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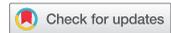
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Determinants of online shopping addiction among Vietnamese university students

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ABSTRACT

Online shopping addiction, which refers to the inability to take an individual's online shopping urges under control has attracted a great deal of research interest over the last decade, given the prevalence of internet technologies and the advent of data-driven marketing strategies in e-commerce. The current study sought to examine the determining factors that can potentially result in online shopping addiction among Vietnamese university students. We found a strong correlation presented between daily online shopping frequency and daily internet shopping usage. Results from the hierarchical analysis indicate that internet experience has a significant negative effect on online shopping addiction. Besides, time spent on internet shopping per day and daily internet shopping frequency has the significant effect on the score of online shopping addiction. Students are recommended to manage their online routine wisely and efficiently to avoid detrimental consequences resulted from online shopping addiction.

KEYWORDS

Shopping addiction; online shopping addiction; problematic internet shopping; online shopping motivation

Introduction

Following the ever-increasing population of internet users, people progressively choose to shop online to mitigate their negative emotions rather than a strong inclination to own the product (Faber & O'Guinn, 1988). Online consumers have both utilitarian and hedonic shopping motivations and, in most cases, obtain not only product value but also instant gratification during their shopping episodes (To et al., 2007). E-vendors even adopt particular marketing strategies to entice customers to repeat their purchases and, consequently, stimulate unregulated buying (LaRose, 2001). Irresistible and uncontrolled shopping behavior may be potentially abused by a minority of individuals and resulted in an adverse psychiatric problem, which is called compulsive buying behavior (Dittmar, 2005; Duroy et al., 2014), buying-shopping disorder (Müller et al., 2019), and shopping addiction (Jiang et al., 2017; Zhang et al., 2019). The impact of shopping addiction on affected individuals has been extensively scrutinized by researchers in the traditional consumption environment. Notwithstanding, little is known about the relationship between shopping addiction and its potential determining factors in the online context, causing it difficult to fully characterize patterns of this particular behavior.

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Vietnam is considered one of the fastest-growing economies in Southeast Asia. The e-commerce landscape, powered by increasing internet access, wider smartphone usage, and enhanced technological infrastructure, has taken off impressively in recent years (EU-Vietnam Business Network [EVBN], 2019). The prevalence of the internet and the ever-increasing use of social networking sites among Vietnamese youths and adolescents enhances the propensity of being exposed to or influenced by several online risky behaviors. Although internet addiction was suggested as a common problem among young Vietnamese (Tran et al., 2017), it is relatively obscure compared with other Asian countries, partly because the health care system concentrates more on physical diseases (Son et al., 2012). Despite the proliferation of research on addictive shopping behavior predominantly in developed nations, to the best of our knowledge, no study can be found on the topic of shopping addiction in Vietnam context (Le, 2020).

Vietnam has assembled its entire political system to confront the COVID-19 and attained some precursory successes (Hoang et al., 2020), which originated from a combination of political readiness, timely communication, and scientific journalism (La et al., 2020). Strick lockdown and isolation measures have helped diminished the escalation of the epidemic in the country (Ha et al., 2020). The COVID-19 pandemic has disrupted the lives of students and led to the closure of worldwide educational institutions. Face-to-face instruction has been ceased as a means to curb the rapid spread of the pandemic, forcing students to switch to online learning. Intensified stress, depression, anxiety as a result of locked-downs and stay-at-home mandates, as well as the availability of considerable leisure time, has put forward a proliferate field on which potentially addictive online behaviors start growing relentlessly.

As college students appear to be more susceptible to become dependent on the internet's functionalities than any other segment of society (Kandell, 1998), the present study sought to explore the determinants of online shopping addiction among them to elucidate possible correlates associated with this particular behavior.

