

Consumer's Attitudes toward the Intention to Adopt Mobile Payment System: A Study on Mobile Application of ABA Bank in Cambodia

Sophaktra Yang

Department of Business Administration
ACLEDA Institute of Business
Email: SophaktraY@gmail.com

Sokha Norng

Department of Business Administration
ACLEDA Institute of Business
Email: norngsokha@yahoo.com

Chanthorn Thab

Department of Foreign Languages
ACLEDA Institute of Business
Email: thabchanthorn@gmail.com

ABSTRACT

The advancement of technology has enabled mobile devices to be integrated with the wireless communication technology to make online payment known as mobile payment or m-payment. In Cambodia, the context of mobile payment usage has increased for several years on mobile payment penetration as part of FinTech implementation. However, it is hard to understand the behavioral intention to adopt mobile payment system owing to limitation of the studies focusing on the consumers' behavior and preferences in innovation adoption. Therefore, the study aims to identify the factors affecting the users' attitudes towards the intentions to adopt mobile payment among Cambodian youths. Furthermore, the study has proposed a conceptual model of mobile payment adoption by integrating Technology Acceptance Model with extended variables such as Trust and Perceived Compatibility. A correlation design of the Quantitative approach has been employed and data have been collected from 204 participants who had experienced using ABA mobile payment in Phnom Penh City. The majority of the respondents are company employees, accounting for 45.59% of the total respondents, 75% of whom use ABA mobile payment at least once a week. Besides, the results show a full support for the positive influence towards Intention to Use mobile payment technology from perceived usefulness, perceived ease of use, attitude as well as perceived compatibility. However, trust has a slight concern to fully influence the intention to adopt the mobile payment technology. As a result, the finding from this research yields some implications and recommendations for future researchers for mobile payment developers and literature respectively.

Keywords: Technology Acceptance Model (TAM), Mobile Payment, Mobile Application, Attitude, Behavioral Intention

1. Introduction

1.1 Background of the Study

As the world is equipped with modern innovations, the advancement of technology has enabled mobile devices to be integrated with the wireless communication technology to make online payment known as “mobile payment or m-payment”. The current expansion in wireless communication technology has shaped our lives to become better and more convenient. For instance, a high growth in mobile device usage and penetration has brought a positive impact on the publicity of mobile commerce utilization (Chen & Adams, 2005). Over the past 10 years, m-payment has been brought up and acquired attention in recognition of alternative payment. It is scientifically stated that m-payment systems are the formal means of payment, containing numerous benefits over the traditional payment (Johnson, Kiser, Washington, & Torres, 2018) for personal and professional usage to purchase goods and services. Additionally, it gives direct advantages to both merchants and consumers. For the merchants, mobile-payment services help increase the number of transactions, cost reduction, and convenience. Mobile payment initially occurred in the 1990s and acquired the patent in 2000 (Google Patents, 2019). However, it has remained a challenge to widen the m-payment system adoption at service vendors (Yao & Xu, 2017). The first m-payment initiator was Coca-Cola which allowed the consumers to buy the drink through mobile’s SMS in a vending machine in Helsinki in the period of 1997 (Prime Indexes, 2018). Many forms of m-payment system are conducted and it includes but not limited to SMS payment, mobile wallets, internet payment, mobile banking, and direct billing operator (Prime Indexes, 2018).

The development of mobile payment system in Cambodia is innovatively assisted by innovation technology solutions guided by financial technology (FinTech) institutions (International Monetary Fund, 2018). Recently, banks have provided an entire spectrum of services including SMEs, businesses, and individuals and they have possessed advanced online and mobile banking services; for instance, Advanced Bank of Asia Limited, known as ABA bank in Cambodia, is one of the leading commercial banks in Cambodia with over 77 branches nationwide founded in 1996 and is a subsidiary of National Bank of Canada (ABA Bank, 2019).

1.2 Statement of the Problem

In the context of mobile payment in Cambodia, there were not many scientific studies focusing on the attitudes and behavioral intention of mobile-payment usage. Delkhosh (2020) studied mobile payment and analysis on factors affecting the user’s behavioral intention to utilize mobile payment in Cambodian’s behavioral content. Meanwhile, the same researcher also stated that mobile payment service providers have grown exponentially, but there has been no empirical evidence showing the behavioral intention towards mobile payment service. Therefore, the study aims to identify the factors affecting the users’ attitudes towards the intentions to adopt mobile payment among Cambodian youth. The behavioral intention and preferences of the consumer are required to be deeply studied to make sure that it purposely assisted the convenience, secured, and satisfaction from the consumers that the firms have been trying to acquire through various methods.

1.3 Research Objective

The study aims to find out consumers' attitudes and intentions towards using mobile payment among Cambodian youths by adopting Technology Acceptance Model (TAM) from Davis (1989) with extended variables including Perceived Compatibility and Trust.

1.4 Research Question

In order to clarify the research objective, the study formulated the following research question:

What factors affect consumers' attitudes and intentions to adopt and utilize existing mobile applications for online payment?"

1.5 Significance of the Study

This study contributed significantly to the existing study of Technology Acceptance Model (TAM), especially the analysis on the attitude toward the intention to adopt mobile payment since there has been a lack of the academic papers focusing on this field in Cambodia. Moreover, this study benefited the management in the area of customer relations and customer service so that they can keep strengthening customer service quality by being responsive and increasing security system. Last but not least, this article would become a useful source for the future research.

2. Literature Review

2.1 Definition of Mobile Payment Technology

The mobile payment technology is described as a form of payment controlled by the electrical devices to purchase goods and services. There are existing clarifications of mobile payment with different concepts depending on personalized experiences of researchers. Mobile payment is mainly viewed as characteristic differentiation in terms of other forms of payment through mobile devices (Schierz, Schilke, & Wirtz, 2010). The concepts of cellphones were scientifically studied by some authors (Henkel, 2002), while other authors focused on communication (Zmijewska and Lawrence, 2006). Mobile payment is a beneficial initiation from the integration between information and communication technologies for making payment through mobile devices (Aydin & Burnaz, 2016). The current digital development of mobile payment contains digital receipt, payment through digital, digital coupons, permitting pliability in the payment ecosystem (Husson, 2015). There are studies which illustrate that the acceptance of m-payment utilization varies with the situation in which the customers are able to execute the use of mobile payment mechanisms. What's more, the mobile payment mechanisms are adopted based on functional services for practical reasons (Khodawandi, Pousttchi and Wiedmann, 2003).

