

Cashless Society in Thailand

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ABSTRACT

The technology development has had both positive and negative disruptive effects on contemporary lifestyle. We therefore investigated the factors influencing access to the cashless society and consumers' reasons for deciding not to use electronic payment, including lack of confidence in the security and/or confidentiality of personal information. Data were collected from five regions of Thailand using a questionnaire. Quota sampling was used to collect data from 200 respondents in each area ($N=1,000$). There were 66 respondents who did not use electronic payment, but the remaining 934 cases were used to test the hypotheses through multivariate analysis of variance (MANOVA). The results showed that age, education, income and the use of the internet were associated with access to the cashless society significantly. This study found that the knowledge of electronic payments has led to the adoption of new forms of financial services that are safe and easy to use. We conclude that digital business including finance and banking sector that may disrupt and benefit for cashless society must be participated in promoting people such as the elderlies, who are often slow to respond to technological adoption about electronic payment methods to access the cashless society.

Keywords: Cashless Society, Electronic Payment, Electronic Banking

1. BACKGROUND/OBJECTIVES AND GOALS

Economic, social, cultural and technological advances have played a critical role in positive changes to our way of life. Today's consumers can shop using a credit or debit card, quick response (QR) codes or Promptpay (Any ID). Financial institutions provide payment system services to customers for everyday spending and to suppliers of products and services; they have created such products in the face of changing

behaviour and the emergence of a cashless society. The Ministry of Commerce (2018) reported that in Thailand inflation rate increased by 0.97 per cent in the first half of 2018 compared with the same period a year earlier, which assumed that due to their e payment campaign. At present the security of electronic payments through the internet or electronic money relies on information technology development. Electronic payment is convenient because there is no need to travel, which saves time and money, and the risks associated with holding cash are avoided. Electronic payment can also help to increase the efficiency of financial management. Online payment systems are more convenient because the recipient can get money and manage money in real time (World Bank Development Research Group, 2017). The main factors that have contributed to improvement in electronic payment system are advances in information technology and consumers' increasing openness to the use of technology; these have affected payment service models. The development of applications can support government efforts to drive digital services and increase efficiency. These factors have created opportunities for businesses and people to use electronic payments and thereby increase the country's economic value through innovation and creativity. We were therefore interested in studying factors that influence participation into the cashless society, including reasons why consumers decide not to use electronic payment services. We anticipate that our results will be as guidance on how to improve the digital economy strategy and promote Thailand's electronic payment system.

1.1 Research objectives

1. To study the affecting factors in the cashless society.
2. To identify the main reasons people refuse to use electronic payment methods.

1.2 Conceptual framework

The variables in the study influence electronic payment acceptance of QR Code Promptpay and payment by credit and debit cards, including knowledge of electronic payments access by technology and security systems. The research was based on the conceptual framework shown in Figure 1

