FACTORS INFLUENCING CASHLESS SOCIETY DURING THE COVID-19 PANDEMIC IN THAILAND

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ABSTRACT

As the whole world has been affected by the Covid-19 pandemic since end of 2019, and people are expected to live under new normal for uncertain number of years. Lifestyles and behaviours of people must be adapted according to the current situations to survive through the pandemic period. The purpose of this research is to determine the factors that influence the cashless society during the Covid-19 pandemic in Thailand. There are total of seven factors being analysed which include perceived ease of use, trust, social influence, satisfaction, perceived risk, intention to use, and intention to accept. The quantitative method is applied to this research and questionnaires are distributed through different online channels. Majority of the respondents fall in age range between 25-40 years old, with all respondents holding either bachelor's degree or post-graduate degree. Result in collecting total of 150 responses and 132 responses are valid for data analysis. The findings of this research show that factors have significant differences with the demographic of frequency. The result for this research indicated that the factors perceived ease of use and trust has the positive relationship with satisfaction. Moreover, the factor of satisfaction has positive relationship with factors intention to use and intention to accept. For future research, suggestion is to distribute questionnaires to more diverse group of respondents. To avoid results that could potentially become biased and not representing the population.

KEY WORDS: Perceived Ease of Use (PEoU)/ Trust/ Satisfaction/ Perceived Risk

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CHAPTER I

INTRODUCTION

1.1 Cashless Society

The term "Cashless Society" was initially started in the United States around the mid-1950s, foreseeing the future replacement of conventional payment instruments in transactions to be made through individuals and firms. Even though the idea first appeared in the western side of the world, East Asia countries like Hong Kong had taken the lead and owned one of the most advanced cashless payment systems nowadays (Batiz-Lazo & Smith, 2016). Payment types come in different forms, from cash to card and then from card towards the financial technologies that have emerged through the last decade. However, traditional payment methods are still available in practice, but new payment methods are being introduced to the financial system. Previous study from Liébana-Cabanillas et al (2018) had mentioned not only well-known mobile brands' mobile wallets but other contactless system providers in the market are now developing into the integrated network. As the source mentioned above has projected the growth to increase exponentially from 2016 to 2021. Survey from Card Technology Today suggested that 52% of retailers reported positively upon the new payment solution provided to their customers (Consumers Expect Cashless Society by 2030 Says Survey, 2009). In addition, a study from Garcia-Swartz et al (2006) has determined the benefits and costs aspects in the cashless society for both customers and merchandisers.

1.2 Cashless Society During Covid-19

Cashless society could be described as one of the disruptions in the traditional finance world, during the spread of the Covid-19 pandemic. In fact, different pandemics like SARS had remained shortly during the outbreak period. Unlike past pandemic events, Covid-19 has been the primary factor to the crisis that has lasted since the outbreak in 2019. Auer et al (2020), suggested that viruses such as human flu could

endure on banknotes for days. Another study by van Doremalen et al (2020) has discovered that the Covid-19 virus can stay on different surfaces for different durations which increases the chances of infecting through the transmission of the viruses from surfaces to a person. European Banking Authority (EBA) under the fear of pandemic spreads has followed suggestions from the WHO, businesses providing contactless payment options to reduce risk of spreading. Together with the new implementation, EBA has set the ceiling for each contactless payment at 50 euros (Jones & Nikolaeva, 2020). Apart from the EU countries, Allam (2020) mentioned that central banks of countries like China, Kenya, and other countries have carried out the banknotes quarantine policy to make sure any released banknotes from banks would be covid-free. Moreover, banking sectors also partner up with digital money services and Fintech businesses, allowing clients to access banking services through the internet. Nevertheless, the Covid-19 pandemic could be symbolized as the stimulant that pushes for the growth in financial related services globally in both developed and developing countries.

1.3 Cashless Society in Thailand

Shifting from banknotes to cashless society, it is a step forward into the future of the financial world with the integration of financial technologies. According to Kadar et al (2019), data has supported cashless transactions in Asia's developing countries to be above the 30% mark in the category. Furthermore, the research has mentioned Thailand, Malaysia, and Indonesia displaying the increase in cashless transactions. While smartphones have rapidly developed into the common tools for everyday life, from being the communication tool to all-in-one tool. Hence, the development of technologies that are made over the last decades have had a disruptive effect over the conventional banking system. The newly introduced financial service providers and technologies are developed to meet demand of people, giving different aspects to the issue. Yakean (2020) described that government and private sectors in Thailand are motivating people to use the e-Payment system, to enhance the country into the cashless society system. There are several options for e-Payment from credit/debit card, internet banking, QR code to the usage of E-wallet. Payment systems listed above are convenient and timesaving for users to easily process financial transactions that are available for each

of the different systems, without the need to make an appearance at the banking institutions.

Thailand under the Covid-19 pandemic has shortened its duration of shifting into the cashless society system. To further explain, Thai government welfare to the domestic citizens has most certainly become the trials for individuals to experience the cashless payment system. Therefore, this paper will examine the perceived image on cashless society and important factors that have had an impact on influencing the cashless society during the Covid-19 pandemic era.

1.4 Research Questions

1. What is the perceived image of cashless society for Thai people?
2. What are factors that hold Thailand back from becoming a cashless society?
3. What are important factors that influence cashless society during the Covid-19 pandemic period?