Given the different meanings from various research studies of mobile payment, in this specific study, mobile payment is concentrated on the mobile applications (Apps) that are routinely

executed by the financial institutions. Mobile payment will be targeting the means of payment to purchase goods and services or any top-ups using mobile devices with mobile apps.

2.2 Theoretical Framework

On the fundamental of TRA and TPB theories, Davis (1989) has established Technology Acceptance Model (TAM), which suggests that perceived usefulness and ease of use are the main driven sources by individuals to determine the attitude towards adoption of specific innovations, and eventually showcases the intention of new technology adoption (Davis et al., 1989). To acquire the understanding of consumer's acceptance on the technology, it is a must to study about intention because intention determines the usage behavior to use a particular object (Fishbein & Ajzen, 1975).

Regarding technology acceptance fields, it is known that intention has been included in many previous research papers as the same as attitude: intention to use in the context of mobile service (Nysveen, 2005), and behavioral intention of users to use mobile banking (Luarn & Lin, 2005). TAM model was applied in many scientific studies in the adoption of new technology, consisting of – but not limited to – mobile services (Wang and Li, 2012), mobile banking (Mehrad and Mohammadi, 2017), mobile credit card (Leong et al., 2013; Liébana-Cabanillas et al., 2017; Ramos-de-Luna et al., 2016), mobile tickets (Suki and Suki, 2017) and wireless of mobile (Kim and Garrison, 2009). TAM is the widely-used framework which examines the technology acceptance mostly in the field of Information Technology and its solid validity proven empirically in many previous scientific research studies.

Despite the fact that TAM has been through several revisions (Lee et al., 2003), it stands as a solid, impactful, and meticulous model for investigating the acceptance behavior (Davis, 1989; Davis et al., 1989; Wu et al., 2011). Keramati et al. (2012) present the services adoption in relation to mobile payment using technological and behavioral factors of mobile payment service adoption with an established conceptual model. Some variables that were studied including perceived ease of use (PEU), perceived usefulness (PU), trust, compatibility, payment habit, norm, cost, convenience, and mobile payment knowledge, are hugely fit to the criteria and research type of mobile payment adoption according to the previous studies (de Luna, Liébana-Cabanillas, Sánchez-Fernández, & Muñoz-Leiva, 2019). Although the perceived usefulness and relative advantages of the technological perceptions have an effect on mobile payment, trust also has a strong influence on user behaviors of mobile payment (Gao & Waechter, 2017). TAM was extended with trust to discover the adoption of mobile payment in Singapore to be a remarkable anticipator of behavioral intention (Chandra et al., 2010). There was an extension of TAM Model from Shin (2010) discovering the mobile payment adoption in the US using perceived usefulness, perceive ease of use, trust, and perceived risk affect users' adoption on payment technology. In China, the implementation of the model based on trust perspectives by Yan and Yang (2015) showcased the positive impact on the user intention to adopt the technology using trust. As the result from exploring the literature from previous studies, the researcher decided to adopt Technology Acceptance Model (TAM) with an extension of perceived compatibility and trust to study the consumers' attitude towards an intention to adopt mobile payment system.

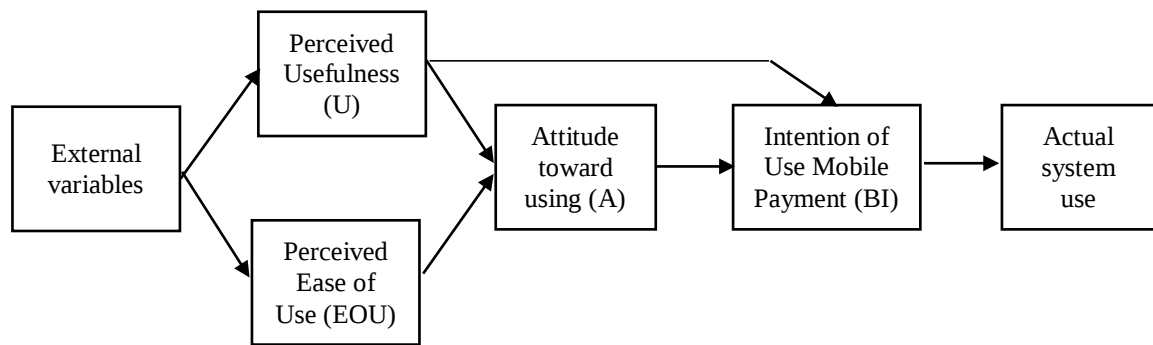


Figure 1: Technology Acceptance Model (Davis et al., 1989)

2.3 Conceptual Model

Perceived usefulness is one of the two main elements in Technology Acceptance Model that is believed to strongly affect the user's behavior in using specific technology (Davis, 1989). In his study, he explicates it as "the degree to which an individual believes that using a particular system would enhance his or her job performance" by following the words "capable of using it fully advantageously". The system contains a high level of perceived usefulness if using the system can enhance job performance. In mobile payment, perceived usefulness is defined as the scope to which other people anticipate that a mobile payment system can extensively enlarge the capacity of performance in transactions (Su, Wang, & Yan, 2018). Shin and Shin (2011) illustrate a sign of positive relationship between PU and user attitude and PU to intention to use in the context of social network games. Over a decade, extensive research has provided concrete evidence on the significant effect of perceived usefulness on attitudes towards usage (Davis et al., 1989; Jackson et al., 1997; Venkatesh and Morris, 2000; Venkatesh et al., 2003) and PU also demonstrated its direct relationship with attitudes (Muñoz, Hernández-Méndez, & Sánchez-Fernández, 2012; Shin, 2012).

Perceived Ease of Use (PEU), another constructs of TAM, is defined as "the degree to which a person believes that using a particular system would free of effort (Davis, 1989). Jogiyano (2008) has an idea on the perception of ease as an extent to which an individual believes that by using a particular technology, he/she will be free from business. Hence, if the he or she believes that information system is convenient to use, then he or she will utilize it. However, for this current research on mobile payment, perceived ease of use refers to "the degree to which individuals feel free from any difficult effort of interactions". There are previous contexts stated on the positive correlations between perceived ease of use and attitudes including the original TAM. For instance, this relationship is supported in fields of mobile services (Nysveen et al., 2005), mobile banking system (Pikkarainen et al., 2004), internet services (Lee and Chung, 2009), and mobile games (Ha et al., 2007).