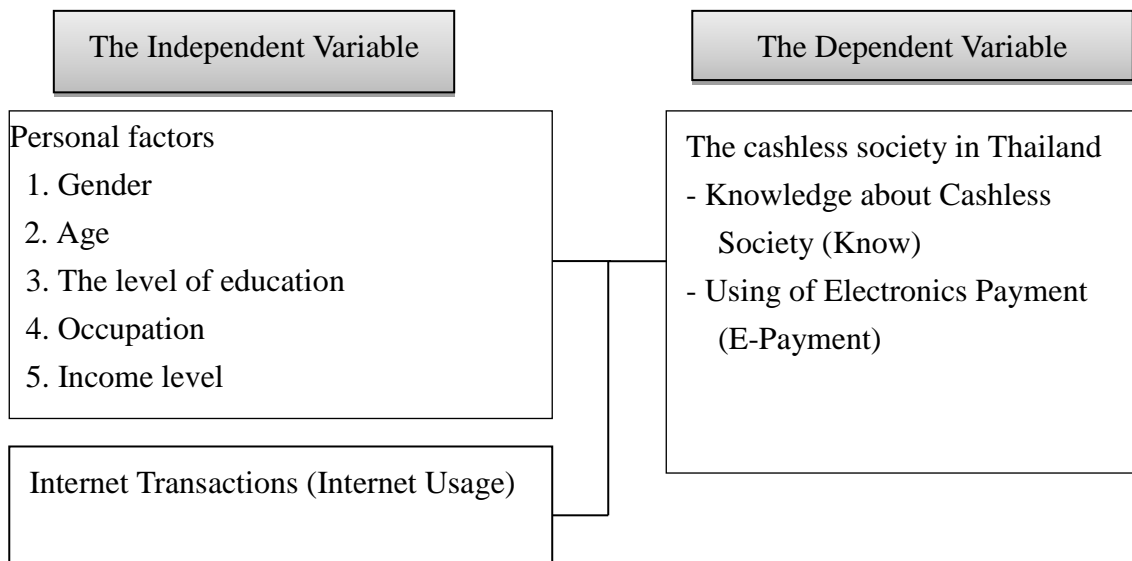


Figure 1: The Conceptual Framework Entering into Cashless Society

1.3 Definitions

Cashless society is defined as knowledge and usage of electronic payment services (E-Payment) in the country (Paripunyapat and Kraiwanit, 2019). Respondents that used the internet on a daily basis were classed as internet users. Respondents with sufficient knowledge to use or accept electronic payments were classed as having knowledge about a cashless society.

2. REVIEW OF LITERATURE

The idea behind the concept of the cashless society or cashless economy is that in the future the importance of cash will be reduced and cash will be replaced by computer systems in financial transactions. Today many countries, including Thailand, have begun to move from being cash-based societies to communities in which it is common to use credit and debit cards or electronic financial services (E-Payments) to pay for goods and services and people make much less use of cash in their daily lives.

What are the advantages of a cashless society?

Reducing the use of cash and increasing the use of e-payments should accelerate a country's economic growth. The adoption of e-payment systems promotes expenditure and consumption, especially in e-commerce. It also enhances efficiency and international competition by reducing the costs, risk of loss and the burden of

documents relating to financial transactions. The use of electronic payment systems also makes it easier for governments to collect taxes, because electronic transactions can be monitored retrospectively, unlike cash payments.

What are the disadvantages of the cashless society?

Security problems, such as criminal access to personal information held by banking institutes may make people lose confidence in the safety of online financial systems. It may be easier to hack personal information which is held online. The ease and convenience of electronic payment methods may also tempt people to spend more and consume more than is necessary.

Cashless society in Thailand

The government and the Ministry of Finance have assigned the Bank of Thailand to implement a national e-payment strategy and reform the infrastructure of the domestic banking system (Lamsam, 2018). The country is poised to join the digital economy, alongside other leading countries such as South Korea and China. The first stage of the government's five-stage national e-payment master plan is the launch of the 'Pay-Promptpay' or 'Any ID' service. The aim is to extend the use of card payment services by developing the Internal Revenue Service (IRS), the national tax collection system. The government will aim to promote e-payments and public confidence in system security because digital payment services are thought to be an important driver of Thailand's future economic growth.

Electronic commerce relies on online payment methods and data accuracy and system security are all-important. There are several types of electronic payment methods.

Credit card payment has been one of the most popular payment methods over the past decade because it is an easy way to pay. The advantages of using a credit or debit card are that they can be used both online and offline.

PayPal Inc. (www.paypal.com) is a company that provides an online payment service for consumer-to-consumer (C2C) and person-to-person (P2P) transactions; it is the largest service of its kind in the world. PayPal's e-commerce business focus is to enable businesses to find gaps in the transfer market and transfer payments between individuals, notifying both parties about the transaction by email. The company offers customers a faster, more convenient service than traditional payment methods such as cash, cheques and credit cards. PayPal's charge rates are usually lower than credit card fees.

Mobile payment is the use of a smartphone to pay for goods and services from an electronic wallet (E-Wallet). Payments for goods or services can be made in several ways: via direct or credit card through the cashier's electronic wallet. There are two

broad types of mobile payment system, account-based mobile payment (AMP) in which payment is made from an account, and token-based mobile payment (TMP), which requires users to pay using electronic money from an e-wallet. The two systems have different strengths and weaknesses with respect to ease of use, speed, cost and security.

Paripanyapat and Kraiwanit (2019) noted that there are many terms for referring to transactions with banks carried out over the Internet, for example e-banking, cyber-banking, digital banking, Internet banking (I-Banking). These transaction services are provided via the Internet and do not require customers to travel to a bank. The term 'mobile banking' refers to various financial transactions carried out through a dedicated mobile phone application.