CHAPTER II
LITERATURE REVIEW

2.1 Perceived Ease of Use (PEoU)

According to Kazi & Mannan (2013), perceived ease of use refers to the extent that an individual recognized the least effort to handle certain systems. Chan et al. (2020) defined the perceived ease of use as positive perception of individuals towards the latest technology, consider that it will helps boost their current living standards. In addition, the study also explained PEoU in a point of view from an individual correlated with level of difficulty for certain services usage. Setiawin & Setyawati (2020) have described that at higher PEoU level towards the technology, the higher chance for users to have a positive view toward the technology usage. According to Kamil (2020), PEoU has been proved to be one of the influential factors on one's attitude of technology utilization. Other research has mentioned that PEoU is the level of ease for an individual on the effort that is being applied on certain systems (Davis, 1989).

2.2 Trust

Ladkoom & Thanasopon (2020) have defined trust as one of the import factors for online transactions compared to conventional transactions. The reason is it implies numerous risk and uncertainty factors throughout the process. In addition, trust is explained in the context of readiness to take risk in the usage of services. Research from Navavongsathian et al. (2020) suggested that service providers have the responsibility to keep customer privacy. It is expected that none of the customers' privacy should be leaked into the hands of the cybercriminal at any cost. Karniawati et al. (2021) mentioned that trust has a beneficial impact on the use of payment services through mobile. Trust has been described as the reliability in the terms of technology, the feeling of secure from a user to the system (Li et al., 2008). Rahman et al. (2020) state that users' trust could be strengthen through the accuracy and reliability that systems provide.

Mcknight et al.'s (2011) study illustrate trust in technology is built upon three factors which are reliability, functionality, and helpfulness. Reliability upon other two factors best explained that an individual anticipated for the consistency and ability to predict. Trust could be an indicator that improve the effectiveness in the market, however, an insufficient in trust level could lead to the failure in the market performance (Ba & Pavlou, 2002). Xu et al. (2014) study explained that over trust on technology could eventually lead to mistreat which is more likely leading towards the failure of the system. Lankton et al. (2014) have explained that information systems for business use are rather less dependent and human-like when compared with individual such as sales representative. A study from Mohktar (2019) mentioned that security is one of the negative constructs that stop the further development of the internet banking, enhancing strong security would be the main tasks for developing internet banking. In order to maintain and increase numbers of the user for internet banking, mobile applications are developed to be high in security to overcome uncertainties (Mohktar, 2019).

2.3 Social Influence

The paper from Kazi & Mannan (2013) defined social influence in the terms of technology usage that it is a magnitude that an individual accepts and makes use of. An effect of the social influence on increase of cashless payment has been found in the research of Brem et al. (2020), due to the possible spread of virus through banknotes. Navavongsathian et al. (2020) have mentioned that social influence is the actions that help an individual to be part of a group, act according to the social norms. Past research conducted in Taiwan with 441 respondents has illustrated the objective to shift to mobile banking is significantly related to the social influence factor (Kazi & Mannan, 2013). The social influence has been interpreted as the level of individuals' perception on generating believed that certain technologies must be used (Rahadi et al., 2020). Rahman et al. (2020) suggested that social influence is one of the keys during the initial stage of the adoption process.

2.4 Satisfaction

Ladkoom & Thanasopon (2020) have determined satisfaction as the contrast of experience for an individuals' expectation and actuality. An additional example from the study is the result that is obtained from the expectations and actual outcomes of the purchased goods and services. However, Mantel (2001) has explained that customer's needs on the available systems are currently not up to the expectations which is significant for customers' satisfaction. The study of technology usage has user satisfaction being one of the important factors for researcher to study upon (Isaac et al., 2017). Makarem et al. (2009) explained that customer satisfaction is the method to distinguish the differences between the expectations and actual encounter of the service.

Furthermore, a study points out that high satisfaction level for individuals after purchasing good or service would more likely initiate the act of repurchase (Jamal, 2004). In addition, author suggested that satisfied customers have high probability to share memorable experiences through positive word-of-mouth. Mohktar (2019) has argue that trust is one of the factors that is highly correlated to customers' satisfaction in the usage of mobile banking. Moreover, convenience is another factor that has the positive correlation upon the customer satisfaction of the online banking systems.

2.5 Perceived Risk

According to Kazi & Mannan (2013) definition on perceived risk is the expectation of risks to overcome to reach the desired result. The performance risk in the perceived risk is described as the possibility of the product or service that failed to operate according to its available features. In which, the product or service could not perform up to the expected benefits from the users (Driediger & Bhatiasevi, 2019). Kazi & Mannan (2013) examined the level of risk in mobile banking is perceived as higher than traditional banking methods because the transaction happened through the systems. On top of that, there are uncertainties among users like loss of personal and financial data through the process of cashless transactions.

Driediger & Bhatiasevi (2019) has determined the negative relationship between senior users and banking services, despite the level of convenience provided by these systems. A study from Ladkoom & Thanasopon (2020) explained the high level

of perceived risk could be significant for personal information, risk and insecurity could hinder individuals from using cashless payment methods.

2.6 Intention to Use

According to Islam et al. (2013), intention to usage is an individual's intention to conduct the action without going against his/her will. Mantel (2001) has conducted a study about preferred payment methods for gasoline with specific classification of consumers, and usage of credit cards is significantly over cash. Moreover, a survey accounted for 1,400 individuals conducted by The American Bankers Association and Dove Associates shows the payment preferences differentiate among different consumer segments. One of the models used for intention to use is the unified theory of acceptance and use of technology or UTAUT, with four main variables: perceived usefulness, perceived ease of use, social norms and facilitating conditions (Balakrishnan & Shuib, 2021). The model has further developed into the model of UTAUT2 with addition of perceived risk, innovativeness, and social influence.

