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The Impact of E-Commerce on Customer Satisfaction and Customer Loyalty during the COVID-19 Pandemic: A Quantitative Analysis in Thailand

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Abstract

The aim of this study is to identify the impact of e-commerce on customer satisfaction and customer loyalty among online shopping platforms in Thailand during the COVID-19 pandemic. This study analyzes user interface quality, information quality and perceived privacy as factors influencing customer satisfaction and loyalty. The samples (400 respondents) were collected from an online questionnaire by using snowball sampling, convenience sampling as well as stratified random sampling. After gathering the data, it was analyzed by using simple and multiple linear regression in order to confirm and show the significance of the hypotheses. For data analysis, Multiple and Simple Linear Regression analysis methods were applied as well as a Five-Point Likert scale method. This study found that user interface quality, information quality and perceived security have a significant, positive impact on customer satisfaction and loyalty. This study further suggests that in order to gain the loyalty of online customers, the online shopping platforms should focus on other factors e.g., trust, which influence customer satisfaction. Achieving these goals are highly likely to ensure customer loyalty. The limitations of this research paper are that it is specifically focused on Thailand and consumers living in Thailand. Therefore, the findings that result from this research might not apply to other countries around the world and will only represent the situation in Thailand.

Keywords : COVID-19, e-commerce, customer satisfaction, customer loyalty, online shopping, Thailand

JEL Classification Code: L86, N20, M30, M31, O33

1. Introduction

Looking back into centuries of human history, people have always conducted various types of trades with each other to meet their needs. One of the earliest trades recorded dates back to the Bronze Age 3000 BC (Kristiansen, 2018). Therefore, as one can observe, trading services or products between humans is an ancient practice, which still has not died out and is present even today. However, with the passage of time the ways that humans conduct trade has

changed. Technological advancement allows us to create virtual circles, where people can meet and exchange goods and services with each other, without having to move as much as a finger (Shafiee & Bazargan, 2018). The development of the Internet and its availability for commercial use (Cohen-Almagor, 2013) was a game changer in terms of how trade is now conducted and is known as Electronic Commerce (e-Com) (Grandon & Pearson, 2004). This new Internet-based e-Com environment enables consumers to purchase products, search for information or services and interact with the seller directly through online stores. That means, that the purchases made by consumers are not an actual experience, but rather based on the virtual cyberspace and platforms where the products appear as images, video clips, pictures and quality information (Kolesar & Galbraith, 2000). Spiller

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and Lohse (1997) described shopping online at a virtual store as being the same as shopping through a catalogue made out of paper. In both cases the consumer cannot smell or touch the products and when they make the purchase it involves having it delivered through mail delivery. Therefore, being able to shop online through the use of e-Com platforms depends on the ability of consumers interacting with their personal computers (PC) (Griffith et al., 2001). In addition, the number of Thai households shopping online has shot up 58 per cent during the Covid-19 pandemic, which has accelerated the region's shift to e-commerce. The dramatic rise in households buying online signals a turning point for e-commerce in Asia (The Nation, 2021). Therefore, in order to gain the trust of a consumer in an environment made out of electronic data, it is important for online retailers and platforms, who offer the sale of products and services, to have the ability to present accurate information, offer an easy-to-use navigation system and have an intact and smooth order fulfillment process as these factors are important in order to build an electronic commerce trust, unlike in the traditional retailing (Alba et al., 1997; Reynolds, 2000).

In the beginning of December 2019, the world experienced a global virus outbreak. The Coronavirus Disease 2019 (COVID-19) exponentially started spreading all around the globe, affecting consumer behavior not only in Thailand, but across continents. Millions of people were affected quarantine and strict law enforcements forcing them to stay at home and shifting their normal daily activities from offline to online. Working from home, shopping from home and meeting family and friends through various online channels became the new normal way of living. In 2020 the Thai government successfully implemented various measures in order to contain the virus and control its spread. Out of all the countries in the world, Thailand was one of the few that received praises from the World Health Organization (WHO) and other organizations for their swift and fast reactions to tackle the virus outbreak. This resulted in Thailand having one of the lowest death occurrences world-wide (Culp, 2020; WHO, 2020b). According to the WHO Dashboard Thailand experienced a total of 24,571 cases with only 166 new ones reported in the last 24 hours and "only" a total death count of 80 as of 14th February 2021 (World Health Organization, 2020). Given these numbers, it is reasonable to assume that comparing to other countries around the world, Thailand is one of the safest to currently reside in.

