

sWOM and Online Shopping within a Disease Menace: The Case of Vietnam

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Abstract. *Although electronic word-of-mouth via social networking sites (or sWOM) greatly induced online shopping, its importance in shopping decisions during the coronavirus disease (COVID-19) pandemic has not been holistically considered. Based on the necessity of sWOM, uses and gratifications theory (UGT), and health belief theory (HBT), this study frames a consumer shopping tendency model toward sWOM in the context of the pandemic. A web-based survey was designed to collect data from 403 respondents who are inclined to patronize e-stores during the pandemic. Next, the measurement model is examined using a two-step method of structural equation modeling. The findings specify that sWOM is an influential communication mode for online shopping in the pandemic. sWOM is of primary importance to information quality. Moreover, utilitarian value, social value, perceived threat, and self-efficacy toward shopping tendency are significantly motivated by sWOM. Lastly, information quality, utilitarian value, social value, and perceived threat are major predictors of shopping tendency during Covid-19. Finally, theoretical and practical implications are discussed.*

Keywords: COVID-19, sWOM, online shopping, UGT, HBT

1. Introduction

Online shopping has been growing rapidly during the Covid-19 outbreak as governments strived to attenuate disease transmission by adopting necessary precautionary measures, including travel restriction, physical store closure, and social distancing. It has

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become a viable alternative to traditional shopping due to its advantages, comprising available operations, delivery promptitude, and limited direct interactions (Le, 2021b). Consequently, a considerable change exists in purchase behavior during Covid-19. Alibaba's online shopping properties had been accessed by 939 million monthly active mobile users (MAU) in the second quarter of 2021 compared to 874 million monthly MAU in the second quarter of 2020 (Ma, 2022). In the United States (U.S), 227.5 million people became online shoppers and browsed products in 2020, and these figures are projected to reach 230.5 million people in 2021 (Coppola, 2021). Hence, investigating online shopping is essential to adhere to mobility restriction in the pandemic.

Furthermore, electronic word-of-mouth (eWOM) via social networking sites (SNSs), or sWOM, is an important boon for customers to obtain information and evoke purchase behaviors (Kudeshia & Kumar, 2017). eWOM depicts the dynamic and ongoing information exchange process between potential, actual, or former consumers about products and services available on the internet (Ismagilova et al., 2017). With rising popularity of SNSs, eWOM allows customers to make their own statements and share product and brand information with others. The association between eWOM and SNSs leads to a new concept, sWOM, which was coined by Eisingerich et al. (2015). sWOM delineates any information exchange across customers on SNSs. It is conceded as an effective communication channel as customers give product and service-related recommendations via distinctive SNSs (Kudeshia & Kumar, 2017). Consumers, by posting the recommendations on their SNSs, attempt to urge other people to follow their thoughts, judgment, and behaviors, which results in changing perceptions and behaviors (Kudeshia & Kumar, 2017). The nature of SNSs indicates an interesting context for testing eWOM-related behaviors. In the disease scenario, individuals rely greatly on SNSs to gain information and adopt preventive measures (Jang & Park, 2018; Nguyen & Le, 2021). However, research is quite limited outside considering the significant influence of sWOM on customer perceptions and online shopping in a noticeable pandemic setting.

Nguyen (2022a) showed that 94% of respondents aged between 16 and 61 in Vietnam used SNSs, such as Facebook, Zalo, and YouTube in the fourth quarter of 2021. The respondents have fallen into the habit and the prolonged usage of SNSs due to diversified services, namely entertainment, information exchange, chatting, and online purchasing (Le, 2021a). Users are interested in sharing moments, experiences, and opinions via SNSs. For example, bloggers share online reviews about food on SNSs. This sharing leverages interactions and online shopping based on the real experience of the bloggers (Le & Vo, 2020). Useful content about products and services via sWOM attracts customers who actively join and make purchases. Therefore, sWOM has become a deep-rooted instrument for leveraging online shopping in Vietnam. Researchers stated that behavioral intentions are stimulated by eWOM (Chu & Chen, 2019; Nguyen et al., 2020), online news, and SNSs (Jang & Park, 2018) and sWOM (Le & Vo, 2020). Also, past studies asserted the importance of SNSs in online shopping (Gan,

2017; Zhao, 2019). In line with these findings, we find some valuable empirical and theoretical arguments in favor of considering sWOM as a critical boon for online shopping in Vietnam.

QandMe (2018) reported that 46% of Vietnamese respondents preferred Facebook to online shopping, while 22% used Zalo for shopping decisions. According to a survey among internet users in Vietnam in the fourth quarter of 2021, 19% of Gen Z internet users used SNSs for online shopping, compared to Gen X (31%) and Gen Y (26%) (Nguyen, 2022b). As such, it is surprising to see the relatively low proportion of young customers conducting online shopping on SNSs, whereas they are ground-breaking users of SNSs and experienced seeking and embracing online information (Le, 2021b). Therefore, understanding how young customers make online shopping decisions on SNSs and whether the usage of sWOM will provide a good opportunity for vendors to wage an effective marketing campaign is imperative. Besides, the growth rate of e-commerce reached 25% in 2020 due to the wide-ranging impact of Covid-19 (Vietnamtimes, 2020). However, Vietnam Ministry of Industry and Trade stated that if the pandemic poses potential risks to national economy, e-commerce market would be negatively affected, with a revenue loss of US \$2.6 billion from the prior estimate to US \$11 billion (HanoiTimes, 2020). This potential challenge raises a question about how to trigger online shopping among previous Vietnamese customers during the pandemic.

