

Mobile Banking Acceptation of the Market

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Abstract: This study investigates consumers' mobile banking acceptance through an integration of Technology Approval Model (TAM), with work on noticed benefits and noticed risks. Data were collected from 1087 university students who are nonusers but future outlooks and analyzed by structural equation modeling (SEM). It was found that noticed usefulness, noticed social risk, noticed performance risk and noticed benefit directly affect policies regarding mobile Banking and that policy is the major determinant of mobile banking acceptance goal. In addition, no direct relationship between the noticed usefulness and goal to use, noticed ease of use and policy, time risk, security /privacy risk and policy were detected. This study reflects the feeling of nonusers and university students- possible future outlooks in an emerging country. The main theoretical contribution of this research is the development of a risk benefit model by extension TAM. The banks should rely upon increasing benefit feeling of mobile banking. At the same time, decreases of social and performance risk should be strongly promoted. In the study, the acceptance goal of mobile banking is tested by integrating TAM with noticed benefits and noticed risks- social risk, performance risk, time risk, security risk and privacy risk.

Key words: Mobile banking • Noticed benefit • Noticed risks • TAM

INTRODUCTION

Progressions in information technology have a huge effect on the banking sector, producing successively ever more elastic payment methods an easy to used banking services. Today mobile banking implementations are developing as a new retail channel for banks. Mobile banking is a main point of growth strategies for both the banking and mobile messenger industries [1]. Banks, through mobile banking implementations, supply a combination of payments, banking, real-time two-way transfer of information between computers, widespread approach to financial information and services [2]. It is now not appreciate the mobile phone as a channel for service consumption offers huge possible in banking [3]. Earlier studies show the factors contributing to the acceptance of mobile banking include comfort, approach to the service in any case of time and place, privacy and savings in time and effort [4]. Therefore, consumers assume and expect they can through a phone willingly obtain fast, comfortable and compatible service on demand. However, in spite of its advantages, the use of

mobile banking in fact has not expanded as was expected [4, 5]. The internet is still the leading channel in electronic banking. Cortinas *et al.* [6] created that in spite of using different channels to do their banking; customers tend to use one channel. This research aims to examine the influence of considerable risks and benefits on consumers' mobile banking acceptance in the background of the technology Approval model (TAM).

Conceptual Background: Mobile banking is specified as "a channel whereby the consumer interacts with a bank via a mobile plan, such as a mobile phone or personal digital assistant. In that sense it can be seen as a subset of electronic banking and an expansion of internet banking with its own unique characteristics" [7]. In this work, there are several studies focused on mobile banking [5, 8-10]. In addition, trust and dependability are critical to reduce the generally considerable risk of mobile banking. Cruz *et al.* [9] researched the considerable obstacles to the acceptance of mobile banking services and created that the majority of defendants do not use any kind of mobile banking service and the reasons behind not using

mobile banking were comprehension of cost, risk, low considerable relative advantage and complexity. Riquelme and Rios [11] researched the factors affecting the acceptance of mobile banking among current users of internet banking and presented that comprehensions of relative advantage of the mobile plan, comprehension of risk, social standard, ease of use and usefulness of the plan for banking purposes. Kim *et al.* [5] aimed to research the mechanisms related with the initial formation of people's trust in mobile banking and their goal to use the service. With this goal in mind they have tested four types of trust-inducing forces: institutional offering (structural assurances), awareness (considerable benefits), personality (personal propensity) and firm characteristics (firm reputation). They found that three variables (relative benefits, propensity to trust and structural assurances) have an important effect on initial trust in mobile banking. However, the influence of reputation as a firm characteristic on mobile banking acceptance was not supported. Laforet and Li [12] researched consumers' policies regarding online and mobile banking in China. They make a decision that protection was the most important factor that motivated Chinese consumer acceptance of online banking. While the main obstacles to online banking were created to be the comprehension of risks, low computer and technological skills and Chinese traditional cash-carry banking culture, the obstacles to mobile banking acceptance were different, in the main a lack of awareness and understanding of the benefits supplied by mobile banking. Luam and Lin [10] searched the suitability of the Technology Approval Model (TAM) in a mobile banking background by adding one trust-based construct - considerable dependability- and two resource-based constructs - considerable self-efficacy and - considerable financial cost - to TAM and presented that their expanded TAM has a higher ability to predict and explain behavioral