This research will focus only on the e-commerce sector in Thailand which will not necessarily be representative of other countries. The researcher will examine if customer satisfaction and customer loyalty have experienced any type of change regarding online shopping on platforms that are mostly used in Thailand and the impact of e-commerce

during the COVID-19 pandemic on them. Through the questionnaire the researcher would conduct a quantitative analysis in order to see if consumers changed their buying patterns as well as if the pandemic affected the e-commerce sectors as a whole and what impact this had on satisfaction levels of customers and their loyalty towards their preferred online shopping platform. Various factors, which influence customer satisfaction have been analyzed and put together into a framework, in order to see if previous research still applies even during the covid-19 crisis. Furthermore, the paper offers potential insights into the e-commerce sector in Thailand, which has experienced a boom in recent years, providing up-to-date data for online retailers and their management in order to better analyze consumer behavior and adapt strategies to boost their sales.

2. Literature Review

2.1 The prevalence of COVID-19 in Thailand

Thailand is known to be one of the top tourist destination countries in the world. Tourism in Thailand plays a critical role as a key driver for the economy in the country. As of 2019, tourism represented 18.4% of the Gross Domestic Product (GDP). In 2020, tourists from mainland China represent 27.5% of all international tourists (Namwat et al., 2020). However, in January 2020 Thailand experienced its first cases of COVID-19, which spiked the first time in March 2020. This resulted in the Thai government introducing the decree of a national-wide lockdown (Department of Disease Control/ Office of International Cooperation, 2020), where it was forbidden to leave your house after 10 pm until the early morning hours. However, because of the Thai governments fast reaction to the rising cases and the quick implementation of the measures to prevent the spreading further, they were able to keep the virus outbreak numbers to a minimum (WHO, 2020a). As of late June, restrictions were relaxed with reports of 100 corona-free days. The following 6 months were considered relatively safe and people were again able to freely travel inside the country, while still following the ongoing regulations on personal hygiene and wearing masks at all times. However, as persistent as the virus is, it re-appeared during the end of December, causing thousands of infections per day in provinces all around the country, leading again to the closure of all kinds of public activities. Overall, the death toll in the country was kept under a hundred, a miracle considering the size of the country as per 15.02.2020 world-chart data issued by the WHO.

2.2 The present state of e-commerce in Thailand

Defining e-commerce is not an easy task since its definition has changed over the years. In the late 90's (Vladimir, 1996) defined e-commerce as “conducting business transactions by means of telecommunication networks, sharing business and other types of information, as well as implementing business relationships”. Another adoption of Vladimir's version is the one made by Clarke, (1999), which defined it as commerce supported by telecommunication-based tools. Later it was defined as the art of doing business over the Internet, allowing a person or company to buy or sell products and services that can be delivered offline, as well as digital products like consulting services or computer software, which can be provided online (Coppel, 2000). One of the most recent definition of e-commerce was given by the European Union (EU) for official use, “the sale or purchase of goods or services, whether between businesses, households, individuals or private organizations, through electronic transactions conducted via the internet or other online communication (computer-mediated) networks” (Eurostat, 2019).

As the definition changed over the years so did its global usage. Within the Internet economy, the e-commerce sector is currently holding the greatest market share, followed by online travel and media. Indonesia currently being number one, followed by Thailand which has an internet economy size valuing at 16 billion U.S. dollars in 2019 (Statista, 2020). Thailand has progressively become more and more digitally connected over the last years (ETDA, 2019) and in 2019 it ranked 8th place based on number of internet users in the Asia Pacific region with China leading the 24 countries. Based on geographical measurement, Thailand's central region had the highest number of households with access to the internet with over 74.7% of the households having a 3G mobile wireless connection (Statista, 2020). Further statistics show that Thai consumers prefer buying products, which are offered domestically and also prefer using domestic e-payment platforms rather than making cross-border purchases. According to Statista, one of the main reasons why e-commerce platforms became so popular in Thailand is based on the fact that they are seen as convenient and offer major discounts and promotions. Furthermore, the available payment options were also seen as a key driver to the popularity of online shopping platforms as they offer the option for the online customers to pay cash on delivery rather than accepting solely card payments. The most popular online shopping platform for Thai online consumers is Shopee with approximately 47.24 million monthly web visits in the second quarter of 2020 followed by Lazada with 44.11 million visits (Statista, 2020). Shopee offers its customers a variety of products, promotions, has a relatively

easy to navigate in platform structure and also delivers its services on time.