Studies on online shopping were conducted in different contexts. Lavuri (2021) revealed that customer attitudes and online shopping are significantly predicted by intrinsic motivations, namely utilitarian value, hedonic value, materialism, and enjoyment during the pandemic in India. Gan (2017) tested online shopping among Chinese users and found that perceived benefits (i. e., utilitarian value, hedonic value, and social value) and perceived risk are the main facilitators and impellers of satisfaction and shopping intention in social commerce. Similarly, the relationship between perceived value and shopping intention was investigated in mobile applications (Wang et al., 2018) and mobile advertising (Le & Wang, 2020). Generally speaking, earlier studies enlightened the role of perceived value in behavioral responses rather than the focus of perceived value-related dimensions on shopping intention (Wang et al., 2018). Otherwise, researchers examined online shopping in the pandemic through prominent theories to identify important factors influencing purchase behavior, such as theory of acceptance model, unified theory of acceptance and use of technology, protective motivation theory (Le, 2021b) and please arousal dominance (Szymkowiak et al., 2020). These works demonstrated various shopping tendency mechanisms based on the features of online shopping and perceived threat of disease. Furthermore, sWOM assists users to enhance perceived value (e. g., social value, utilitarian value, and information availability) (Nguyen et al., 2020), perceived threat, and self-efficacy for behavioral responses in the context of the pandemic (Jang & Park, 2018; Nguyen & Le, 2021). Consistent with these arguments, this study tries to find out some perceived value-related and perceived threat-related factors as the determinants of shopping tendency under Covid-19.

In this context, the aim of this study is to address two main issues: (1) the influence of sWOM on online shopping and (2) the mechanism of this impact under Covid-19. To obtain this objective, this study develops a research model of shopping tendency among Vietnamese consumers in the pandemic context. To evaluate the model and examine the hypotheses, structure equation modeling (SEM) is performed. As such, three main contributions of this study are drawn. First, this paper extends a shopping tendency framework by incorporating uses and gratifications theory (UGT) and health belief theory (HBT) under Covid-19. Second, this research offers valuable insights into how sWOM motivates value perceptions and shopping tendency. Lastly, some guidelines for practitioners are provided to provoke online shopping by enhancing the effectiveness of sWOM based on marketing strategies during the pandemic.

2. Theoretical Background

2.1 *Uses and Gratifications Theory*

The UGT was established to clarify a mechanism of consumer behavioral responses based on value perceptions. Perceived value delineates objective evaluation of the utility of products and services based on perceptions of what is received and what is given (Zeithaml, 1988). In order to understand how customers find products and services valuable, UGT showed some antecedents of perceived value (utilitarian value functional and instrumental benefits), informative value (resourceful and helpful information), social value (social self-concept), and hedonic value (enjoyment and entertainment). Next, these factors illustrate customer evaluation of product/service attributes and use consequences that leverage the attainment of their goals in use situations (Hsiao et al., 2012). For instance, Gan (2017) found the motivations for shopping intention toward social commerce, comprising utilitarian value, social value, hedonic value, and perceived risk. Le and Wang (2020) attempted to explain a formation of post-intentions (i. e., information seeking, recommendation, and shopping intention) toward mobile advertising based on value perceptions, comprising conditional value, advertising value (i. e., incentives, trustworthiness, personalization, perceived risk), and societal value.

These original factors in UGT are the starting point to measure value perceptions of an information system (IS) and explain behavioral responses. Scholars demonstrated that hedonic value is perceived as emotional benefits (e. g., enjoyment and happiness) and significantly influences shopping tendency in social commerce (Gan, 2017) during the pandemic (Lavuri, 2021). Albeit past studies documented the influence of utilitarian value on behavioral intentions via social commerce (Gan, 2017), mobile applications (Le, 2021b), and Covid-19 (Lavuri, 2021), a lack of research exists on social value and information quality influencing shopping tendency toward sWOM, especially under Covid-19. Customers need to perceive social value (e. g., valuable social contacts and sharing with peers) and informative value (e. g., relevant information), beside utili-

tarian value (e.g., quick information-seeking and convenience). Hence, integrating value perceptions into UGT and identifying sWOM for value perceptions and shopping tendency in Covid-19 is necessary.

2.2 Health Belief Theory

Individuals recognize Covid-19 as a threat as the World Health Organization declared it a pandemic. This led to a massive public health campaign to mitigate disease transmission through implementation of physical distancing, stay-at-home mandates, and store closures. However, consumption cannot be postponed when the pandemic is expected to continue for a couple of years. Consequently, the preventive measures and threat perception can accelerate the shift to online shopping among customers (Le, 2021b). To increase social distancing and reduce disease transmission, online shopping is an effective method. Therefore, uncovering how customers reach online shopping decisions is essential. HBT is considered an appropriate theory for this study as it is widely accepted by prior studies in explicating behavioral responses toward disease conditions (Sreelakshmi & Sangeetha, 2020; Nguyen & Le, 2021), and it assists us to identify decisive factors influencing shopping tendency under Covid-19.