2.7 Intention to Accept

Ngan and Khoi (2020) have defined intention to accept together with the service usage, as the incentive to act and determine whether to reperform in the future. The millennial generation consumers with a particular income level are more likely to accept the usage of financial technology, according to Karniawati et al (2021). Another study from Driediger & Bhatiasevi (2019) suggested that one of the factors for acceptance would be the succeed middle income individuals moving from a low-income country to an upper-income country, expected to have higher acceptance level towards cashless payments. Aji et al. (2020) suggested that the Technology Acceptance Model describes the user's intention to accept new user toward new technological system.

2.8 Summary

During the spread of Covid-19 in Thailand, there is an increased in number of cashless payment users with different factors among different individuals. For this research, about the factors influencing cashless society satisfaction, intention to use, and intention to accept are independent variables. Perceived ease of use, perceived risk, trust, and social influence are dependent variables. In this study, author will identify the relationship between independent variables and dependent variable to determine the influenced factors that lead to the growth in number of cashless users.

2.9 Conceptual Framework
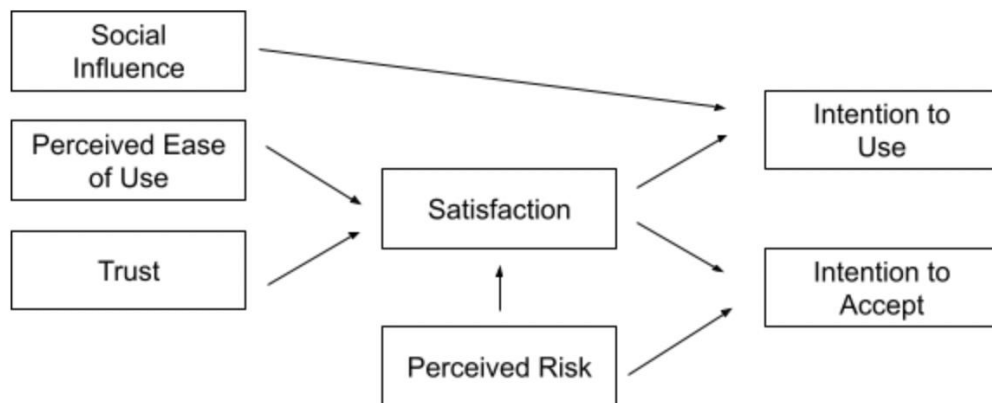
Figure 2.1 Conceptual framework

CHAPTER III
RESEARCH METHODOLOGY

3.1 Sampling Plan

Regarding the research topic and questions, the quantitative method is applied for the research. The samples to collect for this study are Thai people and currently living in Thailand under the Covid-19 situation. As this research aims to study the factors that potentially impact the usage of the cashless payment systems that have gradually become common in the era of new-normal. In addition, the samples are Thai people that resident in Thailand with the age over 18 years old because it provides high possibility for samples that are the user of the cashless payment themselves. Moreover, the questionnaire is applicable for samples that have at least some basic knowledges about the cashless society concepts. The questionnaire was structured in both Thai and English versions together and it was distributed through different social network platforms.

3.2 Quantitative Method

This questionnaire survey has applied for the data collection method, to further analyse the insight behind each factor and determine factors that influence the usage of cashless payment. The questionnaire has been divided into three parts: general questions, survey questions, and demographic questions. General questions or screen questions are used to filter out the samples that do not included in the scope of study. One of the most important screen questions that is crucial to the study would be if the samples know about the concept of the cashless society.

Moving onto the survey questions, here all factors of the research are all included. For every factor, there is a sub-heading that allow respondents to get an idea about topic that the questions are belong to. The Likert scale is method that is being chose for respondents to respond at second parts of the survey. The scale has the range from one to five, given that one is the respond for strongly disagree and five is for

strongly agree. The perceived ease of use questions is adopted from the study of perceive ease of use of the information technology from Davis (1989). Trust questions is the set of question developed upon the study of Trust in a Specific Technology from Mcknight et al. (2011). For social influence questions, the set is adopted from research by Aji et al. (2020) and Chern et al. (2008). Satisfaction, perceived risk, and intention to use questions are redesigned from the study of Driediger & Bhatiasevi (2019). Regarding the intention to accept questions, the question set is adopted upon study of Rahman et al. (2020).

Factors in the second parts all have the same Likert scale being used and five questions are included for each factor. However, for intention to use and intention to accept, these two factors only have two questions to it because both are independent factors for this research. As the factor of social influence is to be measure through the intention to use. On the other hand, satisfaction and perceived risk are measure through the intention to accept. According to the framework structure of this research.

For the last part or demographic questions, there are total of 10 questions involved in this part of the survey. Questions in this part are all designed for the respondents to have only one respond to each question, expect last question. Regarding question number 10, it is the question about the aspects for each respondent and it can be responded in multiple answers. About the demographic questions, it is mainly use for the SPSS analysis which could either be ANOVA or T-Test analysis depending on the number of sample groups.

Before the questionnaire is being distributed through different social network platforms, the mock version is first being send out to five friends that are from different groups. Reynolds et al. (1993) suggest that pre-test should be handed to samples that are the closest to the respondents within scope of study. The pre-test was sent out to five Thai friends, in which they go through the survey questions in both Thai and English versions. There are suggestions provided for both Thai and English versions of the survey questions, to make it simpler for people understand more easily. In addition, the questionnaire is also sent to the thematic paper advisor for final check after the pre-test and revision to the survey.