2.3 Theories related variables

2.3.1 User interface quality

User interface quality is linked to convenience to browse for goods or information, to the system layout of an online shopping platform, to the navigation on said platform or plainly for searching (Spiller & Lohse, 1997; Szymanski & Hise, 2000). Lohse and Spiller (1998) found out that a poor online platform design can potentially lead to purchasing transactions not being made. Therefore, it is important to understand the impact that different designs of the layouts can have on the consumer (Lohse & Spiller, 1998). By providing features like site maps, guided navigation as well as a search functions bar online platform can help consumers to navigate through their platform. Thus, a set of items were developed in order to measure user interface quality for the customer in order to evaluate ease of navigation and ordering. In effect a well-designed platform is essential both to attract and retain customers. It should be noted that customers do not perceive the online shopping experience as a sub-parameter, but instead will evaluate the overall process (DeLone & McLean, 1992). Whenever a customer logs into the system, their first impression will be the platform design. Platform or website design describes the user interface design. This is important because it can help ensure new customers will progress further into the platform. (Bhattacharjee, 2001) found that satisfaction is one of the major drivers for customers to continue their online shopping experience. The satisfaction that a customer derives from a well-designed website or platform can potentially enhance purchase intentions. The customer, who was satisfied with their initial experience of a platform is more likely visit it again. Thus, proposing the following hypothesis:

H1: *User interface quality has a positive effect on customer satisfaction in online shopping platforms during the COVID-19 pandemic.*

2.3.2 Information Quality

Information that is provided by an online platform can be divided into two parts. One is information about the product and the other is information about the service. The former includes information about the attributes of a product, the recommendations from other consumers as well as various evaluation reports (Park & Kim, 2003). The later, service information, usually contains information about

ongoing promotions, information about memberships, the ordering and delivery information as well as FAQs.

In order to evaluate these two types of information, Park and Kim (2003) adopted six components about information satisfaction which they linked to information quality. The six components are: understandability, playfulness, sufficiency, consistency, relevancy and recency (DeLone & McLean, 1992; Moon & Kim, 2001; Wang & Strong, 1996). According to Wolfenbarger and Gilly (2001), these types of information are the basis of online platforms designed to support customer service and product searching. Other factors may include relevance i.e., ensuring that the customer can foresee the use and quality of a product or service. Approximately two-thirds of all potential the transactions not completed, because the online customers are unable to find the information they require, in order to quickly complete their online purchase (Chang & Chen, 2009). According to Shankar et al. (2003) customer satisfaction increases when it is easy for the online consumer to acquire information compared to offline. Information quality as one of the characteristics of interface quality has the ability to influence the level of satisfaction of consumers both significantly and positively (Sadeh et al., 2011).

Zhang et al., 2000 found that in order for the information to satisfy the consumer's needs, it should be up to date for the products and services and easy to understand, providing the people with enough help so that they can make a reasonable choice. Thus, proposing the following hypothesis:

H2: *Information quality has a positive effect on customer satisfaction in online shopping platforms during the COVID-19 pandemic.*

2.3.3 Customer Service

Customer service is concerned with return policies and how an item return is being handled during and after the sale of a product (Blut, 2016). In offline stores specialized staff in customer service are present and can assist customers throughout the purchasing process. By contrast online customers have to go through the whole purchasing process by themselves, with no customer service assistant present (McLean & Wilson, 2016). Therefore, the easier it is to navigate through the whole process, the more likely it is that the customer will buy from that platform again. Thus, the better the service, the higher the customer satisfaction is likely to be (Liu et al., 2008). Furthermore, not only the return process is of importance but also the costs involved in the process. Should the consumer deem the transaction costs to be acceptable they are more likely to stay on the platform for further online shopping. In effect customer service and support will contribute to customer satisfaction

(Devaraj et al., 2002). Many online shopping platforms nowadays provide customer service that gives online consumers the option to further inquire about products they like and wish to purchase. To do this the platforms usually use some form of "web-based synchronous media". This type of media can come in the form of an online help-desk such as live chat or in form of a social media robot (BOT) which can respond to certain questions (Turel & Connelly, 2013). Thus, proposing the following hypothesis:

H3: *Customer service has a positive effect on customer satisfaction in online shopping platforms during the COVID-19 pandemic.*

