Factors Hindering University Students to Adopt ACLEDA Mobile

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ABSTRACT

The recent mobile revolution, combined with technological advancements, has allowed the world population to experience innovations of mobile phones to access financial information, banking services, and employing financial transactions, so-called mobile banking. In Cambodia, mobile banking usage has increased for years through the innovation of mobile applications from banks to MFIs. However, the behavioral intention to adopt a mobile banking system among Cambodian users remains little understood. Hence, the study aims to identify and explore the factors hindering the users' intentions to use mobile banking among university students in Cambodia. To describe the hindering factors, the study uses the Theory of Innovation Resistance, which focuses on 5 main barriers such as usage, value, risk, tradition, and image. A survey is used with 129 participants who had experienced using mobile banking in Phnom Penh. The results show that 5 barriers of TIR are not the main reasons that hinder consumers to adopt mobile banking. Through a qualitative insight, the study also indicated the three main reasons that university students do not use ACLEDA Mobile, namely a lack of retail shop partners, subjective norm (family or friend), and brand loyalty (stick to the existing brand of mobile banking).

Keywords: Theory Innovation Resistance(TIR), Mobile Banking, ACLEDA Mobile

1.   Introduction

1.1   Background of the study

The improvements in technology and particularly mobile phones have revolutionized financial services provision and introduced new models in the banking sector. One of the newest breakthroughs of mobile phones is that the possibility for users to process access to financial information, banking services and implement money transactions through the mobile device, known as mobile financial services (Seng & Lay, 2018). Mobile financial services have seen in the most of the poor and low-income earners expand their financial services which are quite cheap, secure, reliable, and accessible (Gautier et al., 2020). The adoption of mobile banking presents a catalyst through which banking institutions could invest in systems aimed toward facilitating the method. Many authors acknowledge that mobile banking has been launched quickly in some developing countries with a high penetration rate of mobile phones within the market (Donner, 2007). As cited in Yang et al., (2021) high growth in mobile device usage and penetration has brought a positive impact on the publicity of mobile commerce utilization (Chen & Adams, 2005). The development of mobile service in Cambodia pushes banks and MFIs to build up their mobile financial app, which provides customers with a variety of accessibility to financial services such as check account balance, transfer, payment, top-up, and statement report.

1.2   Statement of the problem

To develop the application patterns for new technology, it is important to study how willing people are to try that new mobile service and then develop it to meet that willing. A preliminary survey with 30 students from various universities found that the use of ACLEDA Mobile is at a limited level among adults at higher education institution. This result contradicts with the work of (Em, Norng & Thab, 2021), which found that most consumers use ACLEDA Mobile.

1.3   Research objective

The study aims to explore the factors hindering the users towards the intentions to adopt ACLEDA Mobile among university students in Phnom Penh.

1.4   Research question

What factors hindering university students to adopt ACLEDA Mobile?

1.5   Significance of the study

This hardworking study would significantly benefit ACLEDA Mobile app developers as same as banks and MFIs. From key factors and comments of respondents, mobile app developers could use those perceptions to develop their platform to be higher quality, more convenient, and secure to meet consumer aspiration and lead to more use of ACLEDA Mobile. Last but not least, this article would become a useful source for future research.

2.   Literature Review

2.1   Overview of the key concept on mobile banking

Mobile banking was accomplished primarily through text or SMS before the introduction and enable of mobile web services in 1999 which is known as SMS banking. At the time, SMS banking was the most popular banking product till 2010 it was developed with the advancement of smartphones with IOS and Android operating systems then become mobile banking. European banks were on the borderline of mobile banking service offering, by using the mobile web via WAP support, clients were able to download the banking apps onto their smartphones with more sophisticated interfaces and improved transactional abilities (*Mobile Banking - Overview, History, Types, Importance*, n.d.). As popularity and blowout of a mobile banking application, it was defined by different papers or researchers. Laukkanen & Kiviniemi (2010) define mobile banking as "an interaction through which a customer is connected to a bank via a mobile device" (p.373). In addition, mobile banking is a services and perform financial transactions (Anderson, 2010). Mobile banking is defined as "the financial services delivered via mobile networks and performed on a mobile phone" (Alampay & Moshi, 2018, p.4). This service provides much convenience and promptness to the banks' customers along with cost and time saving. Moreover, it enables the customer to access various transactions such as requesting their account balance (which is the latest transactions in their accounts), transferring funds between accounts, buying and selling orders for the stock exchange, receiving portfolio, and price information (Laukkanen & Lauronen, 2005).