The HBT offers an understanding of behavioral intentions toward a specific disease. Individuals identify potential threats of contracting a disease and perform preventive behaviors to avert it. Important antecedents are found in HBT, namely perceived threat, self-efficacy, and behavioral intentions. Perceived threat reflects perceptions of a danger of a disease (Witte et al., 1996). It is captured by two dimensions, including probability (susceptibility) and seriousness (severity). Probability posits perceptions of experiencing a potentially serious condition, while seriousness describes the level of threat to people (Rogers, 1983). Perceived threat is considered as a predictor of behavioral intentions (Nguyen & Le, 2021). Self-efficacy indicates a conviction that individuals motivate their behaviors required to generate results (Rogers, 1983). It boosts preventive performance (Sreelakshmi & Sangeetha, 2020).

The HBT was widely acknowledged by many researchers in conducting studies on the disease and technology usage. From a disease perspective, scholars stated that perceived threat and self-efficacy significantly influence protective behaviors toward middle-east respiratory syndrome (MERS) (Yoo et al., 2016) and Covid-19 (Nguyen & Le, 2021). From a technology-usage perspective, HBT contributes to different mechanisms of behavioral intentions toward ISs. For example, Sreelakshmi and Sangeetha (2020) provided insights into the formation of continuance intentions toward mobile payment based on the integration of expectation confirmation model and HBT under Covid-19. The investigations indicated that the constructs of perceived threat (i. e., susceptibility and severity) and self-efficacy are a motivation underlying customer adoption/confirmation of mobile payment services. Overall, HBT contributes substantially to the understanding of behavioral responses in different contexts. In this study, the

HBT antecedents will serve as motivations for shopping intention among Vietnamese individuals in the pandemic.

2.3 Online shopping tendency under Covid-19

Online shopping tendency depicts consumers' probability to patronize e-stores and purchase products and services in the future. Shopping tendency indicates an increase in the chance of shopping. Social media (Zhao, 2019), eWOM (Bulut & Karabulut, 2018), and sWOM (Chu & Chen, 2019; Pauliene & Sedneva, 2019) are among the most influential communication channels and provide useful information for customers when making shopping decisions. The Covid-19 crisis accelerated the ongoing shift to online shopping (Lavuri, 2021). Customers are willing to embrace online shopping under Covid-19 when they gain value perceptions, threat perceptions (Le, 2021b), and intrinsic motivations (Lavuri, 2021). Chang and Meyerhoefer (2021) investigated an increase in the demand for online shopping across Taiwan individuals under Covid-19 due to the increasing number of infectious cases. Next, Baker et al. (2020) investigated a strong influence of social distancing on online consumption in the U.S. Hence, online shopping is regarded as a preventive behavior to keep safe from contracting Covid-19.

3. Hypotheses Development

WOM delineates forwarding of information to people by face-to-face interaction. It is a form of interpersonal communication about products and services. Understanding the nature of WOM is crucial for marketers as it affects potential customers who are exposed to such information. WOM is more powerful than conventional marketing, as consumers perceive recommendations obtained from experienced users, independent from sellers, as more trustworthy, credible, and reliable (Bulut & Karabulut, 2018). WOM on the internet leads to a penetrative communication form—eWOM (Sijoria et al., 2017). eWOM posits the dynamic and ongoing information exchange process between potential, actual, and former consumers about products and services, which is available to people and institutions on the internet (Ismagilova et al., 2017). eWOM reaches customers due to its ubiquitousness. It provides a variety of digital media that promote online and peer-to-peer communication about products and services. These means in eWOM comprise texts, videos, and websites.

SNSs also provide a web space for communities of individuals to create homepages for free (Turban et al., 2018). SNSs enable users to share knowledge, experience, insights, and conduct online collaborations. SNSs are people oriented but are increasingly used for commercial purposes (Turban et al., 2018). As SNSs grow in popularity, customers post self-generated product/service information on their personal pages and collect and exchange the information from other customers' pages (Duffett, 2017). It leads to a new concept—sWOM in the SNS era (Le & Vo, 2020). In this study, sWOM

depicts the recommendations of product/service information and value perceptions of online shopping through SNSs in the pandemic. It is eluded as an essential communication instrument across consumers and is viewed as the future of social marketing communications (Duffett, 2017).

Researchers documented that positive eWOM and SNSs enhance value perceptions toward online shopping. First, eWOM strengthens direct interactions and social value due to a synchronous communication mechanism (Corner & Tran, 2016). Social value (SV) depicts societal utility and perceptions of social self-concept through the usage of SNSs (Sweeney & Soutar, 2001). SV is a motive for customer choice of products and services. Zhou (2017) denoted that SNSs reinforce SV, namely social support (information and actions leading to positive feelings), social identity (feelings of membership, attachment and influence), and social influence (sharing and consulting information from others). Customers who exhibit good experiences via SNSs are likely to forward their brand experiences to other people, and product/service discussions are made via SNSs (Le & Vo, 2020). Product information sharing among customers via sWOM would improve SV because this value is perceived based on the sense of self-identification, self-esteem, and status improvement. Therefore, the following hypothesis is postulated:

H1: *sWOM positively influences SV.*

Meanwhile, this study also postulates that sWOM demonstrates a positive impact on utilitarian value (UV) of online shopping. UV reflects functional and instrumental benefits from a rational shopping. It portrays perceptions of utility and performance, including cost-reduction, convenience, and time saving (Hsu & Lin, 2016). Some arguments underpin this impact in various contexts. Nguyen et al. (2020) proved that eWOM facilitates UV toward m-banking among Vietnamese users as it helps them reach time saving and effort into m-banking usage and manage its tasks effectively. Similarly, eWOM was found to heighten new generation's perception of UV and required product information to online communities (Sijoria et al., 2017). Besides, SNSs raise customer perceptions of functional and instrumental benefits of online shopping, including convenience, cost reduction, flexibility, and quickness. Thus, customers develop satisfaction and adoption toward online purchase (Gan, 2017). Wu and Li (2018) argued that UV is an essential characteristic of value perception toward social commerce and positively influences loyalty. Consistent with these findings, the assumption exists that sWOM obtained from experienced customers reinforces other individuals' perceptions of UV of online shopping in the pandemic. Thus,