2.3.4 Perceived Security

In the e-commerce sector, when one refers to security it typically refers to the customers perception of security of their transactions; namely payment options and the various mechanisms involved for entering, transmitting and storage of personal information. One of the major reasons potential customers chose not to shop online is because they are concerned that their sensitive personal information, when transmitted and stored, is not adequately secure. In particular the security of credit card details is one of the pressing concerns of the online customers (Chang & Chen, 2009). The Technology Acceptance Model (TAM) is aligned with the Stimulus-Organism-Response (SOR) framework, which suggests that the online shopping environment contains certain kinds of Stimuli (S), which affect consumers (Organisms O) and the result is that the customers show either approach or avoid that platform (R). In terms of behavior they are likely to search the platform, buy something or show possible re-purchasing intentions in the future (Mehrabian & Russell, 1974). Another study used TAM as a theory about information systems that forecasts how consumers will respond to a new technology (Salisbury et al., 2001) such as perceived security while online shopping. Such statistically based provide insights into how different levels of web security influence customers purchase intentions. The higher the level of perceived security the more likely it is that a consumer will initiate a purchase on a B2C e-commerce platform (Hartono et al., 2014). Therefore, online consumers will continue using a platform, which they perceive to be highly secure. The higher the level of security a platform can offer, the greater the customer satisfaction level will be which underlines how much perceived security contributes to customer satisfaction (Jin & Park, 2006). Thus, proposing the following hypothesis:

H4: *Perceived security has a positive effect on customer satisfaction in online shopping platforms during the COVID-19 pandemic.*

2.3.5 Perceived Privacy

Privacy is an important factor for customers while conducting their online shopping. There are several studies, which show that the biggest concerns of internet users are usually related to privacy and security. The study conducted by (Belanger et al., 2002) investigated four factors, which influence the purchase intention from online shopping consumers and their willingness to disclose their personal information for the process. The result of the study found that out of the four factors security features were considered to be the most important for the online shopping consumers. Wang et al., (2003) refer to privacy as the user's data being protected while they interact with a bank, making sure that the transactions are secured, and their privacy is protected.

Online privacy can be further defined as a trade-off between certain benefits and the online customer's private information (Ashworth & Free, 2006). It should be noted that online privacy usually refers to personal information. This is important because customer concerns include not only how this personal information is collected, but also their lack of control over how their information may be used is going to be used not only in the future but also by other parties (Castañeda & Montoro, 2007). The more privacy an online e-commerce online shopping platform can provide, the more likely it is for the customer to get a satisfactory experience (Eid, 2011). Thus, proposing the following hypothesis:

H5: *Perceived privacy has a positive effect on customer satisfaction in online shopping platforms during the COVID-19 pandemic.*

2.3.6 The Emotional State during Online Shopping

Emotion is a concept which has more than just one dimension - three emotional dimensions have been identified. The first being pleasure/ displeasure, arousal/awakening and non-dominant/non-dominance (Mehrabian & Russell, 1973). Pleasure or enjoyment is a happiness or personal satisfaction, which can be felt when exposed to a stimulus. Another definition in terms of shopping is "a primary motivation for purchasing hedonic products or services, or as a signal that a transaction has been satisfactory" (Maute & Dubés, 1999). Pleasure can be further divided into three sources: sensory, psychological, and social pleasure. Sensory pleasure is concerned with contact between the physical world and an individual. Being

around family and friends and doing activities together is social pleasure. Finally there is psychological pleasure, where one experiences a positive emotion during a specific experience, for example consuming something (Dube & Maute, 1998). Kardess (1988) argues that arousal is a physiological state based on emotional stimuli. Dominance is defined as the extent to which the individual controls or is controlled by stimuli.

To conclude, an emotional reaction is when one experiences a specific type sort of stimulus over a relatively short period. In this study the researcher will try to show the impact and connection that such emotions have on the level of satisfaction of online consumers. A famous researcher in the field of emotions once said "the primary reaction of an individual in a situation, where the emotional and the cognitive conflicts, is emotional" (Zajonc, 1980, 1984). On this basis the following hypothesis was made:

H6: *The emotional state in online shopping has a positive effect on customer satisfaction in online shopping platforms during the COVID-19 pandemic.*