2.2   Barriers to adopt mobile banking

Although mobile banking adoption has been strong growth over the earlier couple of years, it is still in its infancy. With all the laudable benefits of mobile banking, it is yet to realize larger-scale adoption, especially within the emerging economies. Several studies have analyzed the factors that encourage the use of these technologies by raising the opportunity that some of them may act as barriers. Investigation of those barriers has usually originated from what is known as consumer resistance to innovation (Ram & Sheth, 1989). The theory of innovation resistance (TIR) aims to clarify why customers resist innovations based on 5 main barriers such as usage, value, risk, tradition, and image. Barati & Mohammadi (2009) explain mobile services are innovation and each innovation comes with the resistance of customers; furthermore, factors that caused the present innovation must be considered before the acceptance model was built and if resistance to mobile banking is enhanced, intention to use this service is declined.

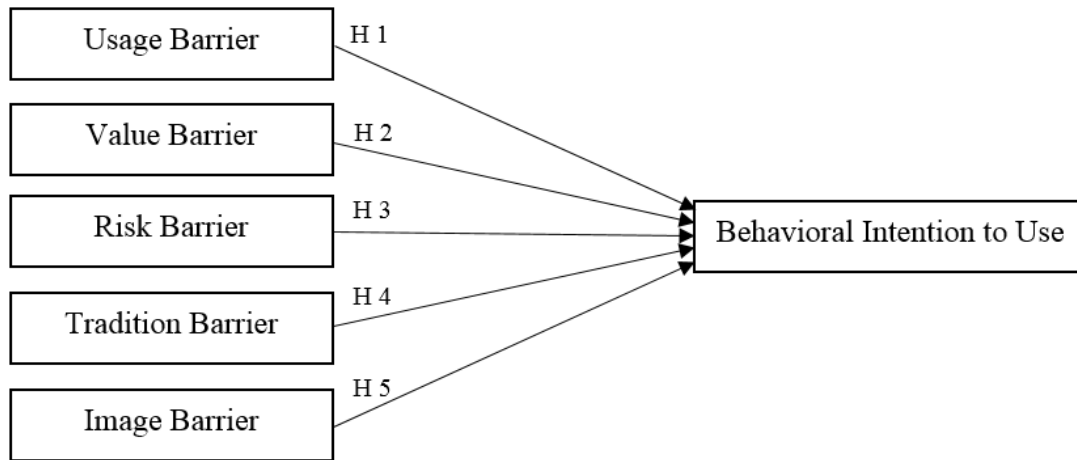## 2.3   Conceptual model and operational definition

Figure 1: Conceptual Model of TIR Adoption on the study of intention to use ACLEDA Mobile

This study proposed the Theory of Innovation Resistance (TIR) as conceptual framework to understand customers' intention to adopt mobile banking. Five main barriers, such as usage, value, risk, tradition, and image have directly impacts on behavioral intention. And operational definition of each factor was listed below:

- Usage Barrier: this factor assumes that "the person acts in a very certain automatic way that creates him/her hold to already established behaviours. Therefore, it can be linkened to a routine, a habit, or a pattern of use"(Laukkanen et al., 2008)
- Value Barrier: the value barrier appears "after we consider the performance of innovation in relevance its price and to existing alternatives. If the performance is not high enough, people will have no incentive to adopt it"(Borraz-Mora et al., 2017)
- Risk Barrier: refers to "the uncertainty and side effects associated with the adoption of any innovation. About online activities, such risks are usually more related to financial aspects"(Laukkanen, 2016)
- Tradition Barrier: refers to "the obstacles posed by any innovation if that innovation brings changes in a user's existing routine, culture, and behaviour"(El Badrawy et al., 2012)
- Image Barrier: "deals with a negative impression of the innovation emerging from the perceived level of complexity associated with its usage or its origin" (Lian & Yen, 2013)
- Behavioural Intention: refers to "the motivational factors that influence a given behaviour where the stronger the intention to perform the behaviour, the more likely the behaviour will be performed"(Ajzen, 1991)

Overall, this model was established to figure out the factors that hinder customers' intentions to adopt mobile banking by appointed 5 barriers as independent variable and behavioral intention to use as dependent variable.

2.4 Summary of research hypotheses

According to proposed conceptual model, the study had formulated the following hypotheses:

- H1: Usage barrier has a negative effect on behavioral intention to use ACLEDA Mobile.
- H2: Value barrier has a negative effect on behavioral intention to use ACLEDA Mobile.
- H3: Risk barrier has a negative effect on behavioral intention to use ACLEDA Mobile.
- H4: Tradition barrier has a negative effect on behavioral intention to use ACLEDA Mobile.
- H5: Image barrier has a negative effect on behavioral intention to use ACLEDA Mobile.

3. Research Methodology

3.1 Research design

This research study was conducted in survey method with a qualitative insight on the reasons for not adoption ACLEDA Mobile since it focused on a group of individuals who had mobile devices (smartphone) and internet connections to penetrate the mobile banking. Firstly, a statistical study was employed by analyzing TIR. After that, previous studies of related literature were reviewed to identify the issues and get an in-depth understanding on the areas of mobile banking. Later, a logistics plan had been developed with the alignment of the research, followed by data collection design, sampling design, and measurement questions.

3.2 Research site

This study was conducted in Phnom Penh City by focusing on students who experienced in using mobile banking and the site was selected because of the better internet accessibility.

3.3 Target population and sample size

The researcher targeted university students whose occupational status was company employee, business owner, government officer, self-employed, currently unemployed, and who had experience in adopting mobile banking. Furthermore, this study selected 129 as sample size. Green (1991) "determined that $N \geq 50 + 8m$ is appropriate" which N stands for sample size and " m " refer to independent variables. Thus, this sample selection is appropriate and best practice of regression.

3.4 Research instruments

The data were collected through the survey questionnaire, designed with three sections. The first section focused on the personal data of the adopters, and the second section focused on measurement of the six variables with seven likert scale. The last section focused on a qualitative insights of the reasons why ACLEDA Mobile was not adopted.

Table 1: Summary of Measurement Constructs

Construct	Item	References
Usage Barrier	UB1: Using ACLEDA Mobile is inconsistent with the current routine. UB2: Using ACLEDA Mobile is inconvenient in some situations. UB3: It is complex to interact with ACLEDA Mobile.	Laukkanen (2016)
Value Barrier	VB1: Using ACLEDA Mobile is costly. VB2: I cannot control my financial matters by myself when using app.	Laukkanen (2016)
Risk Barrier	RB1: I would not feel safe providing personal privacy information over the ACLEDA Mobile. RB2: I'm worried to use ACLEDA Mobile because other people may be able to access my account. RB3: When transferring money using ACLEDA Mobile, I am afraid that I will lose my money.	Lee (2009)
Tradition Barrier	TB1: I prefer using my existing mobile app rather than changing to ACLEDA Mobile. TB2: I think it is difficult to get my problem solved by the ACLEDA Mobile service provider.	Laukkanen (2016)
Image Barrier	IB1: I am facing difficulties in using ACLEDA Mobile. IB2: ACLEDA Mobile is not popular among adults.	Laukkanen (2016)
Behavioral Intention	BI1: I intend to use ACLEDA Mobile for my banking needs. BI2: I intend to use ACLEDA Mobile whenever I purchase the product online and offline. BI3: I will strongly recommend others to use ACLEDA Mobile. BI4: I intend to use ACLEDA Mobile than any other app.	Lee (2009), Venkatesh and Davis (2000)