H2: *sWOM positively influences UV.*

In the pandemic, traveling restriction prevents customers from patronizing physical stores and forces them to attempt online shopping. sWOM, with its highly persuasive power, provides necessary information about products and services that is useful

to trigger customer purchase (Kudeshia & Kumar, 2017; Bulut & Karabulut, 2018). As such, it is presumed that information quality (IQ) could be increased by utilizing sWOM. IQ reflects the measurement of the quality of information and is used to evaluate the output of an IS. IQ covers the extent to which relevant, sufficient, accurate, and timely information is provided in the IS for customers to acquire information about intended objectives (Shareef et al., 2018). In this study, sWOM plays an essential role in disseminating IQ from actual, experienced users, which leads to shopping tendency under Covid-19. Halimin et al. (2020) revealed indispensability of SNSs in generating resourceful information through brand communities, so leveraging shopping decisions. Zhou (2017) supported that IQ increases continuance usage toward SNSs. Hence, strong literature sustenance buttresses us to postulate the following hypothesis:

H3: *sWOM positively influences IQ.*

eWOM results from an increasing number of users who utilize the internet to seek and gain available information. Nguyen and Ho (2020) reported that from the commencement of Covid-19 to March 13, 2020 in Vietnam, above 600,000 articles, posts, and videos about the disease were recommended on the internet. Media distributes Covid-19 reports of infectious cases and deaths, which leads to perceived threat and emotional responses. Perceived threat (PT) reflects the cognition that a disease is harmful (Witte et al., 1996). Furthermore, SNSs are indispensable for crisis communication to raise PT and pursue protective measures (Nguyen & Le, 2021). Scholars investigated SNSs' positive impact on PT and self-efficacy (SE) through information value of MERS (Yoo et al., 2016) and H1N1 (Han et al., 2014). SE indicates the capability of executing performance (Sreelakshmi & Sangeetha, 2020). Users properly appreciate these modes that others' information and actions strengthen PT and develop users' ability to perform curative actions. Earlier studies affirmed the importance of multiple channels for increasing SE in MERS (Jang & Park, 2018). Thus, online interpersonal conversations significantly influence SE and recommended behaviors in the disease conditions. To the best of our knowledge, sWOM is identified as a facilitator of PT and SE under Covid-19. These propositions lead to the following hypotheses:

H4: *sWOM positively influences PT.*

H5: *sWOM positively influences SE.*

SV reflects societal utility and perceptions of social self-concept (Sweeney & Soutar, 2001). It is identified by enhanced status and self-esteem derived from using SNSs and doing online shopping (Rintamäki et al., 2006). SV is a motivation underlying customer choice of products and services. Gan (2017) demonstrated that shopping forwarding and interaction among individuals increase sense of self-identification via social commerce. Wu and Li (2018) posited that SV is an important dimension of perceived value and considerably boosts loyalty in social commerce. Also, Hsu and Lin (2016) found a strong relationship between SV and shopping tendency (ST) via mobile applications.

Customers demonstrating higher levels of SV intend to purchase what other people recommend to improve their values of shopping behavior. Consistent with existing literature, SV is expected to motivate ST via sWOM in Covid-19. Hence:

H6: *SV positively influences ST.*

UV describes functional and instrumental benefits from a rational shopping behavior. It reflects perceptions of utility and performance, including cost reduction, convenience, and time saving (Hsu & Lin, 2016). UV illustrates customers' tendencies to obtain their goals with minimal investment (Hsiao et al., 2012). Next, Hsu and Lin (2016) empirically substantiated a close link between UV and ST in social commerce. Likewise, UV was found to be a motivator of ST, which implies that characteristics of UV, comprising available operation, product selection, convenience, flexibility, and health safety, determine ST under Covid-19 (Le, 2021b). The greater levels of UV customers perceive, the more ST they adopt (Gan, 2017). This leads us to hypothesize that

H7: *UV positively influences ST.*

IQ reflects the measurement of the quality of information and is used to evaluate the output of ISs. It depicts the fitness for the usage and information, which comprises relevance, sufficiency, accuracy, and timeliness (Shareef et al., 2018). Wu and Li (2018) highlighted its importance in consumer-generated media and social commerce. Users carefully evaluate product/service information before adopting ST to efficiently make purchase (Wu & Li, 2018). Thus, IQ leads to behavioral responses. In this work, IQ delineates a persuasive strength of informative content through sWOM and guides ST within Covid-19. Therefore, the following hypothesis is framed:

H8: *IQ positively influences ST.*

PT mirrors the cognition that an environment is dangerous or harmful (Witte et al., 1996). It is a critical predictor of health-related behavior in the HBT. Current literature supports this impact in pandemics (Nguyen & Le, 2021) and technology usage (Sreelakshmi & Sangeetha, 2020). Yoo et al. (2016) proved that PT of MERS changes individuals' performances, including hand-washing and cough etiquette. Next, Sreelakshmi and Sangeetha (2020) studied a mobile payment continued usage model due to the HBT and showed that Covid-19 threats significantly and positively affect perceived usefulness, thereby facilitating continuance intention toward mobile payment. Chang and Meyerhoefer (2021) concluded that ST across Taiwan consumers is determined by PT of the pandemic through the increasing number of infectious cases. Based on these investigations, we identify PT as a driver of PT under Covid-19. Thus,