2.3.7 Customer Satisfaction

One of the important goals for any kind of online or offline seller is achieving a high level of customer satisfaction with their products or services. This goal is especially important for online platforms. Generally speaking, it can be said that there are two ways to determine the overall satisfaction experienced by an individual: the first being the "cumulative customer satisfaction" approach, which is based on the experience that has accumulated over time with a purchase experience (on or off line). The second, is the "transaction-specific" approach which considers only the most recent experience that provoked an emotional reaction in the shopper. (Chang & Chen, 2009). Regardless of satisfaction type it is an essential factor in obtaining customer loyalty (Pham & Ahammad, 2017). Other researchers believe that customer satisfaction is the key in order to create future patterns of buying behavior (Kotler & Armstrong, 2010). Kotler further stated that customer satisfaction is the degree of relief or disappointment, derived from the comparison between a products' characteristics or performance and the anticipation of them on a personal basis. Schmitt (1999) suggests that customer satisfaction increases when one places value in the customer. In the early 2000's Wei created an approach in order to increase levels of customer satisfaction. The basis of this approach is to determine and satisfy customer needs. In effect, regardless of selling medium, understanding customer expectations and meeting them will result in not only customer loyalty but also trust and future business (Wei, 2002). The work written by (Sun, 1992) further supports the claim of Wei

2002. There are many definitions of customer satisfaction. However, regardless of definition, the level of satisfaction is related to the difference between what they hoped to gain from a product and its actual performance. Meeting customer satisfaction levels are likely to increase the interactions between them and the supplying entity (Henkel et al., 2006). (Yang & Peterson, 2004) found out that when customer satisfaction levels are raised and service value is improved, then customer loyalty can be generated in the process. Therefore, the following hypothesis was made:

H7: *Customer satisfaction in online shopping platforms during the COVID-19 pandemic has a positive effect on customer loyalty.*

2.3.8 Customer Loyalty

Customer loyalty can be defined as the willingness to re-buy a brand or service without being affected by competitors (Oliver, 1999). Significantly, word-of-mouth can be a good indicator of loyalty (Gould, 1995). Gould, found that a customer being loyal to a company that provides goods and/or services is such that they are likely to communicate their satisfaction to others. This method is especially important when shopping online. Online customers, compared to offline ones, are more likely to rely on recommendations from their friends or family or simply other online users, who have already experience with the searched product. The reason being that since the purchase is made online and one cannot physically touch the goods it is harder for the consumer to make an accurate judgement on the product (Wu et al., 2018). When a customer is satisfied with a product or service, there is an increased likelihood of a re-purchase, which may result in long term customer loyalty. The European Customer Satisfaction Index (ECSI) study demonstrated that customer satisfaction has a direct relationship with customer loyalty (Gronholdt et al., 2000).

2.4 Research Framework

Five theoretical frameworks have been adapted to construct the research conceptual framework in this study which are:

First, the framework developed by Ltifi & Gharbi (2012). They studied the impact of emotional state and perceived risk related to remote purchases i.e., the e-satisfaction associated with online shopping. The result of their study was that three dimensions of the emotional state, namely pleasure, stimulation, and dominance, all have a significant impact on e-satisfaction.

Second, (Rita et al., 2019) framework based on this framework, Rita et al. conducted a study of e-quality in

order to better understand the most important dimensions of e-service quality that have an impact on customer satisfaction, behavior and trust in online shopping.

Third, the research model of Eid (2011). Within a Saudi Arabian context, Eid attempted to identify the factors that influence consumers trust, satisfaction and loyalty in a Business to Business (B-2-B) e-commerce platform.

Fourth, Chang and Chen (2009) attempted to find out the relationship between customer interface quality, perceived security and customer loyalty. The analytical result of their research concluded that customer interface quality and perceived security positively affect customer satisfaction and switching costs therefore achieving customer loyalty to an e-commerce website.

Lastly, fifth by (Hidayat et al., 2016) analyzed the effect of online customer satisfaction and trust on the loyalty of online customers. The results of their study shows that online customer satisfaction is positively and significantly influenced by user interface quality, information quality, customer service, security, and privacy.

Based on the above analysis of previous literature and research into the field of e-commerce online platforms the author of this study has combined elements into an alternative framework (Figure 1).

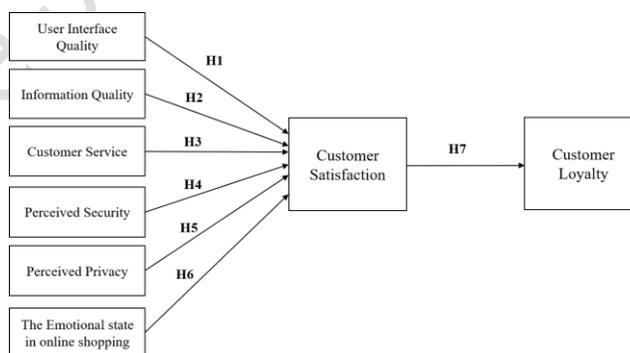


Figure 1 Conceptual Framework constructed by author

3. Research Methodology

For this study, a quantitative method was chosen based on a large sample size. The purpose is to analyze the impact that the covid-19 pandemic had on the e-commerce sector in Thailand, and how or if consumers were influenced by it based on the research hypotheses identified above (H1 to H7). The methods used in evaluating the results from the questionnaire are statistical in nature. In order to determine the reliability of the test, Cronbach's Alpha and Item-Objective Congruence test were used for the pilot test. The conceptual framework in this study outlines the independent and dependent variables, and by further using linear and