goal to use an information system. Brown *et al.* [13] suggest that the relative advantage, trial periods and consumer banking needs, along with considerable risk, have a major negative influence on the acceptance of mobile banking. Lee *et al.* [14] manage a qualitative close-up study to examine and understand the consumers' behavior and motivation regarding mobile banking, focusing on both the innovative characteristics and consumers' considerable risk interests. This study aims to examine the factors affecting mobile banking acceptance in an emerging country. Therefore, we test the acceptance goal of mobile banking by integrating TAM with considerable benefits and considerable risks- social risk, performance risk, time risk, protection risk and privacy risk. Unlike the earlier studies the five considerable risk measures were included in the model.

Technology Approval Model (TAM): The Technology Approval Model (TAM), introduced by Davis [15], is used for modeling user approval of information systems. The goal of TAM is to supply an interpretation of the determining factor of computer approval [16]. TAM assumes that two special beliefs, considerable usefulness and considerable ease of use, are of primary relatedness for computer approval behaviors (Figure 1). In general, TAM inspects the mediating role of considerable ease of use and considerable usefulness on the probability of system use [17]. Considerable usefulness is specified as "the prospective user's personal probability that using a specific application system will increase his or her job performance within an organizational background". Considerable Ease of use applies to "the degree to which the prospective user expects the target system to be free of effort" [16]. In the model, both, considerable usefulness and considerable ease of use predict policy, specified as the user's estimation of the profitability to use the system.

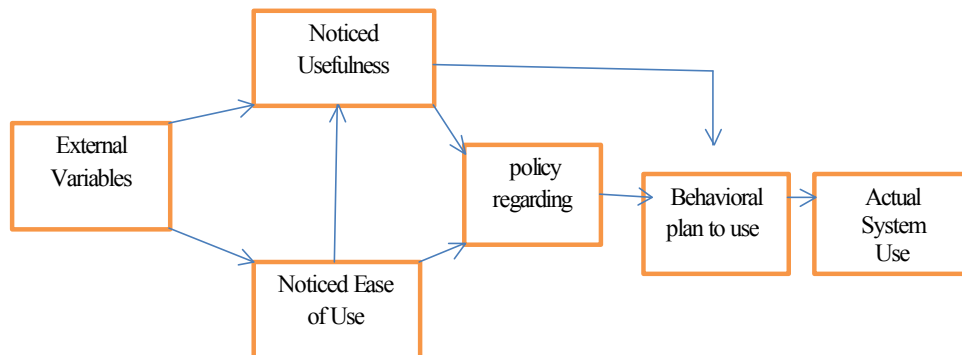


Fig. 1: Technology Approval Model

The individual's behavioral goal is directly influenced by the policy and considerable usefulness. TAM is created as able to supply a reasonable illustration of a user's goal to use technology [17]. And it has been greatly utilized in research to determine the probability of acceptance an online system and user comprehensions of system use [18, 19]. On this basis, it was hypothesized;

- H1: Considerable usefulness positively influences the policy regarding using mobile banking.
- H2: Considerable ease of use positively influences the considerable usefulness of mobile banking.
- H3: Considerable ease of use positively influences the policy regarding using mobile banking.
- H4: Considerable usefulness positively influences the behavioral goal to use mobile banking.
- H5: Policy regarding using mobile banking positively influences the behavioral goal to use mobile banking.