H9: *PT positively influences ST.*

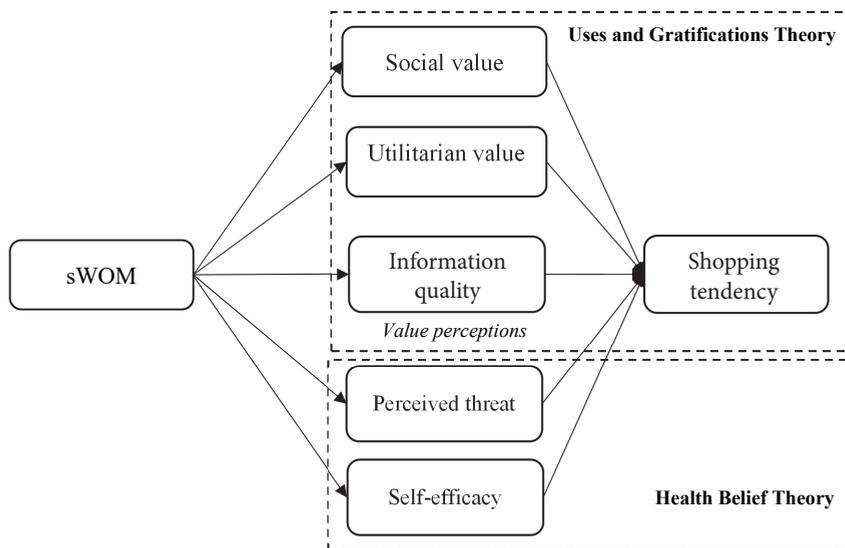
SE depicts the capability of performing curative actions (Sreelakshmi & Sangeetha, 2020). For our study, SE reflects the assessment of one's ability to do online shopping during Covid-19. When individuals perceive effectiveness and feasibility of actions

recommended for avoiding negative consequences of the disease, they will perform protective behaviors, including online purchases. Current literature finds a pivotal influence of SE on behavior intentions (Siddique et al., 2021). SE was found to positively influence customers' adoption toward mobile payment (Sreelakshmi & Sangeetha, 2020) and green purchase (Siddique et al., 2021). Also, Yoo et al. (2016) affirmed a close relationship between SE and behavioral intentions in MERS. Likewise, Le (2021) opined that SE plays a key role in motivating preventive measures (e. g., social distancing) in the pandemic. Aligned with the findings, one can adopt ST by oneself to alleviate Covid-19. Therefore,

H10: *SE positively influences ST.*

A research framework of ST toward sWOM is illustrated in Figure 1.

Figure 1
Research Model



4. Methodology

To evaluate whether variables are measured by all items, pretest and pilot tests were conducted. Next, after completing the questionnaire design, two marketing experts were invited to complete a pretest. Then, the experts were asked to give their comments on the questionnaire's logical consistencies, contextual relevance, and clarity. Some slight amendments (i. e., the wording) were in the items of UV, SE, and PT because of the misunderstandings and a specific Covid-19 context. A pilot survey was performed to assess the suitability of questionnaire by recruiting an initial sample with 39 respons-

es. The result showed that Cronbach's alpha value of constructs exceeded 0.7, thus illustrating the internal consistency and questionnaire stability. The data in the pilot test did not appear in the main survey.

4.1 Measurement

Next, to evaluate content validity, measurement items must represent the concept about which generalization is to be made. Hence, all items of constructs complied with current literature, and the adjustment was made to fit research objective. The language of the constructs was amended to be suitable in the Covid-19 context. The questionnaire contained 25 items and socio-demographic questions of gender and experience with online shopping. Items were anchored on 5-point Likert scales (1 for strongly disagree; 5 for strongly agree) (see Appendix).

4.2 Data collection

The research objective is to investigate the influence of sWOM on online shopping under Covid-19; thus, participants are those who demonstrate tendencies to do online shopping in the pandemic. We collected data from social media users aged 18–22 in a university in Vietnam. They volunteered to respond to the questionnaire. They are identified as the unit of this study. Data were gathered through an online survey during the period of July–August 2021. Next, the questionnaire was uploaded via Google Docs. Its link was shared with students via different groups of Facebook. The instructions were provided for all respondents to answer questions. Consequently, 403 responses were obtained for further analysis, in which 32% (129) were male and 68% (274) were female; and 31.02% (125) of the respondents had been online shopping for over 3 years in comparison to 51.86% (209) who had online shopping experience of 1–3 years, and 17.12% (69) who had less than 1 year of experience.

5. Results

5.1 Measurement model testing results

First, data was examined for common method bias (CMB) utilizing Harman's one-factor test (Harman, 1976). All items were tested into an exploratory factor analysis. By adjusting all factors based on one factor, a given factor was determined to reach 33.558% of the variance. The result should be lower than 50% for a CMB problem not to be present in the data.

Second, confirmation factor analysis was conducted to evaluate constructs. Results illustrated that standardized loadings exceeded 0.5 (Hair et al., 2018) (see Table 1). Cronbach's alpha (CA), ranging from 0.817 to 0.932, fulfilled the minimum requirement of 0.7 (Hair et al., 2018). Composite reliability (CR) surpassed the threshold

of 0.7 (Hair et al., 2018), indicating that scale items are internally consistent. Average variance extracted (AVE) exceeded 0.5 recommended by Fornell and Larcker (1981). The results were satisfying, suggesting convergent validity.