multiple regression analysis the influence of the independent variables on the dependent ones was determined. Furthermore, current academic knowledge was gathered through a throughout analysis on customer satisfaction and other variables in order to establish a firm literature review and show the present state of information that is available for this topic. This secondary data was derived from reliable, and academically recognized journals, research papers, and articles.

3.1. Population and Sample Size

The target population in this research are the people, who currently live in Thailand and have shopped at least once online. According to the data provided by the UN, there are currently 69,927,573 people living in Thailand as of March 2021 (Worldometers, 2021). To be able to find the appropriate sample size, the Yamane formula was used, based on a confidence level of 95% (Yamane, 1967). Eight variables were used as the parameter values and a total of 37 questions were used as scale items with the probability level being at 0.05 (5%). By using Taro Yamane's formula, the calculation the sample size of 400 respondents would be appropriate for a population size of 69,927,573.

3.3 Sampling Technique

The researcher applied the non-probability sampling methods, which adopted convenience sampling technique and snowball sampling technique in this study.

Convenience Sampling Technique - The researcher chooses this technique as they are easy to recruit, and the researcher did not consider selecting a sample that represents the specific population.

Snowball Sampling Technique - The researcher uses this technique because the researcher will ask support from friends, relatives, and colleagues to distribute the survey to the sample size (Ponto, 2015).

The questionnaire was distributed via online through WhatsApp, Line, Facebook Messenger and Instagram. 400 collected respondents were screened to meet the target group. Questionnaires with missing data, insufficient responses were removed from statistical analysis to gain accuracy. After cleaning the data, the researcher has taken 400 respondents.

3.4 Pilot Test

Each Variable in this study was analyzed by using Cronbach's Alpha to ensure the reliability of the test and unidimensional of the measurement scales. A set of 50 responded qualified questionnaires were analyzed by using SPSS program to test the reliability. Cronbach's Alpha was

used to determine the reliability of the scale items used in the pilot test questionnaire survey. Should the values represent the value of $\alpha = 0.91 - 1$ it would mean that the reliability of that variable is excellent. $\alpha = 0.81 - 0.90$ represents a good reliability, $\alpha = 0.71 - 0.8$ is still good and acceptable, $\alpha = 0.61 - 0.7$ means the variable is acceptable and everything below $\alpha = 0.6$ would be counted as not acceptable (Konting et al., 2009). The results from pilot test have Cronbach's Alpha Coefficient of 0.60 and above. The results of Cronbach's Alpha are shown in Table 1.

Table 1. The pilot testing results of Cronbach's Alpha

Variables	Sources of Questionnaire	No. of items	Cronbach's Alpha
User Interface Quality (UIFQ)	Eid, M. I. (2011)	4	0.716
Information Quality (INFQ)	Eid, M. I. (2011)	3	0.786
Customer Service (CS)	Wolfenbarger, M., & Gilly, M. C. (2001)	4	0.712
Perceived Security (PS)	Eid, M. I. (2011)	4	0.740
Perceived Privacy (PP)	Eid, M. I. (2011)	5	0.778
The Emotional State (ES)	Koufaris, M. (2002) & Palmer, J. W. (2002)	8	0.825
Customer Satisfaction (CSTF)	Yonghai Hou. (2005) & Eid, M. I. (2011)	4	0.686
Customer Loyalty (CL)	Yonghai Hou. (2005) & Eid, M. I. (2011)	5	0.800

Table 1 shows the reliability test for this research. The minimum acceptable alpha value is 0.6. The variable with the highest reliability value is (ES) with $\alpha = 0.825$ (α is not in the table); and the one with the lowest is (CSTF) with $\alpha = 0.686$. Hence all variables meet the required reliability standard.

4. Results and Discussion

The questionnaire, distributed to 400 respondents, included demographic information such as gender, age, their monthly income as well as their education. The first demographic information that was analyzed is the gender of the respondents. The results show 128 were male (32%) and 272 females (68%). The age of the respondents varied from below twenty to more than 51 years old. The minority of

them being below 20-year-old (3.75%); 16.75% were between the ages of 21-30; 27% were between the ages of 31-40; 28.75% were between the ages of 40-50, and finally a 23.75% were over 51 years old. Regarding income level, 19% of respondents earned less than <10,000 Baht; 60% earned between 10,001 and 35,000 Baht; and finally, 21% earned more than 35,001.