Soonthorn (2014) found that electronic payment channels that have beautiful screens affect decision-making about payment through electronic channels and that including channels for electronic payment that have good security can build consumer confidence in electronic payments. Teerawanitchaikul (2013) also found that user satisfaction, application functionality and ease of use affected use of electronic payment services. There are descriptions and illustrations explaining how to download applications. In addition, Udomvechsakul (2014) found that fees that were too high or too low had a negative effect on people's confidence in the quality and security of electronic payment services. A study of factors that affect use of mobile banking (Ampunsuk, 2013) suggested that if the costs of Internet usage and electronic transaction fees are higher than those of other payment methods it will discourage people from using mobile banking.

Internet banking is gaining popularity in many places around the world. The consumer acceptance of online banking study, based on an extension of the technology acceptance model (TAM) used a technology adoption model to find out how users' attitude towards new technologies is affected the success of technology adoption. A study by 268 bankers in Finland found that factors affecting adoption of online banking include recognition of the benefits and availability of information about the online banking services on a bank's website.

Theoretical purchase and repeat purchase models for Internet shopping were tested in an empirical study of online customers in Japan. Three theories - the TAM, expectation confirmation theory (ECT) and the model of intentional, acceptance, and continuity (MIAC) - were used to develop models for purchases and repeat purchases in the context of Internet shopping (Atchariyachanvanich et al., 2008). The study found that ease of use, goods, perceived benefits and service quality directly affected people's intention to buy goods and services via the internet and their repeat purchase behaviour;

access to the Internet and the acceptance of innovation also influenced attitude to Internet purchases.

3. METHODS

3.1 Population and sample

The sample for this study was drawn from the population of people who use the Internet regularly and carry out financial transactions online. Between January 2018 and June 2018 we surveyed 1,000 people from 5 regions nationwide and 934 met this criterion.

In order to obtain a representative sample, a quota sampling method was used to collect data online. The population was divided into five regions: north, central, northeast, south and Bangkok metropolitan region and 200 respondents were recruited from each region. However 66 respondents were not eligible for analysis, because although they used the internet every day they did not want to carry out electronic transactions for various reasons.

4. RESULTS

4.1 General results

These 66 respondents, they did not want to carry out electronic transactions for various reasons as the following table:

Table 1: Reasons for not using electronic payment methods

Description	Frequency (%)
Do not have confidence in the security and or in confidentiality of personal information	35 (53.03)
Prefer to make financial transactions through other channels.	15 (22.73)
Electronic payments are too complicated	14 (21.21)
Have never received any information about electronic payments	2 (3.03)

The majority of respondents who did not use electronic payment methods (53.03%) were not confident in security, while only a few of them had never received any information about electronic payment services. Therefore, there remain 934 eligible respondents for analysis.

Table 2: Internet transactions or applications

Internet transactions	Used	Never used	Total
Booking a hotel	656(70.2)	278(29.8)	934(100.0)
Booking a plane ticket	664 (71.1)	270 (28.9)	934(100.0)
Prepaid mobile phones	770(82.4)	164(17.6)	934(100.0)
Online shopping	846 (90.6)	88 (9.4)	934(100.0)
Taxi-hailing application.	582(62.3)	352(37.7)	934(100.0)
E-book reader application.	532(57.0)	402 (43.0)	934(100.0)

The online shopping was the most popular form of electronic transaction, carried out by 90.6% of respondents, followed by use of prepaid mobile phones (82.4%) and booking of plane tickets (71.1%).

Table 3: Electronic financial transactions

Payment method (Selection of multiple)	Amount	Percentage (point value)
QR Code payment	14	1.49
E-wallet	22	2.34
AirPay/Alipay/Apple pay	14	1.49
Promptpay	44	4.67
Rabbit LINE pay	6	0.64
Mobile banking	130	13.80
Two methods	266	28.24
Three methods	184	19.53
Four or more methods	262	27.81
Total	942	100.00

More than 75% of respondents used two or more electronic payment methods: 28.24% for two methods, 19.53% for three methods, and 27.81% for four or more methods. It means the most of respondents may ready go into cashless society and this has to be proofed in the following table.

Table 4: Knowledge in cashless society

Cashless Society Knowledge	Frequency	Per cent
0-5 points)insufficient)	392	42.0
6-10 points)sufficient)	542	58.0
Total	934	100.0

Table 4 shows that 42% of respondents had insufficient knowledge to use electronic payment methods.

