Factors affecting to the Usage of Mobile Banking Applications (With special reference to Gampaha District)

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1. Introduction

Mobile banking (M-banking) has provided a significant opportunity for the banking sector (Tam & Oliveira, 2017; Troy & Connor, 2016; Zhang, 2018; Luvern & Lynn, 2005). Various studies have been concluded by various scholars and researchers globally as well as in Sri Lanka focusing on various fields related M-banking, online banking, technology-based self-services. It is worth noting with regard to research and adoption rate of M-banking application (for smartphone) this study found that there are just a few of the previous research studies that reach the most important precedents regarding users' desire to use those applications (Lee, Hew & Wei, 2015). Furthermore, despite the recent and various extensions of the TAM model of Davis et al. (1989) only a few studies have focused on the factors that contribute to the acceptance of these mobile applications with a holistic approach that integrates several related principles like perceived risk and social image (Liebana-Cabanillas et al., 2014) or social influence, subjective norms (Bashir & Madhavaiah, 2015). However, the present study is conducted with a special reference to the Gampaha district with the aim of examine the factors that affected to the usage of M-banking applications.

Technological advances have accelerated competition between banks through the digitalization of banking services. The challenge for Sri Lanka now is to develop a M-banking strategy that adds value to their customers and to encourage them to switch from costly branches to M-banking. To achieve this, it is essential for banks to utilize the unique capabilities of the mobile platform to offer new value proposals to their customers. Encouraging their customers to use M-banking applications can save financial institutions significant operating and marketing costs. Many banks today offer M-banking applications, but their use is still in its infancy

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(Lakmal & Wijethunga, 2019). Therefore, the main problem here is to study it in more depth and identify the factors that influence the use of the M-banking application and the impact of those factors.

This study uses an online survey of a sample taken from one district in Sri Lanka. The sample in this study was described as respondents with banks over 18 years of age. This was due to the fact that banking applications could only be used by those over the age of 18, and the use of online surveys was limited to a large number of customers in the Western Province and Internet users with all facilities. The importance of this research is illustrated by its focus on key factors affecting the use of mobile banking applications in Sri Lanka. In addition, these findings could be applied to other developing countries. Since there have been a small number of previous studies focusing on mobile banking applications, the present study can be considered as a significant turning point in this research direction to focus primarily on the use of mobile banking applications in the Sri Lankan context from a consumer perspective.

2. Main Objective

The main purpose of this research is to identify the factors that affect the usage of mobile banking applications.

3. Materials and Methods

The scope of this study will cover key factors derived from the Technology Acceptance Model (TAM) including the intent to use mobile banking services, usefulness and ease of use (Davis, 1989). After critically reviewing the literature on the development of mobile banking status in Sri Lanka, gathered some important information that is in the context of this study. The variables perceived risk, perceives cost, relative advantages and perceived interactivity are added to TAM to develop a research model to find out the variables that affect the usage of mobile banking in Sri Lanka. Accordingly, the conceptual framework constructed with six variables such as, perceived usefulness, perceived ease of use, relative advantages, perceived risk, perceived cost and perceived interactivity. The population of this study included all commercial bank customers with or without experience in using mobile banking applications in the Gampaha district. As mentioned above, research was concluded with users are using or not using mobile banking applications above 18 years old, under Yamane sampling method that is not

limited to one particular bank. That is 100 respondents participated in this study. This research has utilized two types of data types necessary to conduct this study such as secondary and primary data. Factor analysis is used to find out the main factors affecting to the usage of mobile banking application. In this way factor analysis has been done using the identified factors are represented in the following table.