Considerable Risk: Considerable risk, introduced by Bauer [20], applies to the nature and amount of risk considerable by a consumer in considering a special purchase decision. Supposedly a consumer is motivated to make a purchase in order to obtain some set of buying goals. The element of risk is often present because prior to making a purchase the consumer cannot always be certain the planned purchase will allow her to obtain her buying goals. Jacoby and Kaplan [21] concluded from Bauer's original work and measure of considerable risk, pointing to its three key aspects: performance risk, social risk and psychological risk. In the literature, the notion of time risk decided by Roselius [22] has also been taken as a measure of considerable risk [23, 24]. In addition to these considerable risk measures, the emergence of the internet and hyperspace has created new forms of risk comprehensions, privacy risk and protection risk [25]. Lee *et al.*, [14] claimed the considerable risk measures, except psychological risk, could explain why consumers might not want to adopt mobile banking services. They created psychological risk not especially related to the issue of the mobile banking acceptance. Besides, earlier studies have disputed that considerable protection issues [10, 13], performance related risks [26] are the necessary variables in determining the acceptance of mobile banking services. Walker and Johnson [27] put forward that willingness to use the internet and telephone for financial and shopping services is influenced by:

- The individual sense of personal capacity or ability, (2) the considerable risks and relative advantages and (3) the scope to which contact with service personnel is preferred or supposed necessary. On that basis, it was hypothesized that;

- H6a: Considerable social risk negatively influences the behavioral goal to use mobile banking.
- H6b: Considerable performance risk negatively influences the behavioral goal to use mobile banking.
- H6c: Considerable time risk negatively influences the behavioral goal to use mobile banking.
- H6d: Considerable protection risk negatively influences the behavioral goal to use mobile banking.
- H6e: Considerable privacy risk negatively influences the behavioral goal to use mobile banking.

Considerable Benefit: Recently, in studying mobile banking it has been suggested the customer's purchase of a product includes perceptive and affective estimation of practical and pleasure seeking benefits [28]. Besides, consumers estimate the value to the products by comparing the considerable benefit and considerable sacrifice. Considerable benefit is created as an important factor in understanding online banking. Lee [5] work out that the goal to use online banking is mainly and positively affected by considerable benefit. And Laforet and Li [12] created that the lack of greedy these benefits is an important obstacle to acceptance. Therefore, it was hypothesized that;

- H7: Considerable benefit positively influences the behavioral goal to use mobile banking.

In sum, the research model can be graphically diagrammed in Fig.2.

Research Methodology

Measures and Data Collection: A structured instrument was used to collect data and using a seven point Likert scale: considerable usefulness, considerable ease of use, policy to use mobile banking and considerable benefit were adapted from Lee [29]; goal to use mobile banking was adapted from Kim *et al.* [28]; considerable social risk, considerable financial risk, considerable performance risk, considerable time risk were adapted from Stone and Gronhaug [23]; considerable protection and privacy risk were adapted from Pikkarainen [25]. In the literature it was

