

A Discussion on University Students' Online Shopping Behaviors Amid the COVID-19 Pandemic

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Abstract

With the convenience of the internet, consumers can easily purchase various goods, such as clothing, cosmetics, and general appliances, through various online channels (such as websites, shopping APPs, Facebook Shop, and Line Shopping). In addition, the payment methods are diverse, and consumers can choose online payment, cash on delivery, etc. to pay their shopping bills. This study aims to explore the shopping behaviors of students from Thailand Bangkok University amid the COVID-19 pandemic, examine the effect of COVID-19 on online shopping, and determine how to improve online stores, in order to meet customers' needs and satisfaction. This study took 395 students from Thailand Bangkok University as the samples, adopted Smart PLS 3.0 to perform path analysis testing of the research model and used Bootstrap to verify the independent samples t-test. The results of this study are expected to be a reference for the operations of online shopping, as well as for researchers in future relevant studies.

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Keywords: Online shopping behaviors, Customers' needs and satisfaction, COVID-19.

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1. Introduction

Digitalization and e-commerce have developed rapidly in recent years, especially during the COVID-19 pandemic when many countries have adopted lockdown measures and movement restrictions. As a result, consumers and many enterprises turned to online for trading, which boosted the sharp growth of e-commerce. Social media, as an instrument and platform for people to share their advice, insights, experiences, and opinions, are widely used by people with different standards of living, and more and more people chose to communicate through social media rather than meeting each other in person. In its early introduction, social media was commonly used for mutual communication; however, the constant improvements of social media have enabled it to meet many needs; for example, contemporary consumers can easily consume through various applications, such as Facebook, Line, Instagram, and Twitter. The global COVID-19 pandemic has significantly affected societies and economies across the world and affected every sector of society in different ways. This unprecedented situation has greatly affected consumers' daily lives and changed the behavior model of enterprises and consumers (Donthu & Gustafsson, 2020). Surveys conducted after the outbreak of the pandemic showed that global consumers were viewing products and brands with new perspectives (Eger et al., 2021), and many consumers reconsidered their existing purchasing and shopping habits, and even tried to learn new shopping habits (Sheth, 2020); during the COVID-19 pandemic, many consumers even made impulse purchases due to fear and other reasons (Ahmed et al., 2020). As many countries adopted extraordinary restriction measures, some consumers turned to online shopping, cash on delivery, or no-cash payment, which they had never considered before (Pantano et al., 2020). To this end, enterprise managers and marketing staff had to monitor changes in consumers' shopping behaviors and habits to understand what strategies they should use to respond (Verma and Gustafsson, 2020).

Electronics marketing (or E-marketing) was introduced around 1990 (Biermann, 2007). Now, purchasing goods or services through television, telephone, or websites has become the common consumption methods of consumers. The total population of Thailand is 68 million, and a survey carried out among Thai consumers showed that more than 38 million people used the internet (accounting for over 56% of the population) and 34 million people used social media. In terms of the services and shopping used by Thai people, 44% purchased goods or services online, 48% had searched goods or services online, and 40% accessed online shopping websites via laptops and personal computers, while 31% used smartphones (Sheth, 2020). As frequent users are more sensitive to internet use, university students represent the important user groups of online shopping markets, thus, this study explored the shopping behavior of students in Thailand Bangkok University amid the COVID-19 pandemic. The goal of this study was to understand the behaviors that could influence Bangkok University students in their decision-making when ordering goods online and explore methods to improve online stores to increase customer

satisfaction. Moreover, questionnaires were used to probe into various issues, such as customers' online shopping, social media types, consumer behaviors, online shopping, internet behaviors, online product advertisement, online channels, payment methods, and ordering decisions. The duration of this study was two months (September to October, 2021), and all samples came from 395 students from Bangkok University. Smart PLS 3.0 was used to conduct path analysis testing of the research model and Bootstrapping was applied to verify the independent samples t-test. The results of this study are expected to be a reference for the operations of online shopping, as well as for future researchers of relevant studies.