Table 1

Loadings, Indicator Reliability, CR and AVE

Constructs	Item	Standardized loadings	CR	AVE	CA
sWOM	sWOM1	0.852	0.892	0.674	0.892
	sWOM2	0.811			
	sWOM3	0.804			
	sWOM4	0.817			
Social value	SV1	0.911	0.932	0.821	0.932
	SV2	0.929			
	SV3	0.877			
Utilitarian value	UV1	0.853	0.877	0.641	0.874
	UV2	0.778			
	UV3	0.800			
	UV4	0.768			
Information quality	IQ1	0.833	0.874	0.634	0.870
	IQ2	0.787			
	IQ3	0.839			
	IQ4	0.721			
Perceived threat	PT1	0.737	0.819	0.603	0.817
	PT2	0.844			
	PT3	0.744			
Self-efficacy	SE1	0.819	0.882	0.652	0.882
	SE2	0.786			
	SE3	0.808			
	SE4	0.816			
Shopping tendency	ST1	0.827	0.866	0.683	0.863
	ST2	0.786			
	ST3	0.864			

Source: The study results

As a further step, discriminant validity was measured. Researchers confirmed that squared root of AVE for each construct on the diagonal was higher than correlation coefficients with other constructs (Hair et al., 2018) (see Table 2).

Table 2
Discriminant Validity

	sWOM	SV	UV	IQ	PT	SE	ST
sWOM	0.821						
SV	0.456	0.906					
UV	0.479	0.309	0.801				
IQ	0.683	0.497	0.631	0.796			
PT	0.425	0.401	0.435	0.561	0.777		
SE	0.253	0.167	0.300	0.282	0.132	0.807	
ST	0.652	0.471	0.605	0.716	0.486	0.293	0.826

Source: The study results

The model provides a good fit to the data based on six recommended indices, including chi-square/df, comparative fit index (CFI), good fit index (GFI), incremental fit index (IFI), Tucker-Lewis fit index (TLI) and root mean square error of approximation (RMSEA). The results showed that these indices fulfilled the criteria based on the proposal of Hair et al. (2018) (see Table 3).

Table 3
Research Model Fit

Fit	Chi-square/df	CFI	GFI	IFI	TLI	RMSEA
Recommended value	≤ 3	≥ 0.90	≥ 0.90	≥ 0.90	≥ 0.90	≤ 0.08
Resultant value	1.782	0.967	0.910	0.967	0.963	0.044

Source: The study results

5.2. Structural model

To test the research model, SEM using the maximum likelihood method was performed. Results of the hypotheses testing are shown in Table 4 and Figure 2.

First, the impacts of sWOM on the antecedents of UGT and HBT are significantly positive. sWOM positively influences SV ($\beta = 0.425$; $p < 0.001$), UV ($\beta = 0.617$; $p < 0.001$), IQ ($\beta = 0.676$; $p < 0.001$), PT ($\beta = 0.383$; $p < 0.001$), and SE ($\beta = 0.290$; $p < 0.001$), supporting H1, H2, H3, H4, and H5.

Second, hypotheses of SV ($\beta = 0.129$; $p < 0.01$), UV ($\beta = 0.174$; $p < 0.001$), IQ ($\beta = 0.392$; $p < 0.001$), and PT ($\beta = 0.123$; $p < 0.01$) were significantly formed with ST, supporting H6, H7, H8, and H9. The study, contrariwise, does not support H10 because ST is not significantly affected by SE ($\beta = 0.057$; $p > 0.05$). The model explains 57.1% of variance in ST.

In summary, out of a total of 10 hypotheses, 9 are supported and 1 is not in the research model.

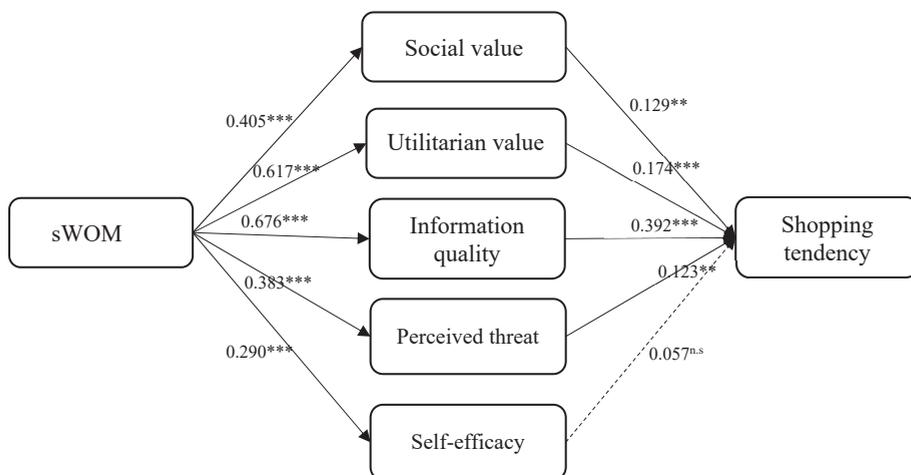
Table 4
Hypotheses Testing Results

	Hypothesis			Estimate	p-value	Results
H1	sWOM	→	SV	0.425***	0.000	Supported
H2	sWOM	→	UV	0.617***	0.000	Supported
H3	sWOM	→	IQ	0.676***	0.000	Supported
H4	sWOM	→	PT	0.383***	0.000	Supported
H5	sWOM	→	SE	0.290***	0.000	Supported
H6	SV	→	ST	0.129**	0.002	Supported
H7	UV	→	ST	0.174***	0.000	Supported
H8	IQ	→	ST	0.392***	0.000	Supported
H9	PT	→	ST	0.123**	0.010	Supported
H10	SE	→	ST	0.057 ^{n.s}	0.086	Not supported