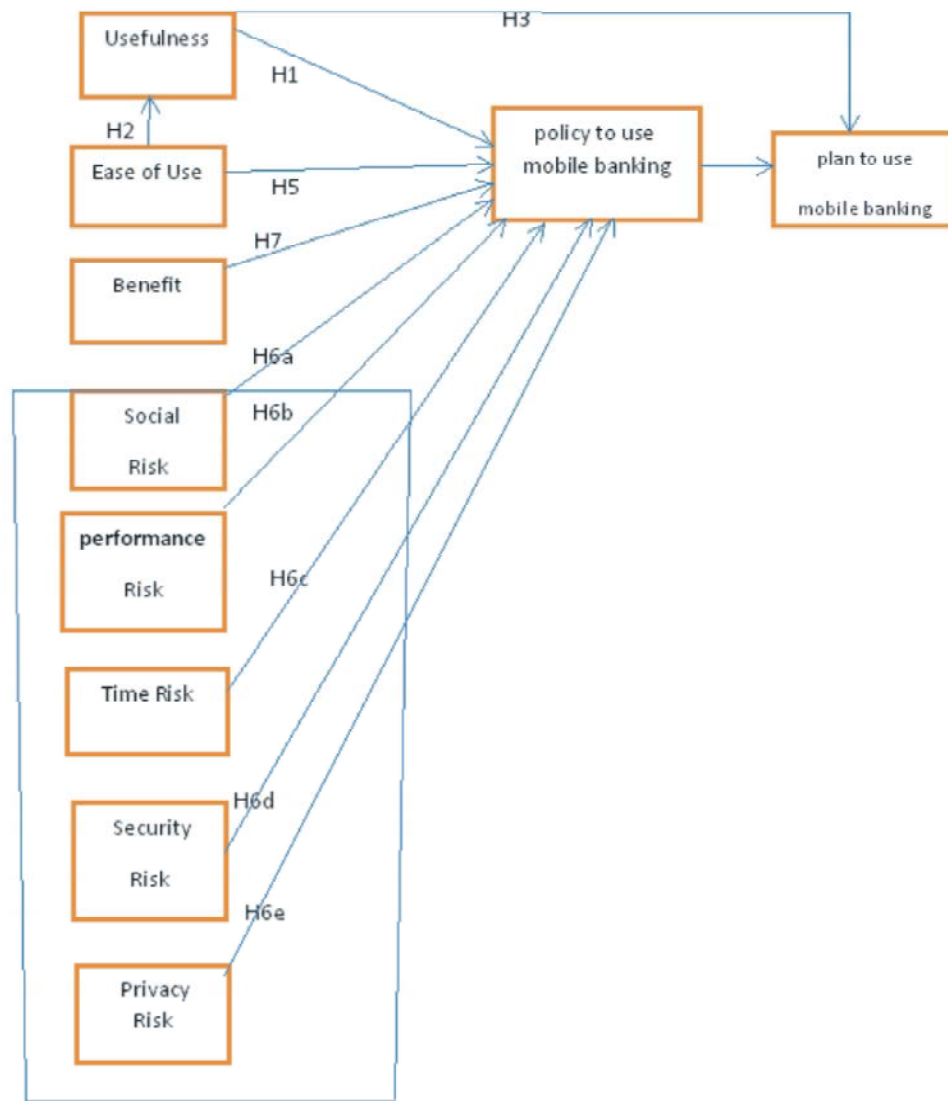


Fig. 2: Proposed Research Model

Table 1: The Demographic Characteristics of the Sample

Age	n	%
18-20	204	18.8
21-23	552	50.8
24-26	114	10.5
26-30	217	20
Total	1087	100.0

created that a typical user of online banking is a highly educated, relatively young and wealthy person with good knowledge of computers, especially the internet [30]. The data was gathered through face-to-face interviews with 870 university students. The mobile banking users were removed with a filter question

because risk comprehension differs in pre- and post-purchase phases [31]. According to this research sample (Table 1) shows the characteristics of being a non-user, as well as their future prospect of engaging in mobile banking in the next few years.

Analyses and Results

Investigative Factor Analysis and Reliability

Analysis: Investigative factor analysis is used to confirm whether items loaded correctly to the corresponding factors as recognized before. In addition, it is used to delay multicollinearity which causes deceptive results [32]. In Table 2, the results of Cronbach's alpha and the total variance explained are displayed.

Table 2: Descriptive Statistics, Exploratory Factor Analysis and Cronbach's Alpha Coefficients