The survey is made in the online form which would be method that is more common today, to reduce the usage of paper and distribute the questionnaire more effectively. Choices for social network channels are variety for the distribution of the survey. Starting with the CMMU Line group that has up to 400 or more individuals in the group. Apart from the CMMU line group, the survey is posted into the high school Line group that has around 90 individuals in the group. Apart from Line group chats, there are several posts that have been made through the Facebook wall and Instagram stories. In addition, there is an attempt of posting the survey into the Facebook group that is for individual who is currently writing the paper and needs help for valid responses for the data collection. The initial plan for collecting data is to post the survey through every available channels once for two weeks and survey is only distributed on the weekend, to capture most of the respondents. Apart from the Line group chats, there were attempts for close friends to help distribute out the survey through their friends and colleagues at workplace.

CHAPTER IV
RESEARCH FINDINGS

4.1 Demographic of Respondents

The quantitative method of this study has received total of 150 responses and out 132 responses are valid. Out of 132 respondents, 93 respondents live in Bangkok (70.5%), and the rest of the respondents live outside of Bangkok (29.5%) which include Samut Prakan, Nonthaburi, and other provinces. For gender, 94 respondents are female (71.2%), 35 respondents are male (26.5%), and three respondents are LGBTQ+ (2.3%). Moving on to the age range, 30 respondents are at the range of 18-24 years old (22.7%), and another 102 respondents are 25-40 years old (77.3%). Regarding the marital status, 126 respondents are single (95.4%), five respondents are preferred not to answer (3.8%), and only one respondent is married (0.8%).

For the education, there are 87 respondents with bachelor's degree (66%) and 45 respondents with post-graduate degree (34%). In terms of income, eight respondents earn less than 9,000 Baht (6.1%), 15 respondents earn between 9,001-15,000 Baht (11.4%), 25 respondents earn between 15,001-25,000 Baht (18.9%), and 19 respondents earn more than 50,000 Baht (14.4%). Out of the four groups that are mentioned above, 65 respondents earn 25,000-50,000 Baht (49.2%). Next with the occupation, there are 19 respondents being the business owners (14.4%), 22 respondents are students (16.7%), and 82 respondents are private employees (62.1%). Apart from that, government employee and other occupation are accounted for nine respondents (6.8%). For preferred device with cashless payment, there are 129 respondents that preferred to use with mobile (97.7%) and the three respondents preferred to use with computer/laptop (2.3%).

4.2 Usage Frequency and Fascinating Aspect for Respondents

There is a question that is included in the demographic question section, ask for the frequency of cashless payment usage from respondents. There are 42 respondents

that use cashless payment for 2-3 times a week (31.8%), 32 respondents use cashless payment for 4-5 times a week (24.2%), and 54 respondents use cashless payment for everyday on their daily life (40.9%). Apart from the frequent users mentioned above, there are four respondents that use cashless payment 1 time a week (3.1%). About the four respondents that use almost did not use the cashless payment, there are not enough evidence to prove the reason behind the low usage frequency.

Last question in the questionnaire has been designed to ask for the fascinating aspects that respondents have about the cashless society, with multiple responses allowed. Out of the 132 respondents, there are more than six aspects that are provided in the responses. However, the aspects with one respondent are all put into the others. There are 38 respondents find in trend fascinating (28.8%), 41 respondents find safe fascinating (31.1%), and six respondents find other aspects fascinating (4.5%). For the top three aspects, there are 104 respondents find fast fascinating (78.8%), 105 respondents find effortless fascinating (79.5%), and 124 respondents find convenience fascinating (94%).

4.3 Perceived Ease of Use (PEoU) Analysis

Table 4.1 Perceived ease of use attributes

Perceived Ease of Use
PE1) I find learning cashless payment would be easy for me
PE2) I find cashless payment process would be simple for me
PE3) I find it easy for me to become skillful at different cashless payment methods
PE4) I find cashless payment require less effort than conventional payment
PE5) I find it easy to adapt cashless payment into my everyday life

There are total of five attributes asked for the perceived ease of use, getting the Cronbach's alpha at '.645' through the reliability test. Each question is scale from one to five, one being the strongly disagree and five being the strongly agree. The result has shown that 'PE3' has the highest mean among all five attributes ($\bar{x} = 4.48$) and 'PE2' with the second highest mean ($\bar{x} = 4.45$). On the opposite, 'PE4' the lowest mean among

all attributes with the means of 3.90. The average means for the PEoU is 4.34, which is moderate-high in the agree area.

Differences Among Frequency

There is almost no significant difference between PEoU and all the demographic areas, except the frequency of the cashless payment usage. Not to mention, but only 'PE1' does not has the significant difference (F = 2.24; ANOVA Sig. = 0.086). On the other hand, four other attributes have significant differences; 'PE2' (F = 3.07; ANOVA Sig. = 0.030), 'PE3' (F = 10.38; ANOVA Sig. = 0.000), 'PE4' (F = 3.89; ANOVA Sig. = 0.011), and 'PE5' (F = 15.42; ANOVA Sig. = 0.000).

Starting with 'PE2' (Post Hoc Sig. = 0.024), the frequency of everyday has the mean of '4.57' but frequency of 1 time a week has the significant lower mean of '3.25'. Second, 'PE3' (Post Hoc Sig. = 0.000), frequency of everyday has the mean of '4.63' and 1 time a week has the significant lower mean of '3.25'. Third, 'PE4' (Post Hoc Sig. = 0.030), frequency of everyday has the mean of '4.09', meanwhile frequency of 2-3 times a week has the lower mean of '3.48'. 'PE5' being the last attribute (Post Hoc Sig. = 0.000), frequency of everyday has the mean of '4.70' and 1 time a week has the significant lower mean of '2.50'. Therefore, respondents with frequency of everyday agreed to higher level of perceived ease of use compared with respondent with lower frequency.

