

Acceptance of Internet Banking in Bangladesh: Evidence from Bangladesh

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Abstract—The high penetration and adoption of internet in Bangladesh has given rise to huge investments in Internet Banking. Unlike the foreign banks, internet-based banking has only recently been introduced by some of the major private banks and national banks. Although many banks have invested heavily in internet banking, the adoption of internet banking is currently not as expected. This paper aims to explore the antecedents in determining the acceptance of Internet Banking in Bangladesh. Findings suggest that internet banking use increases if the bank's customers perceive that it is not risky, the credibility of the bank is good, and it is easy to use, leading to increased acceptance of internet banking. Therefore, I propose that banks should promote the availability of internet banking, reduce the risks associated, and make the technology user friendly so that banks can benefit financially and at the same time provide better services to their customers.

Keywords—Internet Banking, Consumer Behavior, Technology Acceptance Model, Bangladesh.

I. INTRODUCTION

THE financial industry, especially the banking industry in Bangladesh has gone through significant changes brought about mainly by competitive pressure, customer needs and technological innovation. One of the applications of e-commerce is internet or online banking, which is widely adopted as means of providing more efficient services. Online banking has provided an improvement in the banking industry [1]. As such, it is no surprise for consumers to see thousands of online banking sites all over the world [2]. This lead to a rise in technological innovations such as adding online and mobile banking options in Bangladesh, which in turn improved the performances of the bank by lowering cost. Although most of the private banks in Bangladesh are now offering online banking, the acceptance of online banking is not growing at an expected rate. As such, this research looks into the variables that affect the acceptance of internet banking.

Banks all over the world are investing heavily in internet technologies for improvements in their performance. There has been an increase in the number of applications for e-commerce in business in the last decade [3]. The increase in these applications has numerous benefits, which includes reduction in cost, increasing business opportunities, reducing

lead time and providing more personalized service to the customers [4]. Most of the renowned private banks have started providing online banking services to their customers. They provide access to customer accounts so that customers may check their balances, move funds between accounts in the same bank as well as local banks covered by BEFTN (Bangladesh Electronic Fund Transfer Network), pay credit card and utility bills, and apply for loans, amongst other things. Other banking features are frequently being added in order to make their customers' lives easier. In a country like Bangladesh, marred by traffic, online banking provides most of the day to day banking services and due to time saved from transit, it provides those services more efficiently.

This increase in the availability of online banking is pushing the state and other smaller private banks to come up with their own platform of online banking in efforts to stay competitive. The importance of e-commerce is highlighted by the fact that the central bank of Bangladesh is pushing for 'green banking', which is promoted by online banking. With more and more banks offering internet banking, the Government of Bangladesh is trying to reduce the usage of paper, which not only reduces the burden on the human resource of banks but is also environmentally conscious.

Despite all the advantages, the success of online banking depends on the willingness of the bank customers to adopt the technology [5]. Although the Bangladesh Bank is promoting online banking and is willing to invest in building an e-commerce infrastructure, the success of such an endeavor ultimately depends on the consumer perceptions and whether they are willing to use online banking. Therefore, the primary objective of this research is to find how consumer perception toward online banking affects the acceptance of online banking.

II. LITERATURE REVIEW

Technology acceptance model (TAM), posits that user adoption of new information system is determined by the users' intention to use the system which in turn is determined by the user's beliefs about the system. Perceived usefulness is defined as the extent to which a person believes a particular system will enhance his or her job performance.

Importance of perceived ease of use has been widely recognized in the frontier of electronic banking [6]–[10]. Based on theory of reasoned action (TRA) [11], [12] and the theory of planned behavior (TPB) [13], TAM has been validated as a powerful and comprehensive framework [14],

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[15]. Thus, in order to increase customer acceptance of internet banking, banks need to ensure user-friendly interface for their customers, which will make it easy to learn and use the applications related to internet banking. Internet Technology that are user-friendly will be less threatening to the individual [16]. Thus, I hypothesize that the perceived ease of use will have a positive effect on customer acceptance.

H1. Perceived ease of use will have a positive effect on customer acceptance of internet banking.

For our research purposes, I will use perceived risk as the consumer's subjective expectation of uncertainty reaching a desired outcome. It is a multi-dimensional construct with the risk subdivided into physical, financial, psychological, social loss, performance and time [17]. Reference [18] states that risk is difficult to capture objectively. Reference [19] also argued that prior studies only focus on overall perceived risks, or on a few sub-dimensions of perceived risks and these studies do not accurately and completely assess all the relevant dimensions of risks. As such, it is relatively difficult to define and account for every risk dimension and to identify the potential risks that may influence the users of internet banking. Thus, I will test the following hypothesis:

H2. Perceived risks will have a negative effect on customer acceptance of internet banking.