To conclude the descriptive analysis for the demographic information of the surveyed people, their education level was being analyzed. 33 of the respondents answered that they have earned a High school diploma (8.25%), 148 bachelor's degrees were earned amounting to a 37%, Master's degrees were received by 167 people (41.75%) and lastly, 52 stated that they have received a PhD-level education (13.0%) (see Table 2).

Table 2 Demographic summary of the respondents

<u>Gender</u>	<u>Frequency</u>	<u>Percentage</u>
Male	128	32.0
Female	272	68.0
Total	400	100
<u>Age</u>		
<20 years old	15	3.75
21-30 years old	67	16.75
31-40 years old	108	27.0
>51 years old	115	28.75
	95	23.75
Total	400	100
<u>Income</u>		
<10,000 Baht	76	19.0
10,001-35,000 Baht	240	60.0
>35,001 Baht	84	21.0
Total	400	100
<u>Education</u>		
High school diploma	33	8.25
Bachelor's degree	148	37.0
Master's degree	167	41.75
PhD	52	13.0
Total	400	100

Note: (n=400)

The first part of the hypotheses testing will be the conducted by a Multiple Linear Regression (MLR). This approach is used in order to determine the influence that the variables have on each other. In this study the variable Customer Satisfaction (CSTF) will be the dependent variable and the researcher will test, if the independent variables, namely User Interface Quality, Information Quality, Customer Service, Perceived Security, Perceived Privacy, and finally The Emotional State have an influence on the dependent variable. By using the R-square value, the proportion of variation in the dependent variable can be explained based on the independent one. Table 3 Shows that

the independent variable UIQ has a sig. level of (0.000), INFQ has a sig. level of (0.026), CS has a sig. level of (0.053), PS has a sig. level of (0.410), PP has a sig. level of (0.000). Finally, ES has a sig. level of (0.236). This implies that UIQ, INFQ & PP significantly influence the dependent variable Customer Satisfaction. The rest of the variables do not seem to have a significant positive effect on Customer Satisfaction. The Variance Inflation Factor (VIF) for UIQ, INFQ & PP is also below the value of 5, indicating that there is no overlapping in the model.

Table 3 Summary of MLR for the Dependent Variable Customer Satisfaction (CSTF)

Variables	B	Std. Error	Beta	Sig.	VIF
User Interface Quality (UIQ)	0.369	0.067	.356	.000*	3.734
Information Quality (INFQ)	0.083	0.037	.089	.026*	1.417
Customer Service (CS)	0.134	0.069	.126	.053	3.731
Perceived Security (PS)	0.044	0.053	.046	.410	2.711
Perceived Privacy (PP)	0.0312	0.061	.280	.000*	2.679
The Emotional State (ES)	-0.056	0.047	-.048	.236	1.438

Note: R Square = 0.558, Adjusted R Square = 0.551, *p<0.05 indicates that the null hypothesis can be rejected.

Similar to the MLR, Simple Linear Regression (SLR) is used to determine the relationship between two variables. SLR is used because there is a linear relationship between the dependent and independent variable. In this study the variable Customer Loyalty will be the dependent variable for the simple linear regression and Customer Satisfaction the independent variable. Again, R-square will be used, in order to show the proportion of variation between the dependent and independent variable. Table 4 shows the result of the simple linear regression analysis. The value for R-Square was 0.176 at a 95% confidence interval, meaning that Customer Satisfaction can explain Customer Loyalty by 17.6%. The table further shows that customer satisfaction has a significant and positive effect on customer loyalty since the sig. level value is at 0.000, thus implying that the hypothesis is supported. Furthermore, the VIF value is below 5 i.e., no overlapping, meaning that the difference between the variables is statistically significant, in the model as well. The conclusion is that CSTF has a significant

influence on CL. The standardized coefficient of 0.420, implying that if customer satisfaction increases by 1%, the chance of customer loyalty being raised is at 42%.