4.2 Testing the assumptions of MANOVA

Some of the assumptions of MANOVA were violated, which may have affected the power of the analysis, including the assumption of normal distribution, but as the sample was large we believe that the distribution is unlikely to have affected the power of analyses. We therefore examined the relationship between the dependent variable (Colinearity) and testing of variance.

Table 5: Test of interrelations between dependent variable (Colinearity)

Model	Colinearity statistics	
	Tolerance	VIF
1 Know	4.000	4.000

Dependent variables: Use of electronic payment and knowledge about cashless society

Collinearity is a linear association between two explanatory variables. Table 5 revealed that the VIF was 4.000 which indicates a possible relationship between the dependent variables (O'Brien, 2007). It is believed that the relationship between use of electronic payment and knowledge about cashless society variable is consistent on the basic assumption.

Table 6: Equality of covariance matrices

Box's M	157.636
F	2.382
df1	63
df2	34146.375
Sig.	.000

The variance of the independent variables was tested using Box's test of equality of covariance matrices, which measures group differences in variance. The result was significant at the 0.01 level, indicating that the robustness or power of the test may have been reduced. The standard MANOVA statistic is Wilks's lambda (Tabachnick and Fidell, 2001), where covariance matrices violate the assumption of inequality Pillai's trace is used instead as it is more robust than Wilks's lambda. In many cases the two statistics will produce the same result.

Table 7: Group differences in participation in the cashless society

	Effect	Value	<i>F</i>	Hypothesis df	Error df	Sig.
Intercept	Pillai's trace	.665	895.544 ^b	2.000	901.000	.000
	Wilks's lambda	.335	895.544 ^b	2.000	901.000	.000
	Hotelling's trace	1.988	895.544 ^b	2.000	901.000	.000
	Roy's largest root	1.988	895.544 ^b	2.000	901.000	.000
Gender	Pillai's trace	.000	.113 ^b	2.000	901.000	.893
	Wilks's lambda	1.000	.113 ^b	2.000	901.000	.893
	Hotelling's trace	.000	.113 ^b	2.000	901.000	.893
	Roy's largest root	.000	.113 ^b	2.000	901.000	.893
Age	Pillai's trace	.042	4.845	8.000	1804.000	.000
	Wilks's lambda	.958	4.873 ^b	8.000	1802.000	.000
	Hotelling's trace	.044	4.902	8.000	1800.000	.000
	Roy's largest root	.039	8.844 ^c	4.000	902.000	.000
Education Level	Pillai's trace	.030	4.644	6.000	1804.000	.000
	Wilks's lambda	.970	4.641 ^b	6.000	1802.000	.000
	Hotelling's trace	.031	4.638	6.000	1800.000	.000
	Roy's largest root	.020	5.868 ^c	3.000	902.000	.001

Only gender was not power of test participation in the cashless society; both age and education level were power of testing in cashless society significantly.

Table 8: Analysis of variance

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	Internet	542.430 ^a	29	18.704	3.303	.000
	Know	932.335 ^b	29	32.149	4.858	.000
Intercept	Internet	5499.362	1	5499.362	971.245	.000
	Know	3298.794	1	3298.794	498.482	.000
Gender	Internet	.289	1	.289	.051	.821
	Know	.906	1	.906	.137	.711
Age	Internet	101.357	4	25.339	4.475	.001
	Know	178.838	4	44.709	6.756	.000
Education Level	Internet	98.543	3	32.848	5.801	.001
	Know	73.910	3	24.637	3.723	.011

^a. R-squared = .296 (Adjusted R-squared = .267)

^b. R-squared = .335 (Adjusted R-squared = .307)

It was found that gender did not significantly affect participation in the cashless society, age and education did at the level of significant level .01. This is consistent with the previous result, presented in Table 7, and the dependent variable (participation in the cashless society) can also be described by the R-squared value of = 0.296.