2. Literature Review

2.1 Consumer Online Shopping

In recent years, online shopping has experienced rapid growth due to the features of booming customer demands and increasing product categories. In 2019, global online shopping accounted for 14.1% of the overall retail sales, and the trend was expected to grow. However, as most of the online purchases focused on certain categories, such as clothing, music, or electronic devices, there were still obstacles to the future development of online shopping (Tolstoy et al., 2021). The motivations for customers to shop online have long been the topic of many studies. Hirschman and Holbrook (1982) divided customers into two types based on purchasing motivation. The first type was described as problem solvers, meaning those who shopped online to purchase specific products or services, and this kind of purchasing was seen as a business (Babin et al., 1994). The other type consisted of people who sought entertainment, stimulation, and happiness, believed online shopping was enjoyable and were looking for potential entertainment (Holbrook, 1994). However, many studies have found that shopping websites were the business entities that consumers traded with during online consumption, and when risk factors existed between the bilateral parties involved in online trading, trust became the critical basis for consumers' motivation to participate in e-commerce.

Millennials born between 1984 and 1995 grew up with computers and were considered to be the high-tech generation (Ladhari et al., 2019), meaning they were individualists, well-educated, tech-savvy, less likely to be easily bamboozled like previous generations, and well-informed (Valentine and Powers, 2013). Moreover, millennial consumers are almost always connected to the internet, which made them more likely to engage in online shopping (Ladhari et al., 2019). However, as it was easy for them to access quotes and the information required to compare products, their purchasing decisions were more complex and time-consuming (Rahulan et al., 2013).

2.2 Types of Social Media

Social media, which is usually seen as a general concept, refers to the virtual community and internet platform where people create, share, comment, discuss, and have mutual communication. The most marked difference between community

media and public social media is that social media users are given more options and editing abilities, and they can form their own groups for reading, listening, etc. In addition, social media content can be presented in various forms, including texts, pictures, music, and films. Each social media platform has been designed and customized in line with different goals and target groups (Ngai et al., 2015). Zhu and Chen (2015) proposed a matrix classification for social media based on how different social media platforms meet human needs; for example, social media can enhance the bond between internet users, help enterprises and consumers establish closer relationships, and increase sales (Busalim & Hussin, 2016). As the number of internet users grows, social media creates a pivotal opportunity for the development of social commerce, which consumers can use to purchase products and share product information, experience online shopping, and post comments regarding products and services. According to surveys, 76% of consumers tend to purchase the products and services seen on social media, and more than 75% of young consumers were interested in the products that they saw on Facebook. Interestingly, there were more than 25 million stores on Instagram and over 80% of Instagram users followed at least one store (Ahmed, 2017).

The Use and Gratification (U&G) theory mainly discusses the research orientation of selecting and using a media from the perspective of readers and listeners, which was one of the most frequently applied frameworks to test the usage motivation of media users (Calder et al., 2009; Muntinga et al., 2011). According to the U&G theory, people actively seek certain media and content for a certain use and to obtain certain satisfaction (or results). The satisfaction obtained could be divided into instrumental (looking for information) and non-instrumental (entertainment) (Severin & Taknard, 1997). Regarding motives for media use in general, McQuail (1983) proposed four different types of motivation, namely, entertainment, integration and social interaction, personal identity, and information. In addition to the abovementioned four motivations related to the use of social media, Muntinga et al. (2011) suggested adding remuneration and empowerment. Tsai and Men (2013) put these six motivations into practice in their study regarding the interaction between social media users and brand pages. Thus, this study put forward the abovementioned six U&G categories as the motivations for people to use social media platforms.

2.3 Online consumer behavior

Over time, the internet has become an indispensable part of people's daily lives. Consumers can find products they are interested in through direct access to retailers' stores or search in search engines to replace suppliers. Moreover, search engines can show the usability and price of the same product in different digital stores. In particular, readjusting products on a display page in the online environment is much easier than on physical shelves. Therefore, compared with brick-and-mortar retailers, online retailers can design their product display strategies more flexibly, and based on customers' shopping behaviors. In addition, brand product suppliers

are also concerned about how to attract the attention of more consumers. However, the product specifications of online products shown on display pages are limited, meaning consumers can only see a small part of the product information, such as the product's name, picture, brand, and price (Liu et al., 2017). As purchasing behaviors have been highly affected by external and internal factors, online shopping has become the preferred venue, and consumer behaviors have experienced a series of changes (Chaudhuri, 2006). Technology plays an important role in the development of human lives (Tabbasum, 2019), has significantly changed the flow of human resources, products, and cash. It not only brought fundamental changes to information and communication technology but also changed people's production activities, lives, interpersonal relationships, and thinking patterns, thus, technology has had a widespread influence on the way people live (Liu et al., 2021).