Table 4 Summary of the Simple Linear Regression analysis for the dependent variable Customer Loyalty

Variable	B	Std. Error	Beta	Sig.	VIF
Customer Satisfaction	0.558	0.060	0.420	.000*	1.000

Note: R-Square = 0.176, Adjusted R-Square = 0.174, *p< 0.05 indicates that the null hypothesis can be rejected

The hypotheses testing shows that three of the proposed hypotheses, namely “**H1a**: User Interface Quality (UIQ) has a positive effect on customer satisfaction in online shopping platforms during the COVID-19 pandemic, **H5a**: Perceived Privacy (PP) has a positive effect on customer satisfaction in online shopping platforms during the COVID-19 pandemic, **H2a**: Information Quality (INFQ) has a positive effect on customer satisfaction in online shopping platforms during the COVID-19 pandemic, and **H7a**: Customer Satisfaction (CSTF) has a positive effect on customer loyalty in online shopping platforms during the COVID-19 pandemic.” were supported by the research. In case of Thailand, it was important for the customers that user interface quality was high and also that their privacy was assured by online shopping platforms. Being able to provide an easy-to-use platform interface, where the user can find all the information he needs and is able to easily navigate through the platform will further lead to consumer satisfaction. The simpler and clearer the interface is, the more satisfied the customer will be. Furthermore, the results show that for the consumer, privacy is another important aspect. Private information such as personal data must be kept confidential by the platform provider and should also only be used for its intended purpose. Either for creating a user account, in order to enable the customer to shop through the platform, or storing only the data, which is needed for a successful online transaction to take place.

The research further showed that information regarding online transactions, detailed and accurate, up-to-date, product information is also important for the customer. The researcher recommends the online shopping platform providers to always ensure a quick and easy transaction process, because customers would rather not buy from a certain platform if it were too complicated to finish the payment process. Should the e-commerce platform be able to deliver these three conditions to the best of their ability, then the customers would be satisfied as shown by the results of the analysis. It is also evident that customer loyalty is positively influenced by customer satisfaction, meaning that as long as the satisfaction level of the buyer can be kept

high, they will be more likely purchasing from the same online e-commerce shopping platform again in the future. The benefits from loyal customers, especially in the online business, are evident. Should the online platform be able to successfully retain a customer and make him buy from their platform again, in the best case also telling his friends, family and colleagues about it, then revenue can be boosted and ensure a steady website traffic.

5. Conclusions

In order to evaluate the relationship between variables, two types of regression analyses were used: namely simple linear regression and multiple linear regression. The results from the MLR show that out of the 6 independent variables, 3 were significant, having a P-value of under 0.05 at a confidence level of 95%. The first one is User Interface Quality with a beta factor of .356, the second one being perceived privacy, where the beta factor showed a value of .280, and finally information quality with a beta factor of 0.089. Furthermore, from the SLR the independent variable was customer satisfaction and showed a significant influence on the dependent variable, customer loyalty. The beta factor is .420 and the significance value is below *p<0.05, showing a significant relationship between the two variables. Therefore, the results showed that Customer Satisfaction (CSTF) has a significant and positive influence on Customer Loyalty (CL).

This research study sheds light on how the pandemic influenced customer satisfaction in online shopping platforms. Furthermore, it provides key insights not only for platform providers but also for online retailers, who wish to get a better understanding of their customers. For the theoretical aspect of the study, it contributed to the existing literature by combining previously researched variables with Thailand as the focus.

6. Limitations of the study and future research

The limitations of this study are that it is specifically targeting Thailand and consumers who live in Thailand; thus, the results may not be accurate for other South-East Asian countries. Furthermore, the online e-commerce shopping platforms that were mentioned in this study were chosen for the local, inland shopping experience. While online e-commerce platforms may be similar throughout the world, the results of this study specifically target Thailand’s e-commerce sector and not a world-wide scale.

Further research can focus on other factors, which influence consumer satisfaction in Thailand and not only take the ones mentioned in this study as variables. The three

variables, namely The Emotional State (ES), Perceived Security (PS), and Customer Service (CS), which were proven to be non-significant in this study could be analyzed in more detail in future studies, to see if the consumers in Thailand truly do not see them as an important factor. Also, trust and buying behavior tendencies of the online shoppers would make for an interesting research topic in the field and provide valuable information especially for the platform providers, allowing them to utilize techniques to trigger different emotional responses in consumers and make them to initiate a purchase. Lastly, during the ongoing COVID-19 pandemic, which is currently forcing the whole world to stay home, the researcher was forced to reach out to the participants through the means of online social media platform channels such as Facebook, WhatsApp, Line, Instagram, and email. Conducting a qualitative research in the field and asking the platform providers for their opinion, as to what type of behavior they were able to observe from their customers and integrating this information into the study, could give further insight into the online e-commerce market of Thailand.

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