Table 1: Factors used to analysis

M-banking app improves how I do my banking	PU1
M-banking app is useful for me	PU2
M-banking app makes my financial life effective	PU3
Learning to use M-banking app easy for me	PEOU1
M-banking app is easy to use	PEOU2
Interaction with M-banking app does not require a lot of mental effort	PEOU3
I find the process of completion of the task on M-banking app needs a few clicks	RA1
I think the availability of access to M-banking app is 24/7	RA2
M-banking app makes simple to navigate	RA3
I find the risky to do large amount of money transactions on M-banking apps	PR1
I think M-banking app will not deny the transactions that occurred by me	PR2
M-banking app cannot verify the actual completion of the transactions	PR3
A disruption of the usage of mobile data probably happens at any time	PR4
The app reduces the cost of banking services	PC1
The M-banking app minimize the cost of accessing bank branches	PC2
The content of M-banking app is useful and clear	PI1
M-banking app updates regularly	PI2
On the M-banking app, I can find guidelines about customer policies such as privacy and disputes	PI3
I believe my bank information is well secured by the provider of M-banking app	PI4
I think my M-banking provider checks all communications between the app and me for protection from hacking or eavesdropping	PI5

Sources: Aboelmaged and Gebba (2013), Mohammadi (2015), Walker and Johnson (2006)

4. Results and Discussion

Factor analysis provides simplicity after reducing the variable. In the factor analysis focusing on the KMO test and Bartlet's test check the validity of the data used for factor analysis. Where the KMO value indicate the adequacy of the sample and Bartlet's test checks the sphericity of the sample. These tests inspect the validity of the data used for factor analysis, focusing on the KMO test and Bartlett's test in factor analysis. Where the KMO value is sufficient for the sample and the Bartlett's test, tests the sphericity and the KMO value must be greater than 0.5 and Bartlett's test must be less than 0.05 (P-value). According to this study KMO value is 0.858 and P-value is 0.000, so the factor analysis is very suitable and acceptable for objectives of the study.

The results show that there are only 4 components with as eigenvalue greater than 1. Based on the eigenvalue greater than 1, these four components are taken as the main factors, which describe 62% of the variation of the variable considered. Thus, representing four expression sets of 20 variables. However, four components are sufficient to represent all the features. Table 2 shows the distribution of variables, according to the varimax rotation method, relevant to the 4 main components.

Table 2: Rotated Component Matrix

Factors	Component			
	1	2	3	4
PU1	**.773**	.166	.126	-.022
PU2	**.796**	.126	.157	.031
PU3	**.719**	.443	-.066	-.077
PEOU1	**.858**	.185	.190	.028
PEOU2	**.823**	.255	.104	.046
PEOU3	**.840**	.114	.135	.016
RA1	.411	**.520**	.428	.217
RA2	.277	.025	**.705**	-.103
RA3	**.579**	.221	.478	-.078
PR1	.010	-.043	-.065	**.792**
PR2	.082	**.576**	-.122	.484
PR3	.136	.308	-.461	**.567**
PR4	-.176	-.025	.189	**.627**

PC1	.384	.222	.246	**.405**
PC2	.127	.272	**.624**	.344
PI1	.366	**.495**	.447	.008
PI2	.090	**.739**	.116	.028
PI3	.165	**.772**	.231	.015
PI4	.289	**.693**	.049	-.109
PI5	.291	**.606**	-.027	.187

Source: Survey Data, 2022

According to the table below, the variable used in the analysis of the factors affecting the usage of mobile banking application can be concluded to be four factors.

i. Learning to use M-banking app easy for everyone can be identified as a first component.

ii. On the M-banking app, can find guidelines about customer policies such as privacy and disputes are the influencing factor for the second component.

iii. Availability of access to the application in 24 hours is pointed as the third component.

iv. The fourth component is perceived risk of using banking applications.

All the selected main factors are namely usefulness and convenience, interaction of the application, cost reduction and perceived risk affected to directly use or not use of the mobile banking application respectively.

5. Conclusion and Recommendations

Usefulness and convenience, interaction of the application, cost reduction and perceived risk were identified as the main factors influencing the use of mobile banking app. In particular, selected banks which are government and private, in this research should promote usage of mobile banking application services to their customers using the various promotional tools applicable to the target market based on the usefulness and convenience, reduce cost, technology and interaction as well as the potential customers' awareness of perceived risk of the application. Furthermore, reliable network infrastructure and systems need to be put in place to ensure the smooth operation of mobile banking services so as to minimize the risks felt by customers regarding mobile banking applications technology.

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