Table 9: Group differences in participation in the cashless society

	Effect	Value	<i>F</i>	Hypothesis df	Error df	Sig.
Intercept	Pillai's trace	.668	857.502 ^b	2.000	852.000	.000
	Wilks's lambda	.332	857.502 ^b	2.000	852.000	.000
	Hotelling's trace	2.013	857.502 ^b	2.000	852.000	.000
	Roy's largest root	2.013	857.502 ^b	2.000	852.000	.000
Occupation	Pillai's trace	.015	2.094	6.000	1706.000	.051
	Wilks's lambda	.985	2.093 ^b	6.000	1704.000	.051
	Hotelling's trace	.015	2.093	6.000	1702.000	.051
	Roy's largest root	.011	3.088 ^c	3.000	853.000	.027
Income level	Pillai's trace	.033	4.786	6.000	1706.000	.000
	Wilks's lambda	.967	4.813 ^b	6.000	1704.000	.000
	Hotelling's trace	.034	4.840	6.000	1702.000	.000
Internet usage	Roy's largest root	.032	9.168 ^c	3.000	853.000	.000
	Pillai's trace	.102	4.174	22.000	1706.000	.000
	Wilks's lambda	.900	4.207 ^b	22.000	1704.000	.000
	Hotelling's trace	.110	4.239	22.000	1702.000	.000
	Roy's largest root	.087	6.736 ^c	11.000	853.000	.000

Income level and the Internet usage affected participation in the cashless society significantly. Only occupation did not influence participation in the cashless society.

Table 10: Analysis of between-subjects effects

Source	Dependent variable	Type III sum of squares	df	Mean square	<i>F</i>	Sig.
Corrected model	E-payment	1512.376 ^a	78	19.389	3.998	.000
	Know	762.215 ^b	78	9.772	2.737	.000
Intercept	E-payment	4240.949	1	4240.949	874.361	.000
	Know	5649.619	1	5649.619	1582.618	.000
Occupation	E-payment	44.924	3	14.975	3.087	.027
	Know	16.536	3	5.512	1.544	.202

Income level	E-payment	131.720	3	43.907	9.052	.000
	Know	37.573	3	12.524	3.508	.015
Internet usage	E-payment	313.250	11	28.477	5.871	.000
	Know	196.786	11	17.890	5.011	.000

^a. R-squared = .268 (Adjusted R-squared = .201)

^b. R-squared = .200 (Adjusted R-squared = .127)

It was found that occupation did not significantly affect participation in the cashless society, income and internet usage did at the level of significant level.01. This is consistent with the previous test, presented in Table 9, and the dependent variable (participation in the cashless society) can also be described by the R-squared value of 0.268.

5. CONCLUSION AND DISCUSSION

Analysis of factors affecting participation in the cashless society showed that gender and occupation did not significantly affect access to the cashless society, regardless of the test statistic used. However, age, education, income and use of the Internet had a significant effect .This is consistent with research conducted in Japan. A survey of 1,215 Japanese found that access to the Internet and the adoption of technological innovations were related, and participation in the cashless society could be likened to adoption of a technological innovation. In the Japanese study, however, gender did affect the dependent variables, whereas in our study neither gender nor occupation affected participation in the cashless society. This may be because there are still strong gender differences social statuses in Japanese culture and advancement of women's careers is different from in Thai society, where gender differences are less marked than in Japanese society. The Japanese research also found that familiarity with the use of the internet affected the adoption of innovations. We also found that joining the cashless society has similarities to the adoption of innovations, making our results consistent with those of the Japanese study. A study by Sunthorn (2014) found that methods of electronic payment that allow users to adjust the payment screen to meet their personal needs and made people more likely to choose to pay electronically. Acceptance of electronic payments is an indication of participation in cashless society. We also found that knowledge has led to the adoption of new forms of financial services, such as e-wallet and internet banking, which save time and are easy to use. Theeravanichchaiyakul (2014) reported a similar finding, that users were happier with

applications that were easy to use, well described and had illustrations showing how they could be downloaded to their mobile phone.

6. SUGGESTIONS

The study found that knowledge is the most important factor in entrance to the cashless society. Widespread adoption of electronic payments would enable Thailand to have a secure payment system and reduce transaction costs, we suggest:

1. The digital business including finance and banking sector that may disrupt and benefit for cashless society must be participated in promoting people such as the elderlies, who are often slow to respond to technological adoption about electronic payment methods.

2. Confidence in the security of electronic payments is crucial to people's decision to participate in the cashless society, so the government should disseminate information about how to safeguard personal information and create the rules that apply to businesses and society. The process of joining technological society needs to be made simple and more secure.

3. The government should encourage the innovation economy, because it will crucial to success in the new global economy.

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