4.4 Trust Analysis

Table 4.2 Trust attributes

Trust
TR1) I believe that cashless payment systems are reliable
TR2) I believe cashless payment systems are low in malfunction
TR3) I believe that cashless payment systems are dependable
TR4) I believe that cashless transactions are secure
TR5) I believe that my personal information is confidential for cashless payment

There are total of five attributes asked for the trust, getting the Cronbach's alpha at '.758' through the reliability test. Each question is scale from one to five, one being the strongly disagree and five being the strongly agree. The result has shown that 'TR1' has the highest mean among all five attributes ($\bar{x}$ = 4.14) and 'TR3' with the second highest mean ($\bar{x}$ = 4.05). On the opposite, 'TR5' the lowest mean among all attributes ($\bar{x}$ = 3.28). For the average means for the trust factor is 3.79, which it is almost at 4 for the mean.

Differences Among Frequency

After running the data analysis, it results in little to no significant difference between trust and other demographic areas. However, two attributes from trust show significant differences among frequency. One of the attributes is 'TR1' (F = 3.74; ANOVA Sig. = 0.013) and another attribute is 'TR4' (F = 2.83; ANOVA Sig. = 0.041). For 'TR1' (Post Hoc Sig. = 0.013), given that the frequency of everyday has the mean of '4.26' and frequency of 1 time a week has the significant lower mean of '3.00'. About the 'TR4' (Post Hoc Sig. = 0.035), the frequency of 4-5 times a week has mean of '4.00' and the frequency of 1 time a week has the significant lower mean of '2.75'. The high-lighted result has determined respondents with frequency of every has higher level of trust when compared with respondents with lower frequency.

4.5 Social Influence Analysis

Table 4.3 Social influence attributes

Social Influence
SI1) I find that family members can influence my behavior in using cashless payment
SI2) I find that friends/colleagues can influence my behavior in using cashless payment
SI3) People who are important to me are likely to recommend using cashless payment
SI4) People who are important to me can influence my behavior in using cashless payment
SI5) I find using cashless payment makes me feel belong to the group

There are total of five attributes asked about social influence, getting the Cronbach's alpha at '.846' through the reliability test. Each question is scale from one to five, one being the strongly disagree and five being the strongly agree. The result has given that 'SI2' has the highest mean among all attributes ($\bar{x} = 3.73$), with 'SI3' and 'SI4' both at the second highest mean ($\bar{x} = 3.45$). On contrary, the 'SI1' has the lowest mean out of all attributes ($\bar{x} = 2.99$). For the average means for the social influence is '3.34' which is almost at the neutral level of the scale. This factor, after running the data analysis according to the number of data collected. It turns out that there is no significant difference with any demographic area. Therefore, different sample groups in each demographic area do not have any significant difference among each other.

4.6 Satisfaction Analysis

Table 4.4 Satisfaction attributes

Satisfaction
SF1) I find that cashless payment is convenient
SF2) I find that many online platforms accept cashless payment
SF3) I find that quality of cashless payment systems is high
SF4) I have less opportunity cost in cashless payment when compared to conventional transactions
SF5) I find the actual cashless payment experiences exceeded the expectations

There are total of five attributes asked about satisfaction, getting the Cronbach's alpha at '.673' through the reliability test. Each question is scale from one to five, one being the strongly disagree and five being the strongly agree. The result for highest mean out of all attributes have come close as 'SF1' has the highest mean ($\bar{x} = 4.65$) and 'SF2' has the second highest mean ($\bar{x} = 4.63$). On the opposite, the attribute 'SF4' has the lowest mean among all ($\bar{x} = 3.87$). The average means of the attribute of satisfaction is '4.31', at the higher agree level.

Differences Among Gender

Through the data analysis, the result has shown that satisfaction have significant difference among genders. There are two attributes that has result in significant different, 'SF3' (F = 5.49; ANOVA Sig. = 0.005) and 'SF5' (F = 4.37; ANOVA Sig. = 0.015). For 'SF3' (Post Hoc Sig. = 0.012), female has higher mean over LGBTQ+ mean at '4.00', meanwhile LGBTQ+ has mean of '3.00'. Regarding 'SF5' (Post Hoc Sig. = 0.013), female has mean of '4.35' and male has mean of '3.91'.

Differences Among Frequency

Looking at the result from the data analysis, it has shown that satisfaction have significant difference among frequency. 'SF3' (F = 4.17; ANOVA Sig. = 0.007) and 'SF5' (F = 3.85; ANOVA Sig. = 0.011) are two attributes that have significant differences. About 'SF3' (Post Hoc Sig. = 0.006), frequency of 4-5 times a week has mean of '4.31', while frequency of 1 time a week has mean of '3.00'. On the other hand, 'SF5' (Post Hoc Sig. = 0.025) result as frequency of 4-5 times a week has mean of '4.47' and frequency of 2-3 times a week has mean of '3.95'. The findings have shown that respondents with frequency of 4-5 times a week have higher satisfaction when compared to respondent with lower frequency.

Other Differences

There is a result in the analysis about the income and one of the attributes in the satisfaction has the significant different. 'SF1'is the only attribute found to have the significant different three other attributes each from different factors (F = 4.07; ANOVA Sig. = 0.004). For 'SF1' (Post Hoc Sig. = 0.003), respondents with income more than 50,000 Baht have the mean of '4.95' and respondents with income of 9,001-15,000 Baht have the mean of '4.20'.