Literature review

Despite not being formally recognized in any diagnostic classification manual, compulsive buying has been at the forefront of tremendous studies and become an increasingly critical subject in the consumer behavior research community. The internet has become a channel facilitating the development of divergent behaviors, and activities thereof primarily exist in the regular entity beforehand. The migration of conventional addictive behaviors to cyberspace in an endeavor to compensate for incomplete offline desires has been acknowledged (Kardefelt-Winther, 2014). Compulsive buying has variously been debated and conceptualized as an impulse-control disorder (Black et al., 2012), obsessive-compulsive disorder (Ridgway, Kukar-Kinney, & Monroe, 2008), or behavioral addiction (Lejoyeux & Weinstein, 2010). Many efforts have been made to recognize it as its own disorder or separate mental health condition, arguing that it shares several characteristics with substance use disorder and gambling disorders. A global pooled occurrence estimate of 4.9% for compulsive buyers has been reported (Maraz et al., 2016), with higher incident rates found in younger people and females. Nevertheless, caution should be exercised when interpreting results due to significant discrepancies and variations between samples (Kyrios et al., 2018).

Compulsive buying has been facilitated by attributes of e-commerce such as easy accessibility, endless inventory, and enticing online displays (Duroy et al., 2014; Kukar-Kinney et al., 2009), highlighted the critical distinction between shopping addiction and other unregulated buying-shopping behavior. The act of purchasing itself presents a temporary sense of enjoyment or alleviation from negative emotional states and prevails, albeit individuals repeatedly endure adverse repercussions (Togias et al., 2017). Furthermore, extant literature has emphasized that compulsive or addictive buyers are placed on the shopping process rather than the actual acquisition of goods (Faber & O'Guinn, 1988; Valence et al., 1988). The term “shopping” is used to indicate the pre-occupations before the buying spree, like window shopping or in-store planning, where it may not necessarily result in the actual purchases (Kirazli & Arslan, 2019). Lee et al. (2017) defined shopping as “the act of purchasing, browsing, or conducting product research”. In other words, surfing and shopping without spending could be rather a requisite for shopping addiction than of conventional buying disorder where the behavior is more coupled with the act of buying (Trotzke et al., 2017).

The use of the internet has provided a convenient channel to purchase goods and services. E-commerce platforms even inspire consumers to buy things impulsively and effortlessly. Likewise, the emergence of problematic internet shopping behavior can considerably be accelerated by the convenience, accessibility, anonymity, affordability, and disinhibition (Wang & Yang, 2008; Widyanto & Griffiths, 2010). The online version of shopping addiction, which refers to the tendency of individual's inability to control their online shopping, was positively speculated by daily time spent on online shopping and average monthly consumption for online shopping (Jiang et al., 2017).

Age

Shopping addiction is commonly inaugurated in young adulthood and appeared to diminish with age (Andreassen et al., 2015). Yet, there is no apparent association between problematic internet shopping, gender, age, and monthly income (Ko et al., 2020). Worldwide incident rates encourage being younger corresponds to heightened excessive buying and high endorsement of materialistic values (Dittmar, 2005; Kyrios et al., 2020; Müller et al., 2019). These findings are in accord with the standpoint of commonsense psychology, which argues that youngster is tech-savvy and accordingly, more likely to use the internet (Brosdahl & Carpenter, 2011). According to recent research in Poland, the highest percentage of compulsive buyers was found in the 18–35 age group, whereas the lowest rate was discovered among persons aged 58 years old and over (Adamczyk et al., 2020). Therefore, it was hypothesized that:

H1: *Younger online consumers are more susceptible to online shopping addiction than older cohorts.*

Gender

Many empirical studies have scrutinized gender disparity in shopping addiction with heterogeneous results regarding incident rates across gender. Shopping addiction appears to be more prevalent in females (Maraz et al., 2016; Zhang et al., 2019), although some

scholars reported no gender variation (Weinstein et al., 2015). Being male, nonetheless, was positively associated with heightened online gaming, cyberpornography materials, and online gambling, and negatively coupled with social networking sites and online shopping (Kircaburun & Griffiths, 2018). Based on the above justification, the first hypothesis was developed as follows:

H2: *There is a significant relationship between gender and online shopping addiction.*