Consumer's intention towards an acceptance of mobile payment is driven by trust, which plays a major role in the usability of mobile payment. Trust is defined as a prominent feature of social and economic interactions in which the uncertainty is addressed as the present (Pavlou, 2003). It can also be explained, in B2C e-commerce, as the beliefs that allow consumers to voluntarily become vulnerable to web retailers after the consideration of

the retailers' characteristics (McKnight & Chervany, 2002). Trust is one among the critical factors in the online field in which users are not able to have a direct control over the actions of each transaction (Roca, Gacia, & de la Vega, 2009). What's more, trust has been an essential element to influence consumer's behavior owing to high level uncertainties and risk involvement in commercial transactions. Therefore, trust is critically established for understanding user's behavior in the online payment and mobile commerce as Yan and Pan (2014) imply that trust in online payment stands as a key initial trust towards mobile payment and when the user's experience with mobile payment is doubtful, they will rely on online payment. Accordingly, Gu et al. (2009) have proved that trust is one of the crucial determinants of behavioral intention. Mu and Lee (2017) have also stated their findings that user's intention is driven by their trust on their third-party mobile payment that they have studied on Alipay and WeChat apps environment. In this research context, perceived usefulness and perceived ease of use are the foremost variables for mobile payment adoption. Hence, we expect trust to be another variable in online payments for influencing beliefs in mobile payment adoption.

We extend original TAM model with an additional factor of perceived compatibility for measuring mobile payment service adoption. Perceived Compatibility was defined as an extent to which innovation suits consumer's experiences or activities (Roger, 1962). On the other end, in a wide term, compatibility is entitled as "a degree to which an innovation is perceived being consistent to existing values, demands, and prior experiences of capable adopters" (Roger, 1983, p.15). In case of translation as a group for this definition, in perspective of an organization, consistent innovation with organizational needs, goals, structure, and culture is crucial for compatibility (Sonnenwald et al., 2001). Tornatzsky and Klein (1982) have found that the perceived compatibility of an individual is a crucial feature leading to an acceptance of a new or particular technological innovation. Hence, perceived compatibility is assumed to be a practical extension of TAM model with an incline of its forecasted power (Schierz, Schilke, & Wirtz, 2010). Likewise, there is an indication to believe that perceived compatibility has a direct influence towards intention to adopt an innovation (Mallat et al., 2006; Cooper & Zmud, 1990).

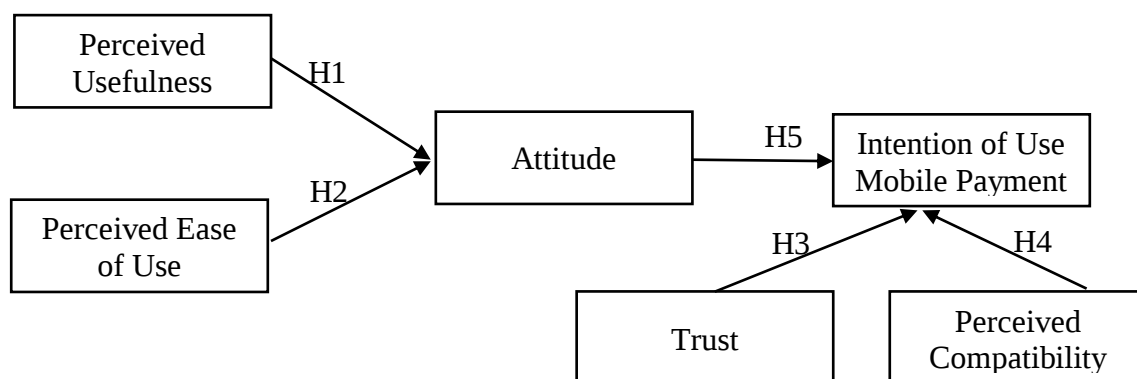


Figure 2: Conceptual Framework Model on TAM adoption

Overall, this model was established to figure out the factors affecting consumers' attitudes and intentions to adopt and utilize existing mobile applications for online payment by combining TAM model (Perceived Usefulness & Perceived Ease of Use) and external variables (Trust & Perceived Compatibility) that have a positive influence on the consumers' attitudes and intentions to adapt with mobile payment technology.

2.4 Summary of Research Hypotheses

In accordance with the developed conceptual model, the hypotheses were specifically formulated for this research as follows:

- H₁: Perceived usefulness has a positive influence on his/her attitudes toward an intention to adopt ABA's Mobile Application.
- H₂: Perceived ease of use has a positive influence on his/her attitudes toward an intention to adopt ABA's Mobile Application.
- H₃: Consumer's trust has a positive influence on his/her intention to adopt mobile payment system.
- H₄: Perceived compatibility has a positive influence on his/her intention to adopt mobile payment system.
- H₅: Attitude has a positive influence on his/her intention to use mobile payment system.

3. Research Methodology

3.1 Research Design

This research study employed correlational study of quantitative approach since it involved analyzing relating variables using statistical analysis and then interpreting the result, requiring an explanation on the relationship among variables, and collecting the numerical data using instruments on the target groups that researcher desired with the requirement of answering the questions (Creswell, 2012). Additionally, the hypotheses of extended TAM model focused on the group of individuals who have had mobile devices (Smartphones) and internet connections to penetrate the mobile payment system. First and foremost, the researcher conducted exploratory research using correlational study for reviewing previously studied literatures and conceptualized the model to fit with mobile payment adoption. Second, the data collection focused on the population in Cambodia based on the number of users in the data from ABA Bank nationwide. The samples were selected based on the age categories from 18 years old to above 40 who have used the mobile payment app and been able to execute the online payment. Third, after the data was gathered from the samples, it was analyzed to find out the consumers' attitudes and intentions to adopt mobile payment, using SPSS.

3.2 Research Site

This study was conducted in Phnom Penh City by focusing on the consumers' attitudes toward the intention to adopt the mobile payment of ABA App. The site was selected because a large majority of the participants use mobile phone and get access to Internet.