3.5   Data collection

This study used mainly the primary data, which obtained from the response of the students through the survey questionnaire. Due to the pandemic of COVID-19, the questionnaire was primarily distributed through social media (Facebook, Telegram, Instagram...). The respondents were considered trusted sources who could give reliable and credible responses which would be useful for data analysis.

3.6   Data analysis

Practically, the data set stored in the Google Form was exported as an excel file (*.xlsx) and imported into the SPSS for running the analysis. Adopting descriptive and inferential analysis, the study analyzed the mean, frequency, percentage, and standard deviation to examine levels of agreement, and then the study analyzed Cronbach alpha to check the internet consistency, the association of each variable, and Linear Regression analysis.

3.7 Reliability test

Table 2 illustrated the Cronbach's Alpha of 4 constructs scored more than 0.7 in both pilot test (n=30) and the actual result (n=129), which means that the constructed variables are reliable to be implemented in this research (Nunnally, 1994). Therefore, the constructs are good to be used to study on customers' intention to adopt ACLEDA Mobile.

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

No	Item	n= 30	n=129
1	Usage Barrier	0.894	0.805
2	Value Barrier	0.886	0.818
3	Risk Barrier	0.924	0.891
4	Tradition Barrier	0.564	0.627
5	Image Barrier	0.662	0.616
6	Behavioral Intention	0.877	0.848

4. Data findings and discussion

4.1 Data findings

4.1.1 Demographic factors

The results of demographic factors illustrated as below table.

Table 3: Demographic Respondents

Item	Categories(N=129)	Frequency	Percentage
Gender	Female	84	65.11%
	Male	45	34.89%
Age	16-25 years old	124	96.12%
	26-35 years old	5	3.88%
	36-45 years old	0	0.00%
	Over 45 years old	0	0.00%
University	AIB	51	39.53%
	RUPP	12	9.30%
	Norton University	16	12.40%
	RULE	7	5.43%
	Cam Ed	8	6.02%
	Other	35	27.13%
Occupation	Company Employee	58	44.96%
	Government Officer	1	0.78%
	Business Owner	3	2.33%
	Currently Unemployed	31	24.03%
	Self-employed(freelance)	11	8.53%
	Other	25	19.38%

(continued)

Table 3: Demographic Respondents (continued)

Item	Categories(N=129)	Frequency	Percentage
Frequency	Everyday	48	37.21%
	3 to 4 days a week	35	27.13%
	Once a week	19	14.73%
	Once a month	17	13.18%
	Once in every six months	10	7.75%

4.1.2 Analysis of agreement level

Armstrong, (1987) stated of evaluation criteria that "the variable becomes essential when the score is higher". Thus, the questionnaires of variables were conducted on a seven-point scale as follows:

- Strongly Disagree ranges from 1.00 to 1.85
- Disagree ranges from 1.86 to 2.71
- Somewhat Disagree ranges from 2.72 to 3.57
- Neutral ranges from 3.58 to 4.42
- Somewhat Agree ranges from 4.43 to 5.28
- Agree ranges from 5.29 to 6.14
- Strongly Agree ranges from 6.15 to 7.00

The result has shown in table 4, three variables were stated as " Neutral " for UB, TB, and IMB, as " Somewhat disagree " for VB and RB, and as " Agree " for BI.