Trust is an important characteristics in transactional relationships, and it determines the nature of many business and the social order [20]. Reference [21] defines trust as the perceived credibility and benevolence of a target of trust. Perceived credibility is the extent to which one partner believes that the other partner has the required expertise to perform the job effectively and reliably [22]. Reference [23] stated that trust based on partners' expertise and reliability focuses on the objective credibility of an exchange partner: an expectancy that the word or written statement of the partner can be relied on. The second dimension of trust, benevolence, links to the extent to which one partner is genuinely interested or concerned in the other partner's welfare, and has intentions and motives beneficial to the other party when new conditions arise, for which a commitment was not made. Benevolence has been a one of the key aspects in major research related to buyer-seller [24], [25]. Lastly, perceived credibility, relies on information, reputation and economic reasoning [26]. It relates to customer's judgment on the privacy and security risks of the internet banking systems. As such, perceived credibility is used as a variable to test how privacy and security concerns affect the acceptance of internet banking. Therefore, I will test the following hypothesis:

H3. Perceived credibility will have a positive effect on customer acceptance of internet banking.

Consistent with studies conducted by [27], [28] government support is found to be a predictor of the acceptance of internet banking. In Bangladesh, law regarding online fraud and cyber-crime is still in its infancy. As the country starts accepting internet banking and the number of customer availing this services increases, it raises a great concern for many banking customers. Government support, in this regard, will reduce the risk of online fraud and at the same time promote online

banking. Bangladesh Bank, the central bank of Bangladesh is promoting internet banking and as such they are promoting green banking, which is a great initiative. In addition to these, free W-Fi zones in and around public universities, offices, and public places will go a long way to increase the usage of internet banking systems. The Bangladesh government can therefore increase the adoption of internet banking by providing adequate infrastructure and internet connection with higher bandwidth in Bangladesh. Thus, this leads to my fourth hypothesis:

H4. Government support will have a positive effect on customer acceptance of internet banking.

III. RESEARCH METHODOLOGY

A questionnaire survey was carried out to meet the research objectives. The survey was restricted to bank customers who have previously used internet banking only. As such, stratified sampling method was chosen and the questionnaire was given out to 300 users of internet banking. Out of the 300, 71 of the responses were discarded, as they either had blank or unanswered parts of the questionnaire. The remaining 229 questionnaires was used for data analysis representing a response rate of 76.33 percent.

The respondents were selected from Dhaka region only, since it had the maximum number of internet users and the highest penetration rate for internet usage in the country. Five key variables were included in our study to maintain symmetry and so as not to make each variable too lengthy, each variable consisted of five items, except for customer acceptance, which contained three questions. Respondents were asked to indicate on a seven-point Likert scale, the extent to which 20 items (four factors) affected or inhibited the acceptance of internet banking.

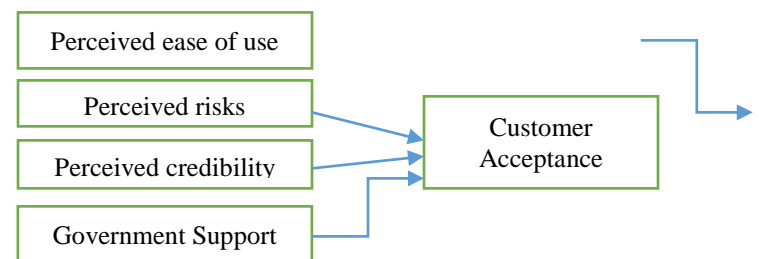


Fig. 1 Conceptual Framework

IV. DATA ANALYSIS

The table I shows the variables for the models with their descriptive statistics. The reliability coefficients, means, and standard deviations of all the constructs are displayed in table I. The coefficient of the alphas for the different constructs were computed using SPSS (version 21). For any research at its early stage, the minimum reliability score of alpha 0.60 is sufficient [29]. The Cronbach's alpha for all of the constructs were found to be well above the standard set by [29]. Mean scores have been computed using equally weighted mean scores of all the items. On a seven point scale, the mean score

for perceived risk was 3.437 (SD = 1.214) indicating the customers perceive electronic banking service to be moderately risky to perform their daily banking needs. The perceived ease of use had a mean score of 5.122 (SD = 0.862), indicating that customers found online banking to be easy to use and not difficult to operate and learn. The mean score for perceived credibility was 5.310 (SD = 1.164) indicating moderately strong attitude towards trusting the online banking services provided by the bank and the bank itself. Government support had a mean score of 4