3.3 Target Population and Sample

Sample size was determined by the population of ABA's mobile app users, accounting for approximately 307,100 (ABA, 2019). Hence, the sample size was determined by formulas, specifically established by Yamane (1967) for known proportions. The sample size was calculated with a desired sample size, population size of 307,100, precision level (e) of 7%, interval of 95%, and $P = 5\%$. Henceforth, the sample size of 204 respondents was chosen for this particular study. Particularly, the researcher targeted samples addressed as students, households, business people, and staffs who had mobile devices and utilize ABA's mobile application. The researcher collected the data through survey questionnaires which were mainly distributed in Google Form format. The Google Form could generate and categorize the data which showcased clear results from desired samples.

Table 1: Summary of the Measurement Constructs

Constructs	Items	References
Perceived Usefulness	- Using ABA App would improve my performance in making payment. - Using ABA App would enhance my effectiveness in making payments. - Using ABA App would allow me to make payment more quickly (e.g. online shopping, ticket purchase...) - Overall, ABA app provides a useful mode of payment.	Bhattacharjee (2001) Daştan and Gürler (2016) Davis (1989) Schierz, Schilke and Wirtz (2010)
Perceived Ease of Use	- I think learning to use ABA app is easy. - Interaction with the tools in ABA app is flexible. - Interaction with the tools in ABA app is clear and understandable. - Overall, it is easy to interact with ABA app.	Daştan and Gürler (2016) Davis (1989) Schierz, Schilke and Wirtz (2010)
Trust	- The ABA app is trustworthy. - The ABA app is one that keeps promises and commitment. - I believe that ABA app is reliable for making payments online. - Overall, I trust the ABA app because it keeps my best interest in mind.	Pavlou (2003)
Perceived Compatibility	- Using ABA App would enhance my effectiveness in making payments. - Using ABA App would allow me to make payment more quickly (e.g. online shopping, ticket purchase...) - Overall, ABA app provides a useful mode of payment. - I would appreciate using mobile payment services of ABA App instead of alternative modes of payment (e.g., credit card, cash).	Moore and Benbasat (1991) Plouffe et al. (2001)

(Continued)

Table 1: Summary of the Measurement Constructs

Constructs	Items	References
Attitude	- Using mobile payment services of ABA App is a good idea. - Using mobile payment services of ABA App is beneficial. - Using mobile payment services of ABA App is wise. - Using mobile payment services ABA App is interesting.	Oh et al. (2003) van der Heijden (2003)
Behavioral Intention	- I Intend to use ABA App in paying for products whenever I buy. - I intend to use ABA App in paying for service whenever I use. - I intend to use ABA App in paying for product whenever I buy online. - I will strongly recommend others to use ABA App	Davis (1989) Gefen et al. (2003) Venkatesh and Davis (2000)

3.5 Data Collection

The primary data for this study focused on the responses from the selected respondents. Since this research was purely quantitative, 204 respondents requested to fill the questionnaire form (google form). The form was mainly distributed through social media platform (Facebook, Instagram, LinkedIn...) to those who have experienced in using digital payment of ABA's mobile application. The respondents were considered trusted sources who could give concrete and necessary responses which would be useful for data analysis.

3.6 Data Analysis Method

The data were analyzed after they had been collected. The data generated from Google form was input into SPSS for further analysis using descriptive statistics such as mean, frequency, percentage, and standard deviation to examine levels of agreement. Correlation of each variable, validity, and Linear Regression analysis were employed in the study using inferential statistics.

3.7 Reliability Test

Reliability is the extent to which an instrument will generally give the consistent outcomes on similar topics under similar circumstances and certain measurement of its precision (George, Ioana, & Adriana, 2013). One of the commonly used reliability estimators is Cronbach's alpha, introduced in 1951 by Cronbach as a generalized estimator established in 1931 by Kuder and Richardson (George, Ioana, & Adriana, 2013). The Cronbach's Alpha is portrayed as essential and persuasive statistics in research relating to the constructs and usage of the test (Cortina, 1993) to an extent that the research compiled with multiple-construct measurements is considerably a routine (Schmitt, 1996). The accepted value of Cronbach's alpha is 0.7; however, values above 0.6 are also accepted (Griethuijsen et al., 2015; Taber, 2018).

Table 2: Reliability Test of Cronbach's Alpha on Each Variable

Nº	Item	Cronbach's Alpha (n=30)	Cronbach's Alpha (n=204)
1.	Perceived Usefulness	0.815	0.795
2.	Perceived Ease of Use	0.833	0.861
3.	Perceived Trust	0.892	0.865
4.	Perceived Compatibility	0.749	0.834
5.	Attitude Towards Intention to Adopt	0.783	0.871
6.	Behavioral Intention	0.700	0.800

According to the Table 2, the Cronbach's Alpha of all constructs scored more than 0.7 in both pilot test (n=30) and the actual result (n=204), which was classified that the constructed variables and factors are reliable to be implemented in this research (Nunnally, 1994). Therefore, the constructs are good to be used to acquire the consumers' intention to adopt mobile payment system.

4. Data Findings and Discussion

4.1 Data Findings

4.1.1 Demographic Factors

The result illustrated that among the 204 respondents, female respondents accumulated to 57.3% higher than males, accounting for 43.7%. Additionally, the age gaps showed that the respondents' age between 21 to 30 years old has got the highest response at 74.3%, followed by the 20.9% of the age under 20 years old, while the remaining 4.4% at the ages between 31 to 40 years old and 0.5% at above 40 years of age. For their educational background, the result showed that approximately 70% respondents were undergraduates, followed by 29.6% of graduates and the rest were high school students and doctorate holders. Regarding employment status, the majority of respondents were company employee accounting for 45.6%, while 27.7% of them were currently unemployed. However, business owner and others were at 14.6% and 12.1%, respectively. Last but not least, the frequency of ABA usage showed that the users who use ABA app once a week were dominant at 68.9% compared to at least once a month at 16% and the others at 15.1%.