Table 4: Level of Agreement of Hindering Factors

	Variable	Min	Max	Mean	SD	Level of Agreement
1.	Usage Barrier (UB)	1.33	7.00	3.9841	1.38970	Neutral
2.	Value Barrier (VB)	1.00	7.00	3.5620	1.71278	Somewhat Disagree
3.	Risk Barrier (RB)	1.00	7.00	3.2403	1.68993	Somewhat Disagree
4.	Tradition Barrier (TB)	1.00	7.00	4.1434	1.47399	Neutral
5.	Image Barrier (IMB)	1.00	7.00	3.8333	1.54911	Neutral
6.	Behavioral Intention (BI)	2.25	7.00	5.8295	0.88608	Agree

Note: Somewhat Disagree: 2.72-3.57, Neutral: 3.58 – 4.42, Somewhat Agree: 4.43-5.28, Agree: 5.29 – 6.14, Strongly Agree: 6.15 – 7.00

4.1.3 Correlation analysis

This research brought 6 constructs into correlation analysis which was used to test correlation level and validity between all constructs. The closer of number in each variable reaches nearly +1, the stronger the correlations between variables (Pearson, 1926). Table 5 showcased that five variables are significantly correlated at the significant level of 0.01 (2-tailed), except BI which result illustrated the insignificant correlations.

Table 5: Pearson Correlation Matrix

	UB	VB	RB	TB	IMB	BI
UB	1.00					
VB	0.658**	1.00				
RB	0.471**	0.763**	1.00			
TB	0.649**	0.670**	0.560**	1.00		
IMB	0.592**	0.633**	0.600**	0.595**	1.00	
BI	0.137	0.118	0.095	0.072	0.025	1.00

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

4.1.4 Linear regression analysis

Linear regression analysis is used to test hypotheses related to the research model between both independent variables and dependent variable (Khanchel, 2019). Additionally, the ANOVA (Analysis of variance) was used to test the adjust R square to check the fitness of the multiple regression models. The F test was employed to determine the significant of the Model; and t test was used to analyze the significant effect independent variable on dependent variable (Ken Black, 2010; Em et al., 2021).

To determine the impact of innovation resistance on behavioural intention, all of the variables were assigned as independent variables and Behavioural Intention (BI) was run as dependent variable. The result shows that R=0.176, R squared=0.031, and significant the p-value of the F distribution is 0.560 which is beyond 0.05. This means that the model did not statistically fit in the study. Furthermore, Table 6 shows that all independent variables, namely Usage Barrier (UB), Value Barrier (VB), Risk Barrier (RB), Traditional Barrier (TB), and Image Barrier (IMB) did not have a positive significant on Behavioural Intention (BI). Therefore, the study rejected all five hypotheses.

Table 6: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	5.561	0.266		20.899	0.000
	UB	0.105	0.084	0.164	1.246	0.215
	VB	0.037	0.086	0.071	0.425	0.671
	RB	0.034	0.075	0.066	0.457	0.648
	TB	(0.024)	0.079	(0.040)	(0.301)	0.764
	IMB	(0.076)	0.073	(0.133)	(1.051)	0.295

a. Dependent Variable: BI

4.2 Discussion

The study investigated consumers' innovation resistance towards the use of ACLEDA Mobile among university students in Phnom Penh, Cambodia. The study proposes the conceptual model based on the Theory of Innovation Resistance (TIR) on the behavioral intention to adopt ACLEDA Mobile. However, the study rejects all hypotheses; in other words, the university students are not willing to use ACLEDA Mobile, not because of the innovative resistance, namely usage, value, risk, tradition, and imag barrier. The result of H1, H2, and

H3 contradicts to the study of Moorthy et al., (2017) and Oktavianus et al., (2017), which prove the impact of UB, VB, and RB on BI. Nonetheless, the result of H4 and H5 are in line with (Gupta and Arora, 2017; Laukkanen, 2016; Moorthy et al., 2017), which do not support the influence of TB and IMB on BI.