Marital status

Previous studies have suggested that internet addiction was associated with partnership status (Ghamari et al., 2011), whereas singles appear to be internet-addicted more than married people did (Iravani et al., 2013). Marital status was significantly associated with problematic internet shopping (Lam & Lam, 2017). Specifically, more singles or divorced individuals exhibit buying-shopping disorder symptoms in both conventional retail context (Harvanko et al., 2013) and online purchasing condition (Ko et al., 2020). A protective effect of engaging in a relationship has been reported as having a partner pertained to less pathological buying propensity in the population-based sample (Müller et al., 2016). Some authors, however, reported a lack of significant difference in marital status between individuals with and without buying shopping disorders (Leite & Silva, 2016; Müller et al., 2016). Thus, it was stipulated that:

H3: *Marital status has a significantly different impact on online shopping addiction.*

Internet experience

Online consumers with extensive internet experience are more likely to purchase online (Forsythe & Shi, 2003). Individuals with an extended internet experience would reduce their time required to navigate websites, improve product search efficiency, and reduce the perceived product risk of internet shopping, thereby increasing the probability of online purchases (Koyuncu & Lien, 2003). Similarly, extensive internet experience would provide consumers with the necessary skills and confidence for conducting online shopping (Citrin et al., 2000). Therefore, it was stipulated that:

H4: *Internet experience has significant effect on online shopping addiction.*

Internet shopping usage

Extant literature on consumer behavior underlines the relatively strong association of time spent on and frequency of online shopping with online shopping addiction (Ko et al., 2020; Martin et al., 2013). Compulsive buyers who normally connect to online shopping platforms longer and repeatedly have a stronger tendency toward shopping and buying online than purchasing at traditional retail stores (Lejoyeux et al., 2007). Consequently, consuming the substantial time for online shopping can pave the way for individuals to reduce their involvement in offline interpersonal interactions or cause the affected person to experience postpurchase guilt (Tian et al., 2018). This discussion leads to the following hypothesis:

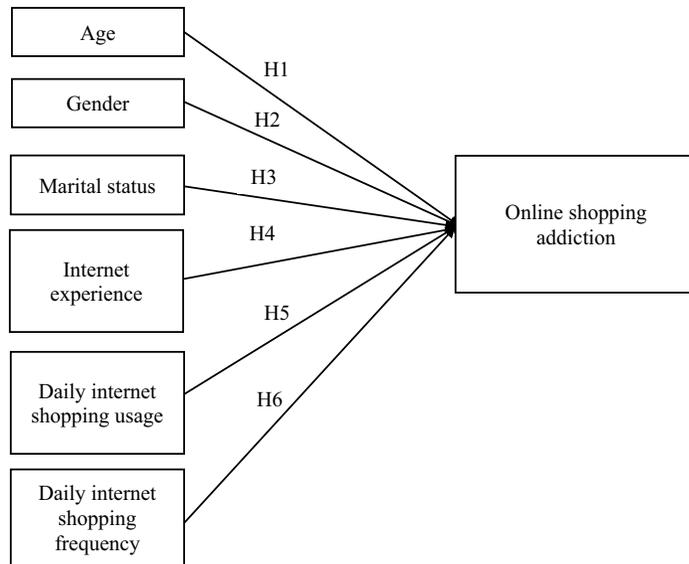


Figure 1. Research model.

H5: *Internet shopping usage has significant effect on online shopping addiction.*

Internet shopping frequency

Online shopping is governed primarily by utilitarian motivations rather than hedonic stimulus (Chiang & Dholakia, 2003; To et al., 2007). Determinants such as convenience, broader selection, or comparative price appear to be of tremendous consequences to online shopping frequency than in-store shopping, which may be more emotionally and socially fulfilling. Furthermore, individuals who have more positive sentiments toward online shopping, in terms of utilitarian concerns, typically shopped online more frequently (Lee et al., 2017). Also, a positive belief toward technology was related to enhanced online shopping frequency. Altogether, attitudes and perceptions were crucial factors in the shopping frequency decision. Based on the above review, the following hypothesis was formulated:

H6: *Internet shopping frequency has significant effect on online shopping addiction.*

The research model is present in [Figure 1](#).