4.1.2 Analysis of Level of Agreement

Based on the research stated of evaluation criteria (Armstrong, 1987), the variable becomes essential when score is higher. They questionnaires of variables were conducted in five-point scale as follows:

- Strongly Agree ranges from 4.20 to 5.00
- Agree ranges from 3.40 to 4.19
- Neutral ranges from 2.60 to 3.39
- Disagree ranges from 1.80 to 2.59
- Strongly Disagree ranges from 1.00 to 1.79

As far as the result has shown in Table 3, 5 variables were stated as “Agree” while one variable which is perceived usefulness had the greatest result indicated the “Strongly Agree” Level.

Table 3: Level of Agreement

Nº	Variable	Min	Max	Mean	SD	Level of Agreement
1.	Perceived Usefulness	1.75	5.00	4.2770	0.61127	Strongly Agree
2.	Perceived Ease of Use	1.50	5.00	4.1213	0.62554	Agree
3.	Perceived Trust	2.25	5.00	3.9007	0.67613	Agree
4.	Perceived Compatibility	1.75	5.00	3.9743	0.66558	Agree
5.	Attitude	1.75	5.00	4.0208	0.64889	Agree
6.	Behavioral Intention	2.00	5.00	3.9130	0.67601	Agree

**Note: Neutral: 2.60 – 3.39, Agree: 3.40 – 4.19, Strongly Agree: 4.20 – 5.00*

4.1.3 Correlation Analysis

Correlation Analysis was used to test correlation level and validity among all the six constructs. According to Pearson (1926), the correlation's values range between -1 to $+1$, meaning that the closer of number in each variable reaching nearly $+1$, the stronger the correlations.

Table 4: Pearson Correlation Matrix

Nº	1	2	3	4	5	6
1. Perceived Usefulness	1					
2. Perceived Ease of Use	0.666**	1				
3. Perceived Trust	0.534**	0.657**	1			
4. Perceived Compatibility	0.537**	0.577**	0.603**	1		
5. Attitude	0.625**	0.638**	0.626**	0.733**	1	
6. Behavioral Intention	0.497**	0.544**	0.572**	0.707**	0.656**	1

***Correlation is significant at the 0.01 level (2-tailed)*

Table 4 illustrates that all the variables are significantly correlated at the significant level of 0.01 (2-tailed). The results also showed the favorable and positive correlations between variables with the lowest of 0.497 of perceived usefulness towards behavioral intention and highest of 0.733 of perceived compatibility with attitudes.

4.1.4 Regression Analysis

F-test was applied and p-value showed whether or not it was significant to reject null hypothesis. If the p-value is less than sufficient level, the regression model fits with the data than the model that has no independent variable. According to Thomas, Bayarri and Berger (2001), when p-value is between 0 and 0.05, the null hypothesis is rejected; Otherwise, it is true.

4.1.5 Analysis of the Variance

Table 5: ANOVA

Model	Sum of Square	df	Mean Square	F	Sig.
Regression	51.792	5	10.358	50.053	0.000**
Residual	40.976	198	0.207		
Total	92.768	203			

***. Correlation is significant at the 0.01 level (2-tailed)*

Table 5 showed that null hypothesis was rejected because the p-value of F-test was 0.000 less than 0.05. There is evidence that at least one of the independent variables influencing Intention to use mobile payment (dependent variable).

4.1.6 First Block of Regression Analysis

Table 6 showed the multiple regression analysis between perceived usefulness and perceived ease of use as independent variables and attitude as a dependent variable. As the significance level was 0.000 less than 0.05, the result illustrated that perceived usefulness and perceived ease of use had an impact on attitude at with $\beta = 0.359$ and $\beta = 0.399$ respectively.

Table 6: Trust and Perceived Compatibility towards the Attitude to use Mobile Payment

Model	Unstandardized Coefficients		Unstandardized Coefficients	t-value	p-value
	Regression Coefficient	Standard Error	Beta		
Perceived Usefulness	0.381	0.072	.359	5.260	.000
Perceived Ease of Use	0.414	0.071	.399	5.852	.000

Dependent Variable: Attitude

4.1.7 Second Block of Regression Analysis

Furthermore, Table 7 showed the multiple regression analysis between trust, perceived compatibility, and attitude as independent variables; and Intention to use mobile payment as a dependent variable. With the significance level 0.000 less than 0.05, the result showed that trust, compatibility, and attitude had a positive impact on the Intention to use mobile payment with $\beta = 0.229$, $\beta = 0.569$, and $\beta = 0.656$ respectively.

Table 7: Trust and Perceived Compatibility towards the Intention to Use ABA

Model	Unstandardized Coefficients		Unstandardized Coefficients	t-value	p-value
	Regression Coefficient	Standard Error	Beta		
Trust	0.229	0.060	0.229	3.783	0.000
Perceived Compatibility	0.578	0.061	0.569	9.406	0.000
Attitude	0.684	0.055	0.656	12.360	0.000

Dependent Variable: Intention to Use

4.2 Discussion

The Table 8 illustrated the summary result from the tested hypotheses in the regression analysis that indicated the supported results of all 5 hypotheses at significant levels as following:

Table 8: Hypotheses Result

Hypotheses	Sig	Result
H1: Perceived usefulness has a positive influence on his/her attitudes towards the adoption of ABA's Mobile Application.	0.000**	Supported
H2: Perceived ease of use has a positive influence on his/her attitudes toward the adoption of ABA's Mobile Application.	0.000**	Supported
H3: Consumer's trust has a positive influence on his/her intention to adopt mobile payment system.	0.000**	Supported
H4: Perceived Compatibility has a positive influence on his/her intention to adopt mobile payment system.	0.000**	Supported
H5: Attitudes has a positive influence on his/her intention to use mobile payment system.	0.000**	Supported