Note. ** $p < 0.01$; *** $p < 0.001$; n.s = not significant

Source: The study results

Figure 2
Structural Model



Source: The study results

6. Discussion and Implications

6.1 Theoretical implications

An overarching investigation of this work is the mechanism of ST toward sWOM, hinting that sWOM facilitates online shopping in the Covid-19 context. This outcome is aligned with prior arguments (Pauliene & Sedneva, 2019). On the one hand, sWOM significantly affects perceived value-related dimensions of online shopping under Covid-19. sWOM demonstrates the most significant influence on IQ. This implies that the penetration of SNSs makes it easier for users to seek and obtain more relevant, sufficient, and timely product/service information due to other people's recommendations and opinions (Sweeney & Soutar, 2001; Nguyen & Le, 2021). This result fortifies other studies (Bulut & Karabulut, 2018). Additionally, sWOM is found to positively influence UV. This result shows that sWOM raises user awareness about the benefits of online shopping, such as safety, availability, time saving, and cost reduction based on earlier adopters' reviews and opinions about products and services during the pandemic. This result follows the stream of previous studies (Nguyen et al., 2020). Moreover, sWOM significantly motivates SV, which is consistent with earlier investigations (Wu & Li, 2018). Using sWOM in daily routine strengthens societal connection and information exchange within the limitation of direct interaction in Covid-19. Furthermore, this study demonstrates a strong effect of sWOM on PT and SE, which is consistent with past findings (Jang & Park, 2018; Nguyen & Ho, 2020; Nguyen & Le, 2021). This hints that online opinions, alerts, and societal sharing on SNSs are the direct and reasonable manner to increase the perceptions of Covid-19 infection threat and generate capabilities themselves to execute protective actions, including online shopping in the pandemic.

On the other hand, this study offers the insights into ST through the significant impact of the antecedents of UGT and HBT. First, the result shows that IQ is of the utmost importance of ST. Next, it is a determinant of the success of sWOM and results in shopping behavior, which is consistent with prior research (Hsu & Lin, 2016; Sijoria et al., 2017). When consumption is not postponed in Covid-19, customers need to obtain proper product/service information quickly in the condition of social distancing and limited face-to-face exchange. Second, UV strongly motivates ST, which is aligned with other studies (Gan, 2017; Wu & Li, 2018). When consumers recognize considerable benefits of online shopping, they conveniently seek more useful information and realize that products and services are good value for money in Covid-19. Therefore, they are more likely to display positive judgment and show shopping inclination. Third, SV is an underlying motivator of ST, which supports previous literature (Hsu & Lin, 2016). It is one of important features of sWOM that tempts individuals to interact and share product/service information with those who need it within the pandemic. Thus, customers would exhibit positive perceptions of SV and evoke shopping intention.

Generally speaking, consumers with greater levels of perceived value-related dimensions are more likely to induce ST. Lastly, PT strongly promotes preventive measures, including online shopping. This finding is similar to prior research (Le, 2021b; Nguyen & Le, 2021). Additionally, a higher level of PT leads to greater ST. On the contrary, no significant impact of SE is found on ST, though customers generate their abilities to take appropriate actions to curb Covid-19. A probable explanation is that customers may opt for the alternative of online shopping, such as patronizing neighborhood stores in the pandemic (Szymkowiak et al., 2020).

6.2 Practical implications

There are some practical implications in the study. This research investigated that consumers would engage in online shopping due to sWOM in Covid-19. Waging marketing campaigns is crucial for marketers to enhance the effectiveness of sWOM for value perceptions of online shopping. sWOM enlarges the interactions between users, diffuses quickly product/service information, and triggers shopping decisions. Next, customers perceive product/service information via sWOM to be valuable as Covid-19 prevents them from patronizing brick-and-mortar stores and accessing the details of products and services. Also, marketers should generate more necessary information that fulfills customer needs, and they should focus on IQ as a central part of marketing campaigns. For instance, marketers give logical, meaningful, and clear information to individuals who are in need of making shopping decisions (Sijoria et al., 2017). Furthermore, marketers strive to maximize information quality-related components, such as relevance, accuracy, and timeliness. Hence, sWOM is beneficial to distributing valuable information to customers.

Second, customers find online shopping advantageous to mitigate Covid-19 spread. Practitioners should develop marketing trajectories by using sWOM that popularizes the benefits of online shopping across users. Marketers, for example, concentrate on utilitarian benefits pertaining to functional value, such as convenience seeking, variety seeking, search for quality of merchandize, and reasonable price rate. Moreover, marketers offer attractive incentives that encourage them to shift quickly to e-stores. Next, when customers recognize online shopping to be more advantageous than traditional shopping, they are likely to embrace online shopping in the pandemic. With greater convenience, customers would perceive more UV during shopping process.