2.4 Online Advertising

In recent years, aside from television, the internet has been considered the largest media for running advertisements. With the remarkable increase of the netizen population, as well as the booming development of e-commerce, many enterprises use online advertisements for promotion, which has greatly increased the prominence of online advertisements. The success of this market has been partly due to the growth and popularization of online information product promotion, as online advertisements use the internet and the World Wide Web to spread marketing information and attract customers (Meyers and Gerstman, 2001). In recent years, the effectiveness of online advertisements has garnered great attention from academia and practitioners, and numerous studies have discussed the impact of the content and design elements on the advertisement effect (Lohtia et al., 2003; Calisir & Karaali, 2008) or measured the customers' cognition and the use of internet services, such as exploring consumers' attitude regarding online services and online purchasing (Miller, 1996; Menon & Soman, 2002).

2.5 Online Channels

According to data from Statista.com, the value of global online sales reached USD 2.29 trillion in 2017 and was expected to reach USD 4.48 trillion by 2021 (Statista Inc., 2018). Euro Monitor International, which is a research agency, focused on consumer spending and stated that there were about 1 million active sellers on Amazon, and in 2017, 66% of Amazon shoppers' spending was paid for products sold by active sellers (Resende et al., 2018). Meanwhile, according to the statistical report issued by the China Internet Network Information Center, China's e-commerce platform registered RMB 116.4 billion from January to May 2018, which was an increase of 39.1% (State Internet Information Office, 2018). As time goes on, the world has witnessed the strong momentum of e-commerce growth, and more and more manufacturers try to distribute their products through online channels, as online sales offer another channel for manufacturers to distribute their

products, which reduces their dependence on offline channels. Hence, manufacturers' and offline retailers' trade-off decisions could be different, given the existence of the online sales channels. Furthermore, manufacturers and offline retailers cooperate under all kinds of power structures (El-Ansary & Stern, 1972), including the vertical Nash structure (VN), manufacturer Stackelberg structure (MS), and retailer Stackelberg structure (RS), which are different from the existing studies on the selection of online selling modes (Tian et al., 2018; Tan et al., 2016).

2.6 Payments

The past ten years have seen payment methods change rapidly due to technological advancements. Aside from traditional cash payments, consumers also used debit or credit cards, as well as mobile payments in online and offline environments. Since the outbreak of COVID-19, the use of mobile payments experienced a notable increase (Shearman, 2020), and some experts and analysts have even suggested that the current COVID-19 crisis might speed up the arrival of the no-cash era (Huet & Murray, 2020).

2.7 Decision to Order

Consumers' purchasing decisions refer to the process of customers making prudent comments on the nature of a product, brand, or service, and making decisions and purchases to meet a certain need. This systemic decision-making process includes various procedures, such as ensuring the need, forming the purchasing motivation, choosing and implementing the purchasing plan, and making post-purchase comments. Customers make decisions based on the result of an automatic psychological process, meaning many of their decisions are in fact a coordinated result of conscious and unconscious processes (Fitzsimons et al., 2002). According to Zaltman (2000), 95% of decisions were made unconsciously and automatically. The decision-making process is the key to understanding consumers' behaviors, and various studies have analyzed how individuals make decisions, choose, consume and dispose of products by applying resources, such as time, money, and energy. Moreover, consumers' behaviors could be affected by their emotions, psychological influences, and behavior status. In terms of affecting consumers' behaviors, family, motivation, and psychological factors were key elements, and more important than other elements, such as price and marketing, and these factors belong to different categories, namely, personal, social, psychological, personal, and situational facets (Dulam et al., 2021). As the number of netizens continues to increase, there are many business opportunities in the internet market that boast economic production value. Among various online commercial activities, online shopping was the most direct for consumers to reach enterprise institutions. According to Rayport and Sviokla (1995), the emergence of the internet changed business competition from the physical marketplace to the marketpace, and because it is easy to access the online shopping market, a raft of enterprises joined this competition arena. However, internet practitioners that wanted to develop the market had to understand

consumers' behaviors and decision-making processes in the online market, and then, determine how the internet challenged the traditional theory framework (Butler & Peppard, 1998).