4.7 Perceived Risk Analysis

Table 4.5 Perceived risk attributes

Perceived Risk
PR1) I am concerned with payment security aspects for online transactions
PR2) I am concerned with privacy of my personal information when I do online transactions
PR3) I am concerned with platform and services for online transactions
PR4) I am concerned with process timeframe for online transaction
PR5) I am confident over security aspects of internet banking system

There are total of five attributes asked about perceived risk, getting the Cronbach's alpha at '.745' through the reliability test. Each question is scale from one to five, one being the strongly disagree and five being the strongly agree. As a result, the attribute that has the highest mean is 'PR2' ($\bar{x}$ = 3.98) and 'PR3' has the second highest mean ($\bar{x}$ = 3.73). For the attribute with the lowest mean among all is the 'PR5' ($\bar{x}$ = 2.26). The average means of the attribute of perceived risk is '3.43', at the near neutral level. Through the analysis, this factor has shown little significant differences among different demographic areas. However, the 'PR5' is the attribute in the demographic of income that has the significant different (F = 3.51; ANOVA Sig. = 0.009). For 'PR5' (Post Hoc Sig. = 0.016), respondents with income of 15,001-25,000 Baht have the mean of '2.52' and respondents with income less than 9,000 Baht have the mean of '1.25'.

4.8 Intention to Use Analysis

Table 4.6 Intention to use attributes

Intention to Use
IU1) I tend to use cashless payment methods when the services become widely accepted
IU2) Whenever possible, I intend to use cashless payment methods instead of cash

There are total of two attributes asked for intention to use, getting the Cronbach's alpha at '.525' through the reliability test. Each question is scale from one to five, one being the strongly disagree and five being the strongly agree. The result shows that 'IU1' has higher mean over 'IU2', given that means are '4.47' and '4.39'. The average means of the attribute of intention to use is '4.43', which is considered at the high level of agreement for the respondents.

Differences Among Frequency

From the findings, it indicates that intention to use has significant difference among frequency of the respondents. 'IU1' (F = 2.81; ANOVA Sig. = 0.042) and 'IU2' (F = 11.671; ANOVA Sig. = 0.000) are two attributes that have the significant differences. Starting with 'IU1' (Post Hoc Sig. = 0.035), respondents with frequency of everyday has higher mean '4.59' over respondents with frequency of 1 time a week '3.50'. Next, 'IU2' (Post Hoc Sig. = 0.000), respondents with frequency of everyday have mean of '4.70' and respondents with frequency of 1 time a week have mean of '2.75'. Therefore, respondents with frequency of everyday has higher intention to use over respondents with low frequency.

4.9 Intention to Accept Analysis

Table 4.7 Intention to accept attributes

Intention to Accept
IA1) I am likely to increase the use of cashless payment in my daily life
IA2) I always recommend others to use cashless payment

There are total of two attributes asked for intention to accept, getting the Cronbach's alpha at '.588' through the reliability test. Each question is scale from one to five, one being the strongly disagree and five being the strongly agree. The result shows that 'IA1' has higher mean over 'IA2', given that means are '4.55' and '4.14'. The average means of the attribute of intention to accept is '4.34', which is considered at the high level of agreement for the respondents.

Differences Among Frequency

After the data analysis, the result has proven that there is a significant different between intention to accept and demographic of frequency. There are only two attributes and both 'IA1' (F = 7.80; ANOVA Sig. = 0.000) and 'IA2' (F = 12.53; ANOVA Sig. = 0.000) have significant difference. For 'IA1' (Post Hoc Sig. = 0.001), respondents with frequency of everyday '4.76' has higher mean over respondents with frequency of 1 time a week '3.50'. On the other hand, 'IA2' (Post Hoc Sig. = 0.000) has respondents with frequency of everyday '4.57' and respondents with frequency of 1 time a week '2.25'. To conclude, respondents with frequency of every have higher level of intention to accept over respondents with low frequency.

4.10 Factor Analysis

First Total Variance Explained and First Rotated Component Matrix

In this research, there are total of seven attributes including perceived ease of use, trust, social influence, satisfaction, perceived risk, intention to use, and intention to accept. The first attempt for the factor analysis has made seven attributes to have Eigen value more than 1 along with the cumulative % of 64.017.

Table 4.8 Total variance explained (first)

Component	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.440	22.206	22.206	4.203	14.492	14.492
2	3.880	13.380	35.586	3.548	12.233	26.725
3	3.113	10.735	46.321	3.061	10.554	37.280
4	1.573	5.423	51.744	2.968	10.234	47.513
5	1.330	4.585	56.329	1.607	5.542	53.055
6	1.177	4.060	60.388	1.591	5.487	58.542
7	1.052	3.628	64.017	1.588	5.475	64.017
8	.999	3.446	67.463			
9	.848	2.924	70.387			
10	.813	2.805	73.192			
11	.803	2.768	75.960			
12	.696	2.400	78.360			

Table 4.8 Total variance explained (first cont.)

Component	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
13	.648	2.234	80.594			
14	.610	2.104	82.698			
15	.580	1.999	84.696			
16	.510	1.760	86.457			
17	.478	1.650	88.107			
18	.458	1.581	89.687			
19	.436	1.504	91.192			
20	.398	1.373	92.565			
21	.340	1.174	93.739			
22	.323	1.113	94.852			
23	.297	1.023	95.874			
24	.277	.954	96.828			
25	.245	.846	97.675			
26	.217	.749	98.424			
27	.193	.665	99.088			
28	.150	.516	99.604			
29	.115	.396	100.000			

Table 4.9 Rotated component matrix (first)

	Component						
	1	2	3	4	5	6	7
IA1	.765						
IU2	.748						
IA2	.740						
SF1	.707						
PE5	.601						
PE3	.564						
SF5	.478						
SF3	.436			.431			
SI4		.875					
SI2		.846					
SI3		.800					
SI1		.699					
SI5		.564				.451	
PR2			.833				
PR3			.827				
PR1			.823				

Table 4.9 Rotated component matrix (first cont.)