The researcher found out that TAM Model, which includes perceived usefulness and perceived ease of use, had a positive effect on Attitudes towards the adoption ABA app, which is consistently aligned with the previous research studies of Davis (1989); Venkatesh and Davis (1996); Bhattacharjee (2001); Schierz et al. (2010); Yang, H. dong and Yoo (2004). For this part, consumers actually thought that the app was functionally useful in terms of making effective payment. The researcher also found out that the app was convenient for users to use with its flexibility and understandability on the app. Hypothesis 3 (H3) showcased trust towards an intention to adopt ABA app and was significance and positive. This result also implied that trust played an essential role on online payment in mobile payment context because if the technology is not fully trusted, they will not use that technology to an extent over the concern of the loss. The result was actually consistent on the direct support of trust towards an intention to use a technology with previous research findings of Yan and Pan (2014), Gu et al. (2009), Lu et al. (2011), Mu and Lee (2017), Lee, Kang, and McKnight (2007), whose findings showcased a genuine positive and significance on trust in that the users' intentions were more likely driven by trust to adopt a particular mobile payment technology. Another important finding that determined the consumer's intention to adapt the technology was perceived compatibility towards the acceptance of particular technology that showcased the significant and positive effect on the intention to use the technology. As the result, the users' experiences on the App were considerably compatible for their purchasing routines and must frequently be highlighted to fit their lifestyles. This result was consistent with the previous findings of Tornatzsky and Klein, (1982), Mallat et al., (2006), Cooper and Zmud (1990), and Roger (1995) in which there is a direct positive influence of perceived compatibility towards intention to adopt a technology. However, there was a contradictory result of the study of e-commerce on the

impact of perceived compatibility in Malaysia (Hussin & Noor, 2005); ICT adoption of in rural area of Central Iran (Moghaddam & Khatoon-Abadi, 2013), and of E-government Adoption in ASEAN (Sang et al., 2010). What's more, the crucial finding that determined mobile payment adoption was attitude towards Intention to use the technology that positively had greater effect on intention to use the mobile payment, which was consistent to (Amoako-Gyampah and Salam, 2004; Daştan and Gürler, 2016; Schierz et al., 2010; Taylor and Todd, 1995; Cheng, Phou, & Phoung, 2018). As the result, users' attitudes were significantly substantial on the willingness to use the service and its beneficial factors that bring to them to positively adapt the mobile payment technology.

5. Conclusion and Recommendation

5.1 Conclusion

The establishment of this study is to identify and investigate the factors affecting the users' intention to adopt ABA mobile payment platform among Cambodians' ABA app users. This study is crucial for conducting and analyzing the case study on the mobile payment adoption because of the limitation of existing research within the field of FinTech, specifically focusing on mobile payment environment in Cambodia. The studies on this field using TAM model have not commonly been found in journals or research papers; therefore, there are still gaps in finding the authentic factors in Cambodia to drive the penetration of mobile payment service and limitations in adapting the existing literatures and models from global researchers, leading this study to use TAM model with two additional variables namely trust and compatibility. The findings showed that all the five hypotheses were supported; that is, perceived usefulness and perceived ease of use had an impact on attitude toward the adoption of mobile payment; and perceived compatibility, trust and attitude had the positive influence on the intention to use mobile payment of ABA App.

5.2 Implication for Academic and Financial Service Providers

The implication of this study will then shed the light for future research regarding the TAM model and the extended variables such as trust and perceived compatibility to be referred to as literature in the context of mobile payment in Cambodia. The study should help the marketers to promote the mobile payment adoption and policy-makers making informed decision based on established data to focus on increasing the usability, security and keep on improving the service and functionality to answer the needs of clients who have used the app and to attract more users that have not registered in the apps by showcasing its benefits to people.

5.3 Limitations and Further Research

This research only focused on the specific group of the samples who live in Phnom Penh city without including elders. In this sense, the results did not cover all aspects of samples. In addition, this study employed two extended variables such as trust and perceived compatibility on the analysis of Technology Acceptance Model. Therefore, other aspects of

essential variables were not covered in this study including risk, ubiquity, network externalities, etc. Furthermore, this study only focused on the adoption intention of ABA Bank mobile payment system which excluded mobile payment systems of other financial institutions. The study suggested that future researchers should cover all aspects of the samples nationwide and employed a qualitative approach on the insight of consumers attitude towards the intention to adopt mobile payment system in Cambodia.

References

- ABA Bank. (2019). About ABA. Retrieved from: <https://www.ababank.com/en/about-aba/about-us/>
- ABA Bank. (2019). CORPORATE PROFILE – Half Year 2019.
- Amoako-Gyampah, K. and Salam, A.F. (2004) ‘An extension of the technology acceptance model in an ERP implementation environment’, *Information & Management*, 41(6), pp. 731–745.
- Armstrong, R. L. (1987). The midpoint on a five-point Likert-type scale. *Perceptual and Motor Skills*, 64(2), 359–362.
- Aydin, G., & Burnaz, S. (2016). Adoption of mobile payment systems: A study on mobile wallets. *Journal of Business, Economics and Finance*, 5(1), 73-92.
- Bhattacharjee, Anol. (2001). Understanding Information Systems Continuance: An Expectation-Confirmation Model. *MIS Quarterly*. 25. 351-370. 10.2307/3250921.
- Bryman, A., & Bell, E. (2011). *Business Research Methods*. 3rd edition. New York: Oxford University Press Inc.
- Chandra, S., Srivastava, S. C. & Theng, Y.-L. (2010). Evaluating the role of trust in consumer adoption of mobile payment systems: An empirical analysis. *Communications of the Association for Information Systems*, 27, pp. 561-588.
- Chen, Jiajun & Adams, Carl. (2005). *User Acceptance of Mobile Payments: A Theoretical Model for Mobile Payments. Proceedings of the International Conference on Electronic Business (ICEB)*.
- Cheng, F., Phou, S., & Phoung, S. (2018). Factors Influencing on Consumer’s Digital Payment Adaptation – A Comparison of Technology Acceptance Model and Brand Knowledge.
- Cooper, R., Zmud, R. (1990). Information technology implementation research: A technological diffusion approach. *Management Science*, 36(2), 123-139.
- Cortina, J. M. (1993). What is coefficient alpha? An examination of theory and applications. *Journal of Applied Psychology*, 78(1), 98–104. doi:10.1037/0021-9010.78.1.98.
- Creswell, J. W. (2012). *Educational research: planning, conducting, and evaluating quantitative and qualitative research* / John W. Creswell. — 4th ed.
- Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika*, 16(3), 297–334. doi:10.1007/bf02310555.
- Daştan, İ. and Gürlü, C. (2016) ‘Factors adoption of mobile payment systems: An empirical analysis’, *EMAJ: Emerging Markets Journal*, 6(1), pp. 1–16.