3. Theoretical Model

3.1 Framework Concept

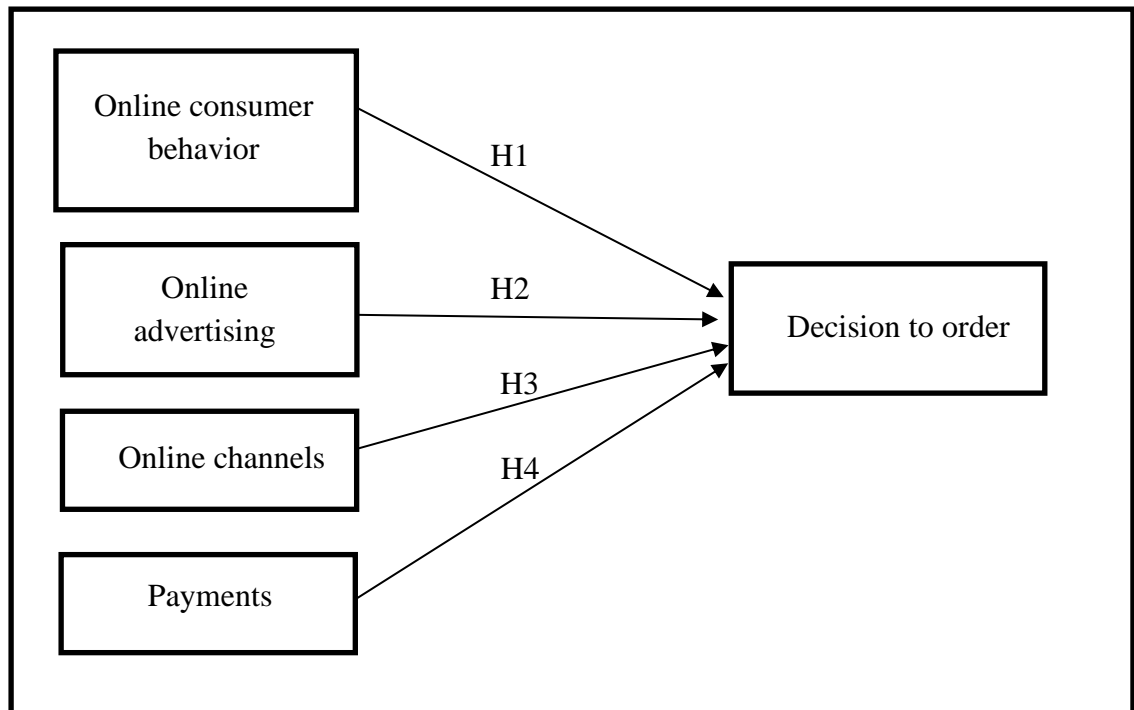


Figure 1: Research Model

3.2 Research Hypothesis

H1: Different online consumer behavior will affect the decision to order products.

H2: Different online channels will affect the decision to order products.

H3: Different online advertising formats will have different effects on decisions to order online.

H4: Different payment methods will affect the decision to order products.

3.3 Methodology

This study used a two-part data collection method, and general opinions include the types of online shopping behavior decisions, such as gender, age, year of study, and faculty of study. The survey sample in this study consists of 395 Bangkok University students in Thailand. The questionnaire was compiled using a Google Form, and the data were analyzed using smart PLS 3.0.

3.4 Operational Definition

- 1) Online consumer behavior: Is the Internet network convenient and useful for customers' online shopping?
- 2) Online advertising: Do customers know product information from various media in online advertising?
- 3) Online Channels: What channels do customers use to shop online?
- 4) Payments: How do customers shop online and choose a payment method for their products?
- 5) Decision to Order: Products are diversified and have various promotions. As it is convenient to access information, it facilitates customers' decisions regarding whether or not to order online. The research questionnaire in this study has 25 questions.

3.5 Information Used for Data Collection

This study used the convenience sampling method to distribute pre-test questionnaires online before the formal questionnaire was issued. The consultants confirmed that the questionnaire items, and their meanings, were accepted by the public, and then, the formal questionnaire was issued. The data collection tool for this study was a list type questionnaire and the scores were measured using a 5-point Likert scale.

3.6 Population Determination

A population is defined as a complete set of individuals, cases, or objects with some common observable characteristics (Mugenda & Mugenda, 2003). The targeted population for this study consists of internet users who know how to make an online purchase and those who will possibly make another purchase in the future. The scope of potential respondents focused on students at Bangkok University in Thailand with online shopping behaviors.