Scales	Factor Loadings	Cronbach's Alpha
Social risk		0.881
If I use mobile banking, I think I would be held in higher respect by my friends at work.	.876	
I think that using mobile banking would provide me a higher social position.	.816	
Performance Risk		0.695
I worry about whether mobile banking will really perform as well as it is supposed to.	.792	
I become interested that the mobile banking will not furnish the level of benefits that I would be expecting.	.727	
Time Risk		0.707
I think I would spend too much time to learn how to use mobile banking.	.678	
Because of some problems in the operating system, I think that mobile banking would not run fast and cause time loss.	.785	
Security Risk		0.793
I am not worried about the security of an online bank	.817	
Matters of security have no influence on using an online bank.	.821	
Privacy Risk		0.820
I trust in the ability of an online bank to protect my privacy	.810	
I trust in the technology an online bank is using	.779	
Noticed Usefulness		0.858
I think that using the mobile banking would enable me to accomplish my tasks more quickly	.790	
I think the mobile banking is useful	.846	
I think that using the mobile banking is advantageous	.826	
Noticed Ease of Use		0.766
I think that learning to use mobile banking would be easy	.835	
I think that learning to use mobile banking does not require a lot of mental effort	.819	
Noticed Benefit		0.791
I think that using mobile banking can save my time in performing banking transactions	.850	
I think that using mobile banking can save the transaction handling fees in performing banking transactions	.807	
Policy		0.874
I think that using mobile banking for financial transactions would be a wise idea.	.874	
I think that using mobile banking is pleasant	.860	
In my opinion, it is desirable to use mobile banking	.808	
Adoption plan		0.916
I plan to use M-internet in the future	.924	
I plan to use M-internet in the future	.943	
I predict I would use M-internet in the future	.890	

Table 3: Hypotheses Tests

		Estimate	S.E.	C.R.	P	Supported
H1	policy <--- Usefulness	,355	,040	7,831	***	Yes
H2	Usefulness <--- Ease of Use	,613	,076	7,753	***	Yes
H3	plan <--- Usefulness	,057	,057	1,036	,290	No
H4	plan <--- policy	,848	,066	11,870	***	Yes
H5	policy <--- Ease of use	,09	,425	,030	,970	No
H6a	policy <--- SocR	,124	,035	3,210	,001	Yes
H6b	policy <--- Performance Risk	-,123	,044	-2,610	,004	Yes
H6c	policy <--- Time Risk	,081	,049	1,610	,100	No
H6d	policy <--- Social Risk	-,042	,049	-,912	,352	No
H6e	policy <--- Privacy Risk	,193	,330	,589	,544	No
H7	policy <--- Benefit	,424	,060	6,640	***	Yes

Usefulness: 0.213; R² policy: 0.674; R² Plan; 0.519

Structural Model Testing: The generally fit measures of the structural model show an suitable fit of the model to the data (Chi-square/df=2,59; CFI=0.911; TLI=0.897; IFI=0.912; GFI=0.856; RMSEA=0.07). The results supply strong support for the conceptual model displayed in Fig. 1 and Table 3 presents a summary of the hypotheses

tests. Six of the hypothesized paths of the structural model are highly important ($\alpha = 0.01$): (H1) considerable Usefulness \rightarrow policy; (H2) considerable Ease of Use \rightarrow considerable Usefulness; (H4) policy \rightarrow goal; (H6a) considerable Social Risk \rightarrow policy; (H7) considerable Benefit \rightarrow policy; and (H6b): considerable Performance

Risk → policy. The adjusted multiple correlations (R^2) for the dependent variables (considerable usefulness, policy regarding mobile banking and goal to use) were 0.231 (PU); 0.692 (Att); 0.537 (Int). Similar to the (R^2) value obtained in a multiple regression, an adjusted multiple correlation can be obtained from the SEM to quantify the percentage of variability in the outcome that is explained by the predictor variables (Neumark *et al.*, 2003). In the study, the predictor variables explain the 73% of the variability in “policy regarding mobile banking” and 55% of the variability in “goal to use mobile banking”.

DISCUSSION

This study argued that the mobile banking acceptance goal of future outlooks are in a controlling manner influenced by their policies regarding mobile banking and these are affected by its considerable usefulness, considerable benefit, social risk and performance risk. Considerable usefulness is strictly related to the personal probability that using mobile banking is beneficial and will make banking easier. At that point, when consumers feel using mobile banking will make possible them to perform their tasks more quickly, make it easier to carry out their banking-related tasks and is generally beneficial, they develop a positive policy regarding mobile banking. The usefulness comprehension of consumers is affected by the ease of use comprehension. Considerable ease of use applies to the expectation using mobile banking will be free of effort. When the consumers feel that learning and using mobile banking is easy, their positive comprehensions of usefulness increase. The policy regarding mobile banking is also affected by considerable social risk and performance risk. In our original research design we expected to discover the relationship between considerable protection risk, considerable privacy risk and policy, but no such connections were discovered. The sample was formed by university students aged 18-30. This age and education level group normally has considerable experience of online banking and shopping, mobile phones and mobile internet. Researchers in the area of technology acceptance, acceptance theory and social psychology fields agree that prior experience of technology at the individual level “lead to positive or negative expectations of one’s personal abilities to use that or related technologies” [14]. In addition, Karjaluoto *et al.* [30] convincingly present that prior experience with

