845.
- Dalirazar, S. and Sabzi, Z. (2020) 'Strategic analysis of barriers and solutions to development of sustainable buildings using PESTLE technique', *International Journal of Construction Management*, Vol. 23, No. 1, pp.1–30.
- Davis, F.D. (1985) *A Technology Acceptance Model for Empirically Testing New End-User Information Systems: Theory and Results*, PhD thesis, Massachusetts Institute of Technology.
- Davis, F.D. (1989) 'Perceived usefulness, perceived ease of use, and user acceptance of information technology', *MIS Quarterly*, Vol. 13, No. 3, pp.319–340.
- Dawadi, S., Shrestha, S. and Giri, R.A. (2021) 'Mixed-methods research: a discussion on its types, challenges, and criticisms', *Journal of Practical Studies in Education*, Vol. 2, No. 2, pp.25–36, <https://doi.org/10.46809/jpse.v2i2.20>.
- Dewi, C.K., Mohaidin, Z. and Murshid, M.A. (2020) 'Determinants of online purchase intention: a PLS-SEM approach: evidence from Indonesia', *Journal of Asia Business Studies*, Vol. 14, No. 3, pp.281–306, <https://doi.org/10.1108/JABS-03-2019-0086>.
- Eger, L., Komárková, L., Egerová, D. and Mičík, M. (2021) 'The effect of COVID-19 on consumer shopping behaviour: generational cohort perspective', *Journal of Retailing and Consumer Services*, Vol. 61, p.102542, <https://doi.org/10.1016/j.jretconser.2021.102542>.
- Ellitan, L. and Prayogo, C. (2022) 'Increasing online purchase through perceived usefulness, perceived risk and perceived ease of use', *EKOMA: Jurnal Ekonomi, Manajemen, Akuntansi*, Vol. 1, No. 2, pp.261–270.
- Esmeli, R., Bader-El-Den, M. and Abdullahi, H. (2021) 'Towards early purchase intention prediction in online session based retailing systems', *Electronic Markets*, Vol. 31, No. 3, pp.697–715, <https://doi.org/10.1007/s12525-020-00448-x>.
- Fadare, O.A., Ibrahim, M.B. and Edogbanya, A. (2016) 'A survey on perceived risk and intention of adopting internet banking', *Journal of Internet Banking and Commerce*, Vol. 21, No. 1, pp.1–21.
- Fishbein, M. and Ajzen, I. (1975) *Belief, Attitude, Intention, and Behavior: An Introduction to Theory and Research*, Addison-Wesley, Reading, MA.
- Fornell, C. and Larcker, D.F. (1981) 'Evaluating structural equation models with unobservable variables and measurement error', *Journal of Marketing Research*, Vol. 18, No. 1, pp.39–50.
- Gerber, C., Ward, S. and Goedhals-Gerber, L. (2014) 'The impact of perceived risk on on-line purchase behaviour', *Risk Governance and Control: Financial Markets & Institutions*, Vol. 4, pp.99–106, <https://doi.org/10.22495/rgcv4i4c1art4>.
- Hair, J.F., Black, W.C., Babin, B.J. and Anderson, R. E. (2013) *Multivariate Data Analysis*, Pearson New International Edition PDF eBook, Pearson Higher Ed.
- Hair, J.F., Matthews, L.M., Matthews, R.L. and Sarstedt, M. (2017) 'PLS-SEM or CB-SEM: updated guidelines on which method to use', *International Journal of Multivariate Data Analysis*, Vol. 1, No. 2, pp.107–123, <https://doi.org/10.1504/IJMDA.2017.087624>.
- Hardin, M. and Twengström, M. (2022) *The Influence of Macroevironmental Factors on Online Shopping and the Use of BNPL*, KTH, School of Industrial Engineering and Management (ITM), Sweden.
- Hardiyanto, N. and Firdaus, A. (2021) 'Website quality and the role of customer satisfaction toward repurchase intention: a study of Indonesian e-commerce', *Journal of Marketing Innovation*, Vol. 1, No. 2021, pp.62–77.
- Hasanov, J. and Khalid, H. (2015) 'The impact of website quality on online purchase intention of organic food in Malaysia: a WebQual model approach', *Procedia Computer Science*, Vol. 72, pp.382–389, <https://doi.org/10.1016/j.procs.2015.12.153>.