Materials and methods

Participants and analytical procedures

The present study represents a cross-sectional online survey. The questionnaire was pre-tested and revised accordingly to secure content validity. It was then translated into Vietnamese with some improved item-wording to enhance the clarity of the questions. The questionnaire was then conveniently distributed via online shopping communities and social networking sites in Vietnam. The welcome screen incorporates the objectives of the

present research and includes a statement about the confidence of the respondents' answers. Respondents' exclusion is deemed based upon screening questions placed at the end of the welcome screen, asking whether or not they had used the internet for buying or shopping activities over the last twelve months. For the present study, online shopping activities comprise but not limited to browsing or searching for information, reading customers' reviews, comparing the prices across e-vendors, purchasing or making a payment. The sample comprised 326 respondents (acceptance rate of 76.7%). The online survey system enabled us to further exclude 39 duplicated responses given by the same IP address. Finally, after eliminating extreme values and unengaged responses, a total of 250 valid responses were subsequently used for the present analysis.

Measurement

The Online Shopping Addiction Scale (OSAS) was employed to evaluate the severity of online shopping addiction. The OSAS comprises six factors based upon six general addiction criteria, namely salience, tolerance, mood modification, withdrawal, conflict, and relapse (Griffiths, 2009). This 18-item scale is a solid theory-based instrument used to measure the phenomena among young adults. The total score ranges from 18 to 90 based on a 5-point Likert scale, with higher scores signify a greater level of online shopping addiction (Zhao et al., 2017). For the present study, to obtain a higher level of dispersion and lessen the neutral reactions, all OSAS items were operationalized with a seven-point Likert scale in which 1 indicates "strongly disagree" and 7 represents "strongly agree". Although it may confuse the participants (Burns & Burns, 2008), a seven-point adaptation was expected to provide more options with less skewed distribution. Online shopping addiction was diagnosed based on the total score of the OSAS. Participants who scored higher than 72 and more on the OSAS were considered at-risk online shopping addicted groups.

Data analysis

Descriptive statistics were carried out with count and proportions for each categorical variables. To detect the differences in regular and at-risk groups' characteristics, Chi-square tests for categorical variables were employed. The correlation coefficient was then utilized to examine the relationship between age, gender, marital status, internet experience, and online shopping correlates. Hierarchical regression analysis was subsequently performed to examine the determining factors that stimulate online shopping addiction. Statistical assumptions (i.e., linearity, normality, and multicollinearity) had been checked before the implementation of statistical analysis.

Results and discussion

Sample characteristics

Of the participants, 61.2% were female, and more than half (52.4%) were single. One-hundred-and-four (41.6%) participants aged less than 25 years while 37.6% and 20.8% of them aged from 26 to 35 and over 35, respectively. There were 81.6% of the respondents

educated up to a bachelor’s degree, of which 37.2% of them have more than ten years of using the internet. As for the daily time spent on online shopping, 44.4% of total respondents reported that they consumed less than one hour for internet shopping purposes, and only 24.4% revealed that they spent more than three hours in a day on online shopping platforms. For daily online shopping frequency, 84.8% reported that they visited online shopping websites at least once to five times, whereas only 15.2% of subjects visited online shopping websites more than five times a day.

There was no significant difference regarding age, gender, and marital status among regular and at-risk internet shoppers (Table 1). However, at-risk online shopping addiction symptoms are more predominant in females (62.89%), younger age (81.13%), and did not engage in any relationship (54.09%). For internet use patterns, at-risk and regular individuals are significantly different in their internet experience, daily internet shopping usage, and daily internet shopping frequency.

Determinants of online shopping addiction

To characterize the association between internet use and internet shopping behaviors and online shopping addiction, we conducted a Pearson correlation analysis with the results presented in Table 2.

Data from Table 2 indicates that female is more likely to develop problematic internet shopping behavior albeit this association is not statistically significant. Age, marital status and the internet experience are negatively related to online shopping addiction. Likely,

Table 1. Socio-demographic and internet use patterns between the regular and at-risk OSA groups.