	Component						
	1	2	3	4	5	6	7
PR4			.730				
TR3				.812			
TR1				.744			
TR2				.716			
TR4				.587			
PE1					.677		
PE2					.659		
TR5						.635	
PR5						-.567	-.419
PE4	.493					.517	
SF2							.679
SF4							.495
IU1	.447						.455

Final Total Variance Explained and First Rotated Component Matrix

After the dimension reduction process, there are total of six new attributes as the result. There are seven attempts for the cutting out attributes which are cross-loading from the process. The attempts for the factor analysis have made six new attributes to have Eigen value more than 1 along with the cumulative % of 65.785 which is higher than the initial result.

Table 4.10 Total variance explained (final)

Total Variance Explained

Component	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.637	21.077	21.077	3.369	15.312	15.312
2	3.461	15.732	36.809	3.117	14.167	29.479
3	2.781	12.642	49.451	3.102	14.102	43.581
4	1.361	6.185	55.636	1.803	8.194	51.776
5	1.203	5.466	61.102	1.701	7.732	59.507
6	1.030	4.682	65.785	1.381	6.277	65.785
7	.893	4.058	69.842			
8	.793	3.607	73.449			
9	.730	3.316	76.765			

Table 4.10 Total variance explained (final cont.)

Total Variance Explained

Component	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
10	.665	3.024	79.788			
11	.636	2.893	82.682			
12	.557	2.533	85.215			
13	.524	2.382	87.597			
14	.481	2.187	89.783			
15	.436	1.980	91.763			
16	.363	1.650	93.412			
17	.310	1.408	94.821			
18	.286	1.298	96.119			
19	.260	1.181	97.300			
20	.236	1.072	98.372			
21	.202	.920	99.292			
22	.156	.708	100.000			

Table 4.11 Rotated component matrix (final)

	Component					
	1	2	3	4	5	6
IU2	.811					
IA1	.802					
IA2	.747					
SF1	.742					
PE3	.579					
SF5	.495					
PR3		.831				
PR2		.811				
PR1		.809				
PR4		.777				
SI4			.871			
SI2			.819			
SI3			.812			
SI1			.730			
PR5				-.730		
TR5				.702		
TR4				.542		
PE2					.740	

Table 4.11 Rotated component matrix (final cont.)

		Component				
	1	2	3	4	5	6
PE1					.696	
TR2					.508	
SF4						.736
SF2						.689

Group 1: Ease of Access

IU2) Whenever possible, I intend to use cashless payment methods instead of cash	0.811
IA1) I am likely to increase the use of cashless payment in my daily life	0.802
IA2) I always recommend others to use cashless payment	0.747
SF1) I find that cashless payment is convenient	0.742
PE3) I find it easy for me to become skillful at different cashless payment methods	0.579
SF5) I find the actual cashless payment experiences exceeded the expectations	0.495

Group 2: Perceived Risk

PR3) I am concerned with platform and services for online transactions	0.831
PR2) I am concerned with privacy of my personal information when I do online transactions	0.811
PR1) I am concerned with payment security aspects for online transactions	0.809
PR4) I am concerned with process timeframe for online transaction	0.777

Group 3: Social Influence

SI4) People who are important to me can influence my behavior in using cashless payment	0.871
SI2) I find that friends/colleagues can influence my behavior in using cashless payment	0.819
SI3) People who are important to me are likely to recommend using cashless payment	0.812
SI1) I find that family members can influence my behavior in using cashless payment	0.730

Group 4: Trust

PR5) I am confident over security aspects of internet banking system	- 0.730
TR5) I believe that my personal information is confidential for cashless payment	0.702
TR4) TR4) I believe that cashless transactions are secure	0.542

Group 5: Ease of Usage

PE2) I find cashless payment process would be simple for me	0.740
PE1) I find learning cashless payment would be easy for me	0.696
TR2) I believe cashless payment systems are low in malfunction	0.508

Group 6: Satisfaction

SF4) I have less opportunity cost in cashless payment when compared to conventional transactions	0.736
SF2) I find that many online platforms accept cashless payment	0.689

Figure 4.1 New grouping

4.11 Regression Analysis

For this research, the aim is to identify the factors that has effect on the cashless society for Thai population under the Covid-19 pandemic. For the first table shown below, it is the dependent attribute of intention to use with independent attributes of social influence and satisfaction. The result is that attribute of satisfaction is the only attribute that has significant different (Sig. = 0.000) and Beta of '0.503'.

Table 4.12 Coefficients for social influence and satisfaction

Coefficients^a					
	Unstandardized Coefficients		Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1.802	0.416		4.328	0.000
Social Influence	-0.019	0.052	-0.029	-0.361	0.719
Satisfaction	0.625	0.099	0.503	6.330	0.000

Moving on to the second table as shown below, the dependent attribute is intention to accept with independent attributes of satisfaction and perceived risk. The result is only one attribute which is the satisfaction that has significant different (Sig. = 0.000) and Beta of '0.586'.

Table 4.13 Coefficients for satisfaction and perceived risk

Coefficients^a					
	Unstandardized Coefficients		Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1.230	0.487		2.526	0.013
Satisfaction	0.806	0.097	0.586	8.292	0.000
Perceived Risk	-0.104	0.069	-0.106	-1.503	0.135

For the last table shown below, the dependent attribute is satisfaction with independent attributes of perceived ease of use, trust, and perceived risk. The result has shown that two attributes have significant difference, perceived ease of use (Sig. = 0.000) and trust (Sig. = 0.000). The attribute of perceived ease of use turned out to have stronger relationship with satisfaction when compared to trust (Beta = 0.428). On the

other hand, trust has the second strongest relationship with satisfaction, having the Beta of '0.353'.