3.7 Data Analysis Methods

This study used Smart PLS 3.0 path analysis software to test the reliability and validity of the hypothesis and conduct analysis verification of the measurement model and the structural model, and Bootstrapping was applied to obtain the t-value test hypothesis, and determine whether or not it was significant. PLS conducts analysis based on the principle of regression, which is used to test the research hypothesis regarding the relationship between the various facets proposed in this study. The quantitative data include the collection and conversion of data into the numerical form to analyze the statistical calculations, which are summarized in the conclusion of this study. This study conducted a quantitative analysis of the data, including frequencies, mean, and percentages, converted the data into numerical form, and defined the statistical data of the participants, in order to determine how the factors affected decisions to order online products.

The structure of this study, the measurement model, and hypothesis tests were analyzed by the smart partial least squares method (Smart PLS 3.0).

4. Result and Discussions

4.1 Data Collection

This research method involves using standardized questionnaires or interviews to collect data about people, as well as their preferences, thoughts, and behaviors, in a systematic manner. Data were prepared by following processes, namely data coding (the process of converting the data into numeric format), data entry (coded data should be entered; for example, spreadsheet), missing values (for example, some programs calculate the estimations of the missing values and use those estimations in analysis), and data transformation (sometimes it is necessary to transform data for a meaningful interpretation). The questionnaire of this research was created using Google Form and forwarded to the respondents via Facebook. Google Form has automation ability, meaning all of the answers were input into a spreadsheet, which was automatically downloaded and analyzed. This research received 395 valid questionnaires.

4.2 Narrative Statistics

The analysis results of this study explain the basic demographic information of the respondents to the questionnaire. Data were collected from the participants, including gender, year of study, and faculty of study, and the researcher received a total of 395 questionnaires. The personal information from questionnaires shows that the online shopping behavior of students includes more women than men, women are 62.7% (248 of 395), men are 34.9% (138 of 395), and LGBT are 2.2% (9 of 395). As per the faculty of the study group, the School of Business Administration accounts for 59.7% (236 of 395), the School of Communication and Arts accounts for 37.4% (148 of 395), the School of Engineering accounts for 2.0% (8 of 395), and the School of Law accounts for 1.1% (3 of 395).

As per the year of study group, freshmen account for 87.5% (346 of 395), sophomores account for 5.3% (21 of 395), juniors account for 1.7% (7 of 395), and seniors account for 5.3% (21 of 395).

4.3 Reliability and Validity Analysis

The reliability test was conducted with smart PLS software version 3.0. Reliability refers to measurements that provide consistent results and measures stability, accuracy, repeatability, and research reliability. A scale is considered reliable if its Cronbach's alpha value is equal to or above the value of 0.70. The analysis of reliability results shows that all Cronbach's alpha values ranged from 0.850 to 0.788, which is higher than 0.70, meaning participants' responses were consistent in this study, the scales were reliable, and all 25 items were reliable and valid to measure the opinions of consumers' purchase intentions.

4.4 Discriminant Validity

Discriminant validity refers to the scope of measurements for different constructs, as well as their correlation with other constructs. This study follows the Fornell-Larcker criterion, which compares the square root of the average variance extracted (AVE) with the correlation of the latent constructs. A latent construct should better explain the variance of its own indicator, rather than the variance of other latent constructs. Therefore, the square root of each construct's AVE should have a value greater than the correlations with other latent constructs. Table 1 shows the Fornell-Larcker criterion validity of this study. The findings reveal that diagonals (in bold) represent that the AVE square root is higher than the indicators of the other constructs; in other words, all constructs have discriminant validity. Fornell and Larcker (1981) stated that each construct's square root AVE should exceed the correlations of the construct with the other constructs. All the AVE values in this study ranged from 0.147 to 0.791. Finally, it is concluded that the discriminant validity of this measurement model can be accepted, and discriminant validity between the constructs is supported.

4.5 Hypothesis Verification

This study used Smart PLS 3.0 to perform a path analysis testing of the research model. The Bootstrap method was used to amplify the estimated t value by twice the sample amount, in order to determine whether the hypotheses established in this study have significant relationships. The verification path coefficient, t-value, and verification results are summarized in Table 2. According to the t value of the hypothesis verification analysis summary table, as shown in Table 2, the factors that influence consumers' decision-making behavior are the best online channels for consumers to make online shopping decisions.