computers and technologies and policies regarding computers influence both policies regarding online banking and actual behaviors. In addition, Featherman and Pavlou [26] confirmed that since the sample population of university students was younger, more computers educated and more comfortable with Internet-based transactions, their considerable risk levels are likely to be reduced as compared to the general population. In addition, there are some studies which disputed that protection issues are not in fact major determining factor in banking transactions [3, 7]. It was thus make a decision that because of their experiences, their policy mobile banking are not decided by their comprehensions of privacy risk, protection risk. Rather, their policy is negatively affected by considerable social risk and performance risk. Considerable social risk is “the possible loss of position in one’s social group as a result of acceptance a product or service, looking silly or untrendy” [26]. On that basis, social risk includes issues such as whether mobile banking usage will be socially acceptable and others’ positive or negative comprehensions of mobile banking may affect the usage decision. [33]. Social risk regarding the mobile banking acceptance may from this perspective actually be based in the personal standard concept related to the theory of planned behavior, self-prestige and self-expressiveness. Personal standard refer to “the person’s comprehension that most people who are important to him think he should or should not perform the behavior in question” [34]. In addition, it is disputed that the use of mobile banking services can increase one’s self-prestige [14] and that considerable self-expressiveness directly influences the policy to use of a technological innovation [35]. The other considerable risk measure affecting the policy regarding mobile banking was recognized as performance risk, which is well specified as “the possibility of the product malfunctioning and not performing as it was designed and advertised and therefore failing to deliver the desired benefits” [36]. Besides, in a qualitative study, Lee *et al.*, [14] decided that performance risk together with the other risk measures is important in mobile banking acceptance. As a result of the study considerable benefit is created as a major determinant ($\beta = .442$) of the policy regarding mobile banking [29] and Featherman and Fuller [37]. In mobile banking, when the consumers feel that mobile banking saves time, offers a wide range of services and can save the transaction handling fees, they develop a positive policy and therefore focused to use mobile banking implementations.

CONCLUSION

This study proposes a model based on risk and benefit comprehensions and integrates with TAM to explain the acceptance goal. From a theoretical point of view, this research has offered to make the sympathetic of the factors influencing mobile banking acceptance from the perspectives of future outlooks who are not current users. The main theoretical contribution of this research is the development of a risk benefit model by extension TAM. In terms of willingness to use technology effectively consumers' policies regarding technology, their use of IT and involvement with implementation pays dividends. In that sense appropriate organizational changes should be put in place to optimize on the possible benefits suggested by technological change [38]. This study reflects the comprehensions of nonusers and university students in an emerging country. This is the main limitation of the study. The discovery of the research is consistent with the literature of online and mobile banking. From the managerial outlook, this study produces valuable feeling regarding future outlooks. In the acceptance of mobile banking, policy is created to be the main determinant. When consumers think that using mobile banking is agreeable and a good idea and feel it as desirable, they tend to adopt mobile banking implementations. These policies are affected by the comprehension of benefits and social and performance risks. Therefore, the banks should rely upon increasing comprehensions of the beneficial nature of phone banking. At the same time, decreases of social and performance risk should be strongly promoted. In that sense, the banks should keep in mind that information and instruction importantly increase the considerable value added supplied by mobile banking and decrease the considerable risks related to the innovation [8]. Further research regarding the model should enlarge testing to older age groups with different profiles. Therefore the results should be confirmed through examination in industrialized countries.

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