- Henseler, J., Ringle, C.M. and Sarstedt, M. (2015) 'A new criterion for assessing discriminant validity in variance-based structural equation modeling', *Journal of the Academy of Marketing Science*, Vol. 43, No. 2015, pp.115–135.

- Hilman, H., Hanaysha, J.R. and Ghani, N.H.A. (2017) 'Analyzing the relationship between advertising and sales promotion with brand equity', *Asian International Journal of Social Sciences*, Vol. 17, No. 2, pp.88–103.
- Inouye, J. (2014) *Risk Perception: Theories, Strategies, and Next Steps*, Campbell Institute National Safety Council, Itasca, IL.
- Iriani, S.S. and Andjarwati, A.L. (2020) 'Analysis of perceived usefulness, perceived ease of use, and perceived risk toward online shopping in the era of Covid-19 pandemic', *Systematic Reviews in Pharmacy*, Vol. 11, No. 12, pp.313–320.
- Iris Marketing Agency (2021) *E-commerce Report in Vietnam in 2020* [online] <https://marketreport.io/e-commerce-2020-vietnam> (accessed 15 September 2023).
- Jawaid, M.H. and Karim, E. (2021) 'Factors affecting consumer buying behavior in e-commerce business during outbreak of Covid-19: a case study on top e-commerce websites [MPRA Paper]', 1 November [online] <https://mpra.ub.uni-muenchen.de/110476/> (accessed 15 September 2023).
- Jogi, M.S. and Vashisth, K.K. (2021) 'Effect of online advertisement on consumer buying behaviour – a review', *Emerging Trends in Management Sciences*, Vol. 280, <https://doi.org/10.52416/eureka.2022.1.1.p01-344>.
- Khairunnisa, S., Hafidhuddin, D. and Tanjung, H. (2018) 'Online purchase intention: study case Moslem (Islamic) Fashion (Hijup. Com)', *International Journal of Accounting*, Vol. 3, No. 16, pp.35–47.
- Khaleeli, M. (2020) 'The effect of social media advertising and promotion on online purchase intention', *Education*, Vol. 7, No. 19, p.2020, <https://doi.org/10.31838/jcr.07.19.809>.
- Kim, M.S. and James, J. (2016) 'The theory of planned behaviour and intention of purchase sport team licensed merchandise', *Sport, Business and Management: An International Journal*, Vol. 6, No. 2, pp.228–243.
- Kirk, C.P. and Rifkin, L.S. (2020) 'I'll trade you diamonds for toilet paper: consumer reacting, coping and adapting behaviors in the COVID-19 pandemic', *Journal of Business Research*, September, Vol. 117, pp.124–131.
- Kotler, P. and Armstrong, G. (2018) *Principles of Marketing*, Edisi 15 Global Edition, Pearson, UK.
- Kouser, R., Niazi, G.S.K. and Bakari, H. (2018) 'How does website quality and trust towards website influence online purchase intention?', *Pakistan Journal of Commerce and Social Sciences (PJCSS)*, Vol. 12, No. 3, pp.909–934.
- Le, H.B.H., Ngo, C.T., Trinh, T.T.H. and Nguyen, T.T.P. (2020) 'Factor affecting customers' decision to use mobile banking service: a case of Thanh Hoa Province, Vietnam', *The Journal of Asian Finance, Economics and Business (JAFEB)*, Vol. 7, No. 2, pp.205–212.
- Le, H.T.K., Carrel, A.L. and Shah, H. (2022) 'Impacts of online shopping on travel demand: a systematic review', *Transport Reviews*, Vol. 42, No. 3, pp.273–295., <https://doi.org/10.1080/01441647.2021.1961917>.
- Lee, Z.W., Chan, T.K., Balaji, M.S. and Chong, A.Y-L. (2018) 'Why people participate in the sharing economy: an empirical investigation of Uber', *Internet Research*, Vol. 28, No. 3, pp.829–850.
- Li, Z., Sha, Y., Song, X., Yang, K., ZHao, K., Jiang, Z. and Zhang, Q. (2019) 'Impact of risk perception on customer purchase behavior: a meta-analysis', *Journal of Business & Industrial Marketing*, Vol. 35, No. 1, pp.76–96, <https://doi.org/10.1108/JBIM-12-2018-0381>.