Risk factors	Online shopping addiction		χ^2 (p-value)
	Regular (n ₁ = 91) n (%)	At-risk (n ₂ = 159) n (%)	
Socio-Demographic Factors			
Age			.995 (.608)
Less than 25	36 (39.56%)	68 (42.77%)	
25–35	33 (36.26%)	61 (38.36%)	
More than 35	22 (24.18%)	30 (18.87%)	
Gender			.527 (.468)
Male	38 (41.76%)	59 (37.11%)	
Female	53 (58.24%)	100 (62.89%)	
Marital status			.499 (.480)
Single	45 (49.45%)	86 (54.09%)	
Married	46 (50.55%)	73 (45.91%)	
Internet Use Patterns			
Internet experience			15.17*** (.001)
Less than 5 years	14 (15.38%)	22 (13.84%)	
5–10 years	30 (32.97%)	91 (57.23%)	
More than 10 years	47 (51.65%)	46 (28.93%)	
Daily internet shopping usage			41.94*** (.000)
Less than 1 hour	64 (70.33%)	47 (29.56%)	
1–3 hours	20 (21.98%)	58 (36.48%)	
More than 3 hours	7 (7.69%)	54 (33.96%)	
Daily internet shopping frequency			47.46*** (.000)
Less or equal once	62 (68.13%)	39 (24.53%)	
1–5 times	25 (27.47%)	86 (54.09%)	
More than 5 times	4 (4.40%)	34 (21.38%)	

*** p < .001.

Table 2. The correlation matrix of studied variables.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(1) Online shopping addiction	-						
(2) Age	-.086	-					
(3) Gender	.094	-.045	-				
(4) Marital status	-.053	.052	.628**	-			
(5) Internet experience	-.107	.001	.030	.081	-		
(6) Daily internet shopping usage	.393**	.200**	-.035	-.042	-.041	-	
(7) Daily internet shopping frequency	.424**	.229**	-.098	-.057	-.047	.697**	-

* $p < .05$, ** $p < .01$.

younger internet users who are not being in any partnership relationship are more susceptible to online shopping addiction, yet this association is not statistically significant. Likewise, individuals with prolonging internet experience have less propensity to become online shopping addicts. The individuals' capacity to keep internet usage under control and their primary intention of using the internet for other purposes rather than online shopping could be reasonable justification. Furthermore, people currently in partnership status are associated with spending less time in cyberspace for shopping inspiration. The strongest correlation relationship is observed between daily internet shopping frequency (.424**) and daily internet shopping usage (.393**). These two variables also have a positive significant association with each other (.697**).

A hierarchical regression model was performed to reveal the determining factors of online shopping addiction. The authors detected no multivariate outliers within the dataset after examining the Mahalanobis distance and as evidenced by the standardized residuals, which were within the acceptable range. The scatterplot provided evidence of a linear relationship while the skewness and kurtosis were examined for the normality assumption, which was within the acceptable range. Histograms and normal probability plots of standardized residuals revealed the data meet approximately normal distribution conditions. Correlations amongst the independent variables, the variance inflation factor (VIF), and tolerance values were calculated to check the multicollinearity assumption. We found no multicollinearity concern presented for all of the variables, as evidenced by the value of VIF (anchored from 1.007 to 1.997) and tolerance values (ranged from 0.501 to 0.993).

As shown in Table 3, none of the predictors in Model 1 (adjusted $R^2 = .004$, $F(3, 246) = 1.304$, $p = .274$) or Model 2 (adjusted $R^2 = .011$, $F(4, 245) = 1.670$, $p = .158$) has significant effect on online shopping addiction. Model 3, in which time spent on online shopping in a day was added explained approximately 16.80% of variance [$\Delta R^2 = .142$, $F(5, 244) = 9.865$, $p < .001$]. Interestingly, we found that age and the internet experience have an insignificant but negative effect on online shopping addiction score. In agreement with previous research conducted in the clinical and general sample of shoppers (Granero et al., 2016; Maraz et al., 2016), female individuals in our study are more prone to develop problematic internet shopping, while people who engage in a relationship (i.e., married or living with partners) are more susceptible to online shopping addiction. The age of the respondents has an insignificant negative effect on online shopping addiction scores. Previous studies demonstrated that youngsters are more susceptible to manifest problematic internet shopping (Müller et al., 2019). Besides, shopping addiction arises in late adolescence and young adults and appears to lessen with age (Andreassen et al., 2015). The prior results highlighted that women with compulsive buying behavior more likely to be single or divorced than women

Table 3. Determinants of online shopping addiction.