Table 4.14 Coefficients for perceived ease of use, trust, perceived risk

Coefficients^a

	Unstandardized Coefficients		Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1.149	0.418		2.751	0.007
Perceived Ease of Use	0.391	0.068	0.428	5.763	0.000
Trust	0.275	0.065	0.353	4.246	0.000
Perceived Risk	0.122	0.056	0.172	2.173	0.032

CHAPTER V
CONCLUSIONS

5.1 Discussion

After all the analysis, it is important to go back and review the research questions that are being asked at the start of the research. As the main point behind this research is to determine factors that influence cashless society during the covid-19 pandemic in Thailand. So, starting with the first research question, which is asked about image of cashless society perceived by Thai people. Most of the respondents have the image of cashless society being convenient, effortless, and fast. To add on, there are respondents that provided responses like hygiene and mentioned about reduction of direct contact with cash.

For the second research questions, it is about factors that are holding cashless society back in Thailand. The factor perceived risk has respondents that response more on agree for each attribute. Additional information, as none of the demographic areas in this research has display the significant different in each of the groups for both factors. As a result, perceived risk is said to be the factor that currently holding back Thailand from shifting toward the cashless society country. With all the concerns that respondents have and together with low level of confident over the security aspects of the available systems.

The last research question asked for important factors that influence the cashless society during the pandemic. Through the analysis done above, perceived ease of use and trust are two factors that have positive relationship with satisfaction. In addition, satisfaction has the positive relationship with both intention to use and intention to accept. Therefore, factors mentioned above are all factors that have influence on the cashless society in Thailand.

5.2 Recommendation

There are several recommendations that should be provided to the future researcher regarding this study. One of the recommendations that should be advised is to either add more factors or attributes to each of the factors. Since the results of the analysis have shown that majority of the attributes in each factor is not significantly different between sample groups. It would be a challenge for the researcher to see the different among samples and as well as difficulty in find the solutions. Another recommendation for the future researchers would most likely be the amount and mixed of samples, since this research end up with total of 150 respondents before moving on to the analysis part.

After the collecting 150 responses, only 132 valid responses that could be use as the part of data analysis which is not the desirable outcomes when sample groups are less variety. It is also important for the future researchers to have respondents from different demographics for more diverse responses. Also, to eliminate chances for independent sample to represent the whole population for the study. In addition, the researchers should explore through different channels for the distribution of the questionnaire and try to avoid possibility of the overlapped sample groups.

As for the managerial implication on this research, from the owner or receiver perspective. It is important for them to understand that majority of consumers are still new to the current cashless payment channels that are currently available in the market. When it comes to new technology, it requires a certain time for individuals to learn and adapt. Before the spread of Covid-19 pandemics, Thailand is still a country that heavily rely on the conventional cash payment method. During the Covid-19 pandemic, Thai government has come up with different campaigns for helping citizens with new e-payment applications.

Through different campaigns that Thai government has established and given help to citizens, individuals have gradually learned to perform cashless payment. These campaigns would help individual to slowly adapted to the cashless payment methods, along with increase of concerns on the contactless matters. An action that firms could do here is to reduce the level of perceived risks that consumers have toward different e-payment channels. By involving third-party likes reliable secure payment system that help ensure the safety of each transaction. It helps increase the intention to use

for the individuals, realizing that transactions are secure by the third party. Lowering the perceived risks of consumers, who are not familiar with current existing e-payment systems.

Another implication for firms to shift from conventional payment method into cashless payment methods, involving perceived ease of use and trust. Businesses could steadily shape consumers into using the e-payment method under the current pandemic situation. Even though majority of people are working from home and have smaller chance of direct contact with cash through transactions. It is still essential for people to make payments for either food delivery or product purchase through e-commerce channels on their daily basis. Therefore, firms should manage to adjust the payment systems that could satisfied majority of the users. By making sure that the systems have interface that is applicable for all consumer groups and high in the security for any private matter for consumers.

Under the current pandemic situation, it has gradually changed the behavior of individual. Nowadays, food and merchandise are more likely to be purchased through online channels. A Thai owned bank, Kasikorn Bank or KBank has partnered up with Visa to further develop the level of security in the digital payment (Bangkok Post, 2020). There are several methods that KBank has been applying to its system like the one-time password (OTP) and EMV chip on the credit/debit card to avoid prevent unauthorized transactions. On the other hand, Visa has artificial intelligence that could analyze over 500 risks for each transaction that would be shared with Kbank for the approval decision of a transaction (Bangkok Post, 2020). Moreover, Visa has the system that make sure personal information of each user would not be leaked during online transactions. After all, KBank was awarded for the Visa Champion Security Award Southeast Asia 2020.

5.3 Limitation

Regarding the limitation, there is an issue about the samples collected for the questionnaire for this research. It is about the distribution of the survey and total valid responses that lead to the imbalance of the sample groups. For the marital status in the demographic section end up with 126 'single' respondents and five 'prefer not to answer' respondents. To my surprise, there is one 'married' respondents that happened

to appear in the sample group. This typically means that the survey should be distributed through different channels that are attempted in this research.

Apart from the additional number of samples to be collected for the questionnaire, the method could also be adjusted as well. This survey is conducted to find the factors that influence the cashless society during the covid-19 pandemic, but some responses might be aspects from pre-covid period. Looking at the collected data, there would be a mix of responses from both pre-covid and during covid-19 aspects. The qualitative method could be used for further research on this topic, to compare the result of quantitative and qualitative method.

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