Third, customers are inclined to do online shopping when sWOM facilitates SV. Developing the reciprocation, status, and self-esteem through sWOM is essential for users. Practitioners make efforts to develop the close relationships between firms and users and sharing among users via SNSs and websites to develop SV. Important people (e. g., family, friends and colleagues) and customers have become crucial communicators for promoting products and services. Next, managers should develop fan-pages on SNSs and web platforms that encourage them to discuss and share frequently product/ser-

vice information and shopping experiences. Moreover, marketers need to identify influencers (e. g., former customers, loyal consumers, and celebrities) and facilitate them to contribute enjoyable experiences of online shopping under Covid-19 (Halimin et al., 2020). For example, shoppers are encouraged to post their reviews on SNSs. Thus, sWOM is an effective mode to communicate directly with customers and resolve their problems. Overall, to fulfill consumer needs in online shopping, practitioners attempt to reinforce value perceptions through sWOM from a user perspective.

Finally, practitioners endeavor to deploy marketing plans using sWOM that draws customers' attentions to Covid-19 threat perception and preventive measures. Marketers should focus on heightening customer awareness and urging online shopping as an appropriate protective measure by disseminating considerable benefits of online purchase in the pandemic via SNSs and other online platforms. For instance, firms design videos with content of Covid-19 seriousness and advertised products and services and encourage customers to share these videos via SNSs with various attractive incentives. Therefore, sWOM offers an in-depth understanding of products and services and the necessity of online shopping due to threat perception and precautionary actions under Covid-19.

7. Conclusion

Clarifying how to trigger online shopping through sWOM in the pandemic is imperative. This work contributes to the examination and the association between UGT and HBT with online shopping in Covid-19. Accordingly, sWOM acts as a boon for consumer online ST. sWOM substantially enhances IQ, UV, and SV from a perceived value standpoint, PT, and SE from a health belief standpoint. Based on UGT, the study enlightens online shopping through the importance of IQ, UV, and SV. Furthermore, PT tempts individuals to make shopping decisions. Otherwise, the findings recommend enhancing communication strategies and practices on value perceptions and PT through sWOM under Covid-19. Consequently, customers recognize online shopping as an effective preventive approach to mitigate infectious disease.

Next, despite the theoretical and practical contributions of this study, several limitations should be acknowledged. First, our study was conducted with young consumers and with the relatively small sample size. This choice may be not ideal for the research on shopping behavior because it is not fully representative of the entire population. Therefore, collecting data from a larger sample at different age groups (e. g., middle-aged and older) is necessary because these groups tend to make online purchases based on sWOM and the feature of Vietnam oriental culture (Le & Wang, 2020). Second, some antecedents of HBT could be re-examined in further studies because the relationship between SE and ST was not supported by the theoretical framework. Third, one of the aims of this study was the identification of important factors of how to formulate ST toward sWOM under Covid-19. Albeit a value of 57.1% is shown from the investigation

of ST, additional factors can be employed to explicate ST. For instance, the impact of IQ on PT would be welcome as it has been affirmed in the current literature (Yoo et al., 2016; Nguyen & Le, 2021). Hence, further investigations can frame a holistic research model considering more constructs to discern the facts.

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Appendix

Table A1
Scale Items

Variable	Items
<i>sWOM</i> (Matute et al., 2016)	
sWOM1	sWOM includes a number of consumer reviews and recommendations.
sWOM2	Consumers' recommendations on sWOM are credible.
sWOM3	Recommended information on sWOM is trustworthy.
sWOM4	An increasing number of consumers offer recommendations via sWOM.
<i>Social value</i> (Sweeney & Soutar, 2001)	
SV1	Doing shopping using sWOM would provide me with attractive and valuable social contacts under Covid-19.
SV2	Doing shopping using sWOM would make a good impression on others under Covid-19.
SV3	Doing shopping using sWOM would give its owner social approval under Covid-19.
<i>Utilitarian value</i> (Sweeney & Soutar, 2001)	
UV1	Products from sWOM offer good value for money under Covid-19.
UV2	Online shopping via sWOM allows me to quickly seek appropriate products under Covid-19.
UV3	Doing shopping using sWOM would be a convenient way under Covid-19.
UV4	Doing shopping using sWOM would be effective to reduce Covid-19 transmission.

Variable	Items
<i>Information quality</i> (Shareef et al., 2018)	
IQ1	Information via sWOM is up-to-date.
IQ2	Information via sWOM is easy to understand.
IQ3	sWOM provides relevant information to fulfill my shopping needs.
IQ4	sWOM provides information sequentially, systematically.
<i>Perceived threat</i> (Szymkowiak et al., 2020)	
PT1	sWOM would help me perceive that Covid-19 is easily transmittable.
PT2	sWOM would help me perceive that there is a high risk of contracting Covid-19.
PT3	sWOM would help me perceive that it is easy to get infected with Covid-19.
<i>Self-efficacy</i> (Han et al., 2014)	
SE1	I can avoid Covid-19 infection due to online shopping using sWOM.
SE2	I can figure out how to avoid Covid-19 based on to online shopping using sWOM.
SE3	I can do online shopping using sWOM without help under Covid-19.
SE4	I can do online shopping using sWOM if I ask for help when needed under Covid-19.
<i>Shopping tendency</i> (Lin & Lu, 2015)	
ST1	I plan to do online shopping using sWOM when Covid-19 continues occurring.
ST2	I intend to do online shopping using sWOM when Covid-19 continues occurring.
ST3	I predict that I will do online shopping using sWOM when Covid-19 continues occurring.