Table 1: Discriminant Validity of Construct

	Decision to order	Online consumer behavior	Online channels	Online advertising	Payments
Decision to order	0.760				
Online consumer behavior	0.491	0.759			
Online channels	0.570	0.483	0.791		
Online advertising	0.575	0.400	0.385	0.735	
Payments	0.379	0.147	0.256	0.358	0.705

Note: The diagonals (in bold) represent the squared roots of average variance extracted (AVE) while the other entries represent the factor correlation.

Table 2: Path Coefficients, T-Values, and Support for the Hypotheses

Hypothesis	Path coefficient	T-Value	Findings
H1 (+): Online consumer behavior is positively related to the decision to order	0.185	4.614*	Supported
H2 (+): Online advertising is positively related to the decision to order	0.324	8.002***	Supported
H3 (+): Online channels are positively related to the decision to order	0.316	7.547***	Supported
H4 (+): Payments are positively related to the decision to order	0.155	5.031*	Supported

Notes: Significant (one-tail t distribution, one-sided test),

* $p < 0.05 \Rightarrow t > 1.66$ ** $p < 0.01 \Rightarrow t > 2.57$ *** $p < 0.001 \Rightarrow t > 3.29$

This study referred to literature and questionnaires to collect samples, and the results of statistical analysis show that the facets of the 4 factors of online shopping behavior of students all have a significant impact on consumers' attitudes and purchase intentions. Online consumer behavior ($\beta=0.185$, $t=4.614$), online advertising ($\beta=0.324$, $t=8.002$), online channels ($\beta=0.316$, $t=7.547$), and payments ($\beta=0.155$, $t=5.031$), as shown in Table 2. According to the verification results: Hypothesis H1 is supported: Online consumer behavior is positively related to the decision to order ($t=4.614$, $p<0.01$). Hypothesis H2 is supported: Online advertising is positively related to the decision to order ($t=8.002$, $p<0.05$). Hypothesis H3 is supported: Online channels are positively related to the decision to order ($t=7.547$, $p<0.001$). Hypothesis H4 is supported: Payment is positively related to the decision to order ($t=5.031$, $p<0.05$). According to the statistical analysis data of this study regarding the online shopping behavior of students, the most important factors are that online channels are positively related to the decision to order and platform quality is an important factor positively related to purchase intention.

5. Conclusions and Recommendations

5.1 Main Finding and Discussions

This study found that online consumer behaviors, online channels, online advertising formats, and payments methods had strong influences on customers' purchasing inclination. With more and more consumers using online channels or using them more frequently, the COVID-19 pandemic has prompted retailers to accelerate their adoption plan for e-commerce, and more enterprises are questioning how their related new channel would affect their bottom lines and customers. In fact, with the introduction of new channels, customers have developed various ordering

behaviors and usage methods for both online and offline channels, and new multi-channelled behaviors have emerged (Kim & Park, 2018). The past ten years have seen payment methods changing rapidly to accommodate technological advancements. In addition to traditional cash, consumers can also use debit or credit cards and mobile payments in online and offline environments. Since the outbreak of COVID-19, the use of mobile payments has experienced a notable increase, which might speed up the arrival of the no-cash era.

During online shopping, the quality of payment platforms and user behavior when shopping on the internet are of equal importance. The rapid emergence and prosperous development of the internet has brought fundamental changes to information communication technology, and changed people's production activities, lives, interpersonal relationships, and thinking patterns, and such far-reaching influence has a widespread effect on the way people live. The internet upended traditional media and made it a symbol for bilateral communication. As ordinary internet users can become information providers on the internet, it breaks the boundary of information communication, broadens the width and depth of information communication, and spreads massive amounts of information on the internet, thus, the internet has gradually replaced traditional media, and become the major channel for the public to obtain information.

5.2 Research Limitations and Future Directions

The payment factor in this study had a low AVE due to the large number of regular customers that still prefer to use cash for their daily transactions. In the same way, in 2017, the Bank of Thailand reported that 93% of daily transactions in Thailand were conducted in cash, thus, e-Payment usage has only begun to replace cash in Thailand. Despite the growing use of e-Payment systems, the demand for cash still grows, and the seignior age has not yet declined (TPBS WORLD, 2019). Finally, as payment factors include more questions when using cash, the AVE rate became higher and is more significant. The limitation of this research is that the online shopping behavior questionnaire was only provided to students of Bangkok University, thus, future studies can collect data from other countries or demographics.

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