- Liang, T-P., Ho, Y-T., Li, Y-W. and Turban, E. (2011) 'What drives social commerce: the role of social support and relationship quality', *International Journal of Electronic Commerce*, Vol. 16, No. 2, pp.69–90, <https://doi.org/10.2753/JEC1086-4415160204>.
- Lim, Y.J., Osman, A., Salahuddin, S.N., Romle, A.R. and Abdullah, S. (2016) 'Factors influencing online shopping behavior: the mediating role of purchase intention', *Procedia Economics and Finance*, Vol. 35, pp.401–410.

- Lin, H-F. (2007) 'The impact of website quality dimensions on customer satisfaction in the B2C e-commerce context', *Total Quality Management & Business Excellence*, Vol. 18, No. 4, pp.363–378, <https://doi.org/10.1080/14783360701231302>.
- Markin, R.J. (1970) 'Consumer motivation and behavior: essence vs. existence', *Business & Society*, Vol. 10, No. 2, pp.30–36.
- McCloskey, D.W. (2006) 'The importance of ease of use, usefulness, and trust to online consumers: an examination of the technology acceptance model with older customers', *Journal of Organizational and End User Computing (JOEUC)*, Vol. 18, No. 3, pp.47–65.
- Müller, A., Steins-Loeber, S., Trotzke, P., Vogel, B., Georgiadou, E. and De Zwaan, M. (2019) 'Online shopping in treatment-seeking patients with buying-shopping disorder', *Comprehensive Psychiatry*, October, Vol. 94, p.152120.
- Music, J. and Charlebois, S. (2022) 'Consumer perceptions about food retail and services during the first wave of COVID-19 in Canada: an exploratory study', *Cogent Social Sciences*, Vol. 8, No. 1, p.2072556, <https://doi.org/10.1080/23311886.2022.2072556>.
- Nguyen, M.N. (2023) 'Share of population making a purchase on the internet in the past year in Vietnam as of January 2023, by gender', *Statista* [online] <https://www.statista.com/statistics/1092367/vietnam-share-of-population-making-online-transactions-by-gender/> (accessed 15 November 2023).
- Nguyen, M.T. and Nguyen, A.V. (2020) 'Factors affecting online buying activities of customers at Tiki.vn', *Journal of Science and Technology-IUH*, Vol. 46, No. 4, pp.139–148.
- Nguyen, T.M.A., Nguyen, T.H. and Le, H.H. (2022) 'Online shopping in relationship with perception, attitude, and subjective norm during COVID-19 outbreak: the case of Vietnam', *Sustainability*, Vol. 14, No. 22, p.15009.
- Okazaki, S. and Taylor, C.R. (2013) 'Social media and international advertising: theoretical challenges and future directions', *International Marketing Review*, Vol. 30, No. 1, pp.56–71.
- Pantano, E., Pizzi, G., Scarpi, D. and Dennis, C. (2020) 'Competing during a pandemic? Retailers' ups and downs during the COVID-19 outbreak', *Journal of Business Research*, August, Vol. 116, pp.209–213.
- Pavlou, P. (2003) 'Consumer acceptance of electronic commerce: integrating trust and risk with the technology acceptance model', *International Journal of Electronic Commerce*, Vol. 7, No. 3, pp.101–134, <https://doi.org/10.1080/10864415.2003.11044275>.
- Peña-García, N., Gil-Saura, I., Rodríguez-Orejuela, A. and Siqueira-Junior, J.R. (2020) 'Purchase intention and purchase behavior online: a cross-cultural approach', *Heliyon*, Vol. 6, No. 6, p.e04284, <https://doi.org/10.1016/j.heliyon.2020.e04284>.
- Pham, V.K., Do Thi, T.H. and Ha Le, T.H. (2020) 'A study on the COVID-19 awareness affecting the consumer perceived benefits of online shopping in Vietnam', *Cogent Business & Management*, Vol. 7, No. 1, p.1846882, <https://doi.org/10.1080/23311975.2020.1846882>.
- Rachbini, W. (2018) 'The relationship of attitude, subjective norm, perceived behavioral control on halal food purchasing behavior in Jakarta', *IOSR Journal of Business and Management*, Vol. 20, No. 1, pp.28–37.
- Saleem, U., Bilal, M., Topor, D.I. and Căpușneanu, S. (2022) 'The impact of website quality on customer satisfaction and eWOM in online purchase intention: the moderating role of gender in risk-taking', *Frontiers in Psychology*, August, Vol. 13, p.945707.