Model	Predictors	Unstandardized coefficients		Standardized coefficients		R ²	R ² change	F	F change
		B	SE	β	p				
1	Age	-.153	.164	-.076	.351	.016	.016	1.304	1.304
	Gender	.286	.200	.091	.154				
	Marital status	-.029	.250	-.009	.909				
2	Age	-.160	.163	-.080	.327	.027	.011	1.670	2.741
	Gender	.284	.199	.091	.155				
	Marital status	.004	.250	.001	.986				
	Experience	-.235	.142	-.105	.099				
3	Age	-.168	.151	-.084	.267	0.168	.142	9.865	41.542***
	Gender	.039	.188	.012	.838				
	Marital status	.070	.232	.023	.763				
	Experience	-.203	.132	-.091	.124				
	DISU	.731	.113	.385	.000***				
4	Age	-.122	.148	-.061	.413	.209	.040	10.671	12.396**
	Gender	-.041	.185	-.013	.826				
	Marital status	.053	.227	.017	.815				
	Experience	-.191	.129	-.085	.139				
	DISU	.366	.152	.193	.016**				
	DISF	.618	.176	.284	.001***				

N = 350. SE = standard error of B; *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, Experience = Internet experience, DISU = daily internet shopping usage, DISF = daily internet shopping frequency.

with gambling disorders (Diez et al., 2018). Our results suggest that the internet experience has a significant negative effect on online shopping addiction. It could be due to the premise that individuals commonly go to cyberspace for other specific internet purposes (i.e., for playing online games, watching videos, reading news, or chatting with friends and relatives, to name a few) rather than that of shopping. Daily internet shopping usage (i.e., time spent on the internet shopping) and daily internet shopping frequency (i.e., the intensity of visiting online shopping platforms) have the strongest significant effect on the score of online shopping addiction. In other words, the excessive time spent for and the frequency of using the internet for shopping purposes are predictors of online shopping addiction. Online compulsive buyers consume a considerable amount of time on e-commerce websites, deliberating over purchases. Therefore, spending excessive time on e-commerce platforms is a symptom of enhanced compulsivity levels within the individual. These results are in accord with prior investigations (Duroy et al., 2014; Jiang et al., 2017) and in agreement with the fact that addiction is characterized by extreme obsession and embraces considerable time appealing in a particular behavior (Sussman et al., 2011).

Conclusion

The current study delves into exploring the determinants of online shopping addiction among Vietnamese students. Our results suggest that the time spent on online shopping per day and daily online shopping frequency significantly predict online shopping addiction. The results obtained here might add valuable insight into the potential risk factors and provide a practical implication for relevant practitioners to mitigate the adverse ramification caused by online shopping addiction. The formulation of efficient programs and policies helping elicit public awareness on potential risks of over-engaging in different online addictive behaviors is warranted. Particularly, students should be educated for their healthy use of online shopping platforms and recommended to manage their online routine

wisely and efficiently to avoid detrimental consequences caused by online shopping addiction.

There are several limitations associated with this research. First, the present study was based on a cross-sectional design, which provided evidence of the relationship between variables, but failed to establish its causal interpretation. The longitudinal studies can benefit in capturing the dynamic of the research model over time. Second, the validity and reliability of data collected via a self-reported online questionnaire, which heavily depended upon a clear comprehension of the questions and truthful reports, is another major limitation of the present study. Although several attempts have been made to mitigate the bias associated with responses to the self-reported questionnaire, some degree of social desirability bias remains within the data. Despite their limitations, the findings reported in this paper reinforces understanding of online shopping addiction and provides crucial implications for practitioners. Future research should recruit multiple-method assessments to yield a more comprehensive understanding of online shopping addiction.

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Disclosure statement

No potential conflict of interest was reported by the author(s).

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