To further understand the reasons why university students do not adopt ACLEDA Mobile, an open question has been employed, and the result of Table 7 shows that among 129 respondents who do not use ACLEDA Mobile, 36.43% of them stress that some shops or suppliers do not use ACLEDA Mobile as payment method. Another 34.88% of them state that their family or friends do not use ACLEDA Mobile. Additionally, 24.81% of them prefer using the existing mobile banking app. Finally, 3.105% of the university students do not use ACLEDA Mobile because it is costly. They may refer to the annual charge fee, and only one respondent, among the 129 students, states *"I don't trust on ACLEDA Mobile"*.

Therefore, the university students are not resistant to the adoption of the new innovation. Most users found it difficult to make any payments through ACLEDA Mobile due to the lack of retail partners such as shop vendors or suppliers. Peer influence is another reason that cause them not to adopt ACLEDA Mobile. The result indicates that their family or friends do not use this app so there is no reason for them to use it as well. The final main reason is that they do not want to change their existing app because they are already familiar with it. Cost and trust are not the main reasons that cause the university students not to adopt ACLEDA Mobile.

Table 7: Most Influent Reason That Hinder Users Adopt ACLEDA Mobile

Reason	Frequency	Percentage
Some shops or suppliers do not use ACLEDA Mobile as the payment method	47	36.43%
My family or friends do not use ACLEDA Mobile	45	34.88%
I prefer to use an existing mobile banking app	32	24.81%
Using ACLEDA Mobile is costly	4	3.10%
I do not trust on ACLEDA Mobile	1	0.78%

5. Conclusion and implication of the study

5.1 Conclusion

This study attempts to identify the factors hindering the users' intention to adopt ACLEDA Mobile by employing the Theory of Innovation Resistance (TIR) and a qualitative insight. The study uses survey questionnaire in order to collect primary data from 129 university students who are experiencing using mobile banking. After analyzing the data quantitatively, the study found Usage Barrier (UB), Value Barrier (VB), Risk Barrier (RB), Traditional Barrier (TB), or Image Barrier (IMB) do not have a negative significant effect on the behavioral intention to adopt ACLEDA Mobile. Through a qualitative insight, the study also indicated the three main reasons that university students do not use ACLEDA Mobile, namely a lack of retail shop partners, subjective norm (family or friend), and brand loyalty (stick to the existing brand of mobile banking).

5.2   Implication of the study

Theoretical implication

The study brings several insights into the Theory of Innovation Resistance (TIR) toward the use of mobile banking, namely ACLEDA Mobile. The five barriers such as UB, VB, RB, TB, and IMB do not predict the behavioral intention of the university students to adopt ACLEDA Mobile. This mean that they, whose age between 16 to 35, are not resistant to the adoption of technological innovation. Cambodian young adults are the early adopters (13.5%) and early majority (34%), stated in the Diffusion of Innovation Theory of Everett Rogers. The study suggests not to employ TIR in the analysis of the behavior of the young adults in adopting mobile banking (ACLEDA Mobile) in Cambodia. TIR can be applied in order to study the behavior of adults and elderly in adopting mobile banking.

Practical implication

Even though TIR are not the predictors of the behavioral intention of the university students to adopt ACLEDA Mobile, there are three main reasons indicated earlier should be taken into account. Decision makers in marketing field should integrate these reasons into their marketing strategies. They should make partnership with distribution channels such retail shops, shop vendors, express marts, shopping malls, and traditional markets (Psar). They should also touch the individual users such as households. The sale agents should encourage individual household to use ACLEDA Mobile in Phnom Penh city, towns and urbans in each province due to subjective norm. Last but not least, there should be a change agent that attracts the adopters of existing mobile banking to turn using ACLEDA Mobile. This change agent can be the network of idols or celebrities.

5.3   Limitations and further research

This study employs only TIR on the analysis of the behavior intention of university students to adopt ACLEDA Mobile in Phnom Penh. There are certain limitations such other target respondents, other mobile banking brands, and location; therefore, this study suggest the next researchers to fill in the above gap.

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