- Schiffman, L.G., O'Casey, A., Paladino, A., D'Alessandro, S. and Bednall, D. (2013) *Consumer Behaviour*, 5th ed., Pearson, Frenchs Forest, Australia [online] https://scholar.google.com/scholar_lookup?title=Consumer+behaviour&author=L.+G.+Schiffman&author=A.+O%E2%80%99Cass&author=A.+Paladino&author=S.+D%E2%80%99Alessandro&author=D.+Bednall&publication_year=2011 (accessed 15 November 2023).
- Shang, B. and Bao, Z. (2022) 'How repurchase intention is affected in social commerce?: An empirical study', *Journal of Computer Information Systems*, Vol. 62, No. 2, pp.326–336, <https://doi.org/10.1080/08874417.2020.1812133>.

- Shen, B. and Bissell, K. (2013) 'Social media, social me: a content analysis of beauty companies' use of Facebook in marketing and branding', *Journal of Promotion Management*, Vol. 19, No. 5, pp.629–651, <https://doi.org/10.1080/10496491.2013.829160>.
- Sheppard, B.H., Hartwick, J. and Warshaw, P.R. (1988) 'The theory of reasoned action: a meta-analysis of past research with recommendations for modifications and future research', *Journal of Consumer Research*, Vol. 15, No. 3, pp.325–343.
- Sheth, J. (2020) 'Impact of Covid-19 on consumer behavior: will the old habits return or die?', *Journal of Business Research*, September, Vol. 117, pp.280–283.
- Soares, J.C., Limongi, R., De Sousa Júnior, J.H., Santos, W.S., Raasch, M. and Hoeckesfeld, L. (2022) 'Assessing the effects of COVID-19-related risk on online shopping behavior', *Journal of Marketing Analytics*, <https://doi.org/10.1057/s41270-022-00156-9>.
- Solomon, M.R. (2011) *Consumer Behavior: Buying, Having, and Being*, Vol. 14, No. 2, pp.116–124, Global Edition, Pearson, USA.
- Susanto, T.D. and Aljoza, M. (2015) 'Individual acceptance of e-government services in a developing country: dimensions of perceived usefulness and perceived ease of use and the importance of trust and social influence', *Procedia Computer Science*, Vol. 72, pp.622–629.
- Suyanto, B., Subiakto, H. and Srimulyo, K. (2019) 'Data of the patterns of youth local brand product consumption through online shopping', *Data in Brief*, August, Vol. 23, p.103723.
- Ta, V.T. and Dang, V. O. (2021) 'Factors Influences Z Generation consumer purchase intentions in e-commerce in Vietnam', *Journal on Banking Science and Training of Vietnam Banking Academy*, Vol. 229, No. 6, pp.27–35.
- Taylor, S. and Todd, P. (1995) 'Assessing IT usage: the role of prior experience', *MIS Quarterly*, Vol. 19, No. 4, pp.561–570.
- Turban, E., King, D., Lee, J. and Viehland, D. (2004) *Electronic Commerce: A Managerial Perspective 2004*, Pearson Education, London, UK.
- Turban, E., Whiteside, J., King, D. and Outland, J. (2017) *Introduction to Electronic Commerce and Social Commerce*, Springer, Switzerland.
- Vázquez-Martínez, U.J., Morales-Mediano, J. and Leal-Rodríguez, A.L. (2021) 'The impact of the COVID-19 crisis on consumer purchasing motivation and behavior', *European Research on Management and Business Economics*, Vol. 27, No. 3, p.100166.
- Vu, T.H., Nguyen, N.A., Vu, H.P. and Nguyen, H.T.M. (2021) 'Factors affecting online shopping behavior of Hanoi University students in the context of COVID-19', *Journal of International Economics and Management*, Vol. 141, No. 10, pp.100–120.
- Zamrudi, Z., Suyadi, I. and Abdillah, Y. (2016) 'The effect of social commerce construct and brand image on consumer trust and purchase intention', *Profit: Jurnal Administrasi Bisnis*, Vol. 10, No. 1, pp.1–13.
- Zhang, X. and Yu, X. (2020) 'The impact of perceived risk on consumers' cross-platform buying behavior', *Frontiers in Psychology*, October, Vol. 11 [online] <https://www.frontiersin.org/articles/10.3389/fpsyg.2020.592246> (accessed 10 December 2023).