- Davis, F.D., 1989. Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Q.* 13 (3), 319–340.
- Davis, F. D., Bagozzi, R. P., and Warshaw, P. R. User acceptance of computer technology. *Management Science*, 35, 8, 1989, 982–1003.
- Delkhosh, F. (2020). International journal of data and network science. *International Journal of Data and Network Science*, 4(1), 73–90. Retrieved from:
- De Luna, I. R., Liébana-Cabanillas, F., Sánchez-Fernández, J., & Muñoz-Leiva, F. (2019). Mobile payment is not all the same: The adoption of mobile payment systems depending on the technology applied. *Technological Forecasting and Social Change*, 146(August), 931–944. <https://doi.org/10.1016/j.techfore.2018.09.018>
- Fishbein, M., & Ajzen, I. (1975). Belief, attitude, intention, and behavior: An introduction to theory and research. *Reading, MA: Addison-Wesley*.
- Gao, L., & Waechter, K. A. (2017). Examining the role of initial trust in user adoption of mobile payment services: an empirical investigation. *Information Systems Frontiers*, 19(3), 525–548. <https://doi.org/10.1007/s10796-015-9611-0>
- Gefen, D., Karahanna, E., and Straub, D. W. Trust and TAM in online shopping: an integrated model. *MIS Quarterly*, 27, 1, 2003, 51–90.
- George, U., Ioana, A. H., Adriana, Z. (2013). How reliable are measurement scales? External factors with indirect influence on reliability estimators. *Procedia Economics and Finance*. 20. 679-686. 10.1016/S2212-5671(15)00123-9.
- Google Patent. (2019). *Mobile Payment System*. Retrieved from: <https://patents.google.com/patent/US20020073027A1/en>
- Gu, J. C., Lee, S. C. and Suh, Y. H., “Determinants of Behavioral Intention to Mobile Banking,” *Expert Systems with Applications*, Vol.36, No. 9, 2009, pp. 11605-11616.
- Ha, I., Yoon, Y., Choi, M., 2007. Determinants of adoption of mobile games under mobile broadband wireless access environment. *Info. Manag.* 44 (3), 276– 286.
- Henkel, J. (2002). Mobile payment. In G. Silberer, J. Wohlfahrt, and T. Wilhelm (eds.), *Mobile Commerce*, Gabler, Wiesbaden.
- Hussin, H., & Noor, R.M. (2005). INNOVATING BUSINESS THROUGH E-COMMERCE : EXPLORING THE WILLINGNESS OF MALAYSIAN SMEs.
- Husson, T. (2015). *The Future Of Mobile Wallets Lies Beyond Payments*. 1–20. Retrieved from: www.forrester.com, Accessed on: [2020]
- International Monetary Fund. (2018). Cambodia. IMF Country Report No. 18/369. Retrieved from: <https://www.imf.org/en/Publications/CR/Issues/2018/12/17/Cambodia-2018-Article-IV-Consultation-Press-Release-Staff-Report-Staff-Statement-and-46478>
- Jogiyanto, H.M., (2008). Metodologi Penelitian Sistem Informasi. Yogyakarta Penerbit Andi. Retrieved from: <https://www.goodreads.com/book/show/6250531-metodologi-penelitian-sistem-informasi>
- Johnson, V. L., Kiser, A., Washington, R., & Torres, R. (2018). Limitations to the rapid adoption of M-payment services: Understanding the impact of privacy risk on M-Payment services. *Computers in Human Behavior*, 79, 111–122.

- Khodawandi, D., Pousttchi, K. and Turowski, K (2003). Acceptance of Mobile Payment Procedures in Germany. Proceedings of the 3rd International Workshop Mobile Commerce, Augsburg, Germany.
- Kim, S., Garrison, G., 2009. Investigating mobile wireless technology adoption: an extension of the technology acceptance model. *Inf. Syst. Front.* 11 (3), 323–333.
- Lee, Y., Yvette, D. (2012). Are there cultural differences in how we play? examining cultural effects on playing social network games. *Comput. Hum. Behav.* 26 (4), pp. 1307-1314.
- Leong, L.Y., Hew, T.S., Tan, G.W.H., Ooi, K.B. (2013). Predicting the determinants of the NFC-enabled mobile credit card acceptance: a neural networks approach. *Expert Syst. Appl.* 40, pp. 5604–5620.
- Luarn, P. and Lin, H.-H. (2005) ‘Toward an understanding of the behavioral intention to use mobile banking’, *Computers in Human Behavior*, 21(6), pp. 873–891.
- Mallat, N., Rossi, M., Tuunainen, V.K. and Öörni, A. (2006). The impact of use situation and mobility on the acceptance of mobile ticketing services, In Proceedings of the 39th Hawaii International Conference on System Sciences, Hawaii. Retrieved from: <https://ieeexplore.ieee.org/document/1579375>
- McKnight, D.H., & Chervany, N.L. (2002). What trust means in e-commerce customer relationships: An interdisciplinary typology. *International Journal of Electric Commerce*, 6, 2, pp. 35-60.
- Mehrad, D., Mohammadi, S., 2017. Word of mouth impact on the adoption of mobile banking in Iran. *Telematics Inform.* 34 (7), 1351–1363.
- Moghaddam, K., Bijan & Khatoon-Abadi. (2003). Factors affecting ICT adoption among rural users: A case study of ICT Center in Iran. *Telecommunications Policy*.
- Moore, G. C., and Benbasat, I. Development of an instrument to measure the perceptions of adopting an information technology innovation. *Information Systems Research*, 2, 3, 1991, 192–222.
- Muñoz, F. L., Hernández-Méndez, J., & Sánchez-Fernández, J. (2012). Generalising user behaviour in online travel sites through the travel 2.0 website acceptance model. *Online Information Review*, 36, 879–902.
- Mu, H.L., & Lee, Y.C. (2017). Examining the influencing Factors of Third-Party Mobile Payment Adoption: A Comparative Study of Alipay and WeChat Pay. pp. 247- 284.
- Nunnally, J. C. (1994). *Psychometric Theory 3E*: Tata McGraw-hill Education.
- Nysveen, H. (2005) ‘Intentions to Use Mobile Services: Antecedents and Cross-Service Comparisons’, *Journal of the Academy of Marketing Science*, 33(3), pp. 330–346.
- Nysveen, H., Pedersen, P.E., Thorbjørnsen, H. (2005) Explaining intention to use mobile chat services: moderating effects of gender. *J. Consum. Mark.* 22 (5), pp. 247–256.
- Oh, S., Ahn, J., and Kim, B. (2003). Adoption of broadband Internet in Korea: the role of experience in building attitudes. *Journal of Information Technology*, 18, 4, pp. 267–280.
- Pavlou, P. A. (2003). Consumer acceptance of electronic commerce: Integrating trust and risk with the technology acceptance model. *International Journal of Electronic Commerce*, 7(3), 101–134. <https://doi.org/10.1080/10864415.2003.11044275>

- Pearson, K. (1926). On the coefficient of racial likeness. *Biometrika*, 18(1-2), 105-117.
- Pikkarainen, T., Pikkarainen, K., Karjaluoto, H., Pahlila, S. (2004). Consumer acceptance of online banking: an extension of the technology acceptance model. *Internet Res.* 14 (3), 224–235.
- Plouffe, C. R., Hulland, J. S., and Vandenbosch, M. (2001). Richness versus parsimony in modeling technology adoption decisions – understanding merchant adoption of a smart card-based payment system. *Information Systems Research*, 12, 2, pp. 208–222. Retrieved from: <https://ideas.repec.org/a/inm/orisre/v12y2001i2p208-222.html>
- Prime Index. (2018). WHITEPAPER - Mobile Payments Industry Overview. Retrieved from: <https://etfmg.com/wp-content/uploads/2019/03/13-Prime-Indexes-Mobile-Payments-Industry-Review-11102018.pdf>
- Roca, J.C., Garcia, J.J., & de la Vega, J.J. (2009). The importance of perceived trust, security and privacy in online trading systems, *Information Management & Computer Security*, 17(2), 96- 113.
- Rogers, E.M. (1962). *Diffusion of Innovations*. Free Press, New York. Retrived from: https://www.researchgate.net/publication/292103036_Diffusion_of_Innovations_von_Everett_M_Rogers_1962
- Rogers, E.M. (1983). *Diffusion of Innovations* (3rd ed.). New York: The Free Press. Retrieved from: <https://teddykw2.files.wordpress.com/2012/07/everett-m-rogers-diffusion-of-innovations.pdf>
- Schierz, P. G., Schilke, O., & Wirtz, B. W. (2010). Understanding consumer acceptance of mobile payment services: An empirical analysis. *Electronic Commerce Research and Applications*, 9(3), 209–216.
- Schmitt, N. (1996). Uses and abuses of coefficient alpha. *Psychological Assessment*, 8(4), 350–353. doi:10.1037/1040-3590.8.4.350.
- Shin, D., Shin, Y. (2011). Why do people play social network games? *Comput. Hum. Behav.* 27 (2), 852-861.
- Sonnenwald, D. H., Maglaughlin, K. L., and Whitton, M. C. (2001). Using Innovation Diffusion Theory to Guide Collaboration Technology Evaluation: Work in Progress, Paper presented at The Tenth IEEE International Workshop on Enabling Technologies: Infrastructure for Collaborative Enterprises, Cambridge, MA. Retrieved from: <https://ieeexplore.ieee.org/document/953399>
- Suki, N.M., Suki, N.M. (2017). Flight ticket booking app on mobile devices: examining the determinants of individual intention to use. *J. Air Trans. Manage.* 62, 146–154.
- Su, P., Wang, L., & Yan, J. (2018). How users' Internet experience affects the adoption of mobile payment: a mediation model. *Technology Analysis and Strategic Management*, 30(2), 186–197. <https://doi.org/10.1080/09537325.2017.1297788>
- Taylor, S., and Todd, P. A. Understanding information technology usage: a test of competing models. *Information Systems Research*, 6, 2, 1995, 144–176. Retrieved from: <https://www.jstor.org/stable/23011007?seq=1>
- Thomas, S., Bayarri, M.J. James, O. B. (2001). Calibration of *p* Values for Testing Precise Null Hypotheses. *The American Statistician*, February 2001, Vol. 55, No. 1.

- Tornatzky, L.G, Klein, K.J. (1982). Innovation characteristics and innovation adoption-implementation: A meta-analysis of findings. *IEEE Trans Eng Manag* 29(1):28.
- van der Heijden, H. (2003) 'Factors influencing the usage of websites: the case of a generic portal in The Netherlands', *Information & Management*, 40(6), pp. 541–549.
- van Griethuijsen, R.A.L.F., van Eijck, M.W., Haste, H. *et al.* (2015). Global Patterns in Students' Views of Science and Interest in Science. *Res Sci Educ* 45, pp. 581–603.
- Venkatesh, V. and orris, M.G. (2000). Why do not men ever stop to ask for directions? Gender, social influence, and their role in technology acceptance and usage behavior. *MIS Quarterly*. Vol. 24 (1), 115-139.
- Wang, W.T., Li, H.M., 2012. Factors influencing mobile services adoption: a brand-equity perspective. *Internet Res.* 22 (2), 1–65.
- Yamane, T. (1967). *Statistics, An Introductory Analysis*, 2nd Ed., New York: Harper and Row. Retrieved from: <http://www.sciepub.com/reference/180098>
- Yan, H., & Pan, K. (2014). Examine user adoption of mobile payment using the TAM: a trust transfer perspective. In *The Thirteenth Wuhan International Conference on E-Business - Human Behavior and Social Impacts on E-Business*, Wuhan, China.
- Yan, H., & Yang, Z. (2015). Examining mobile payment user adoption from the perspective of trust. *International Journal of u-and e- Service, Science and Technology*, 8(1), 117–130.
- Yang, H.-D., and Yoo, Y. (2004). It's all about attitude: revisiting the technology acceptance model. *Decision Support Systems*, 38, 1, pp. 19–31.
- Yao, Y; & Xu, P. (2016). "Does Mobile Payment Matter?" *PACIS 2016 Proceedings*. 233. Read more: <http://aisel.aisnet.org/pacis2016/233> [Last Accessed: 10/01/2017].
- Zmijewska, A., and Lawrence, E. (2006). *Implementation models in mobile payment*, In *Proceedings of the IASTED International Conference, Puerto Vallarta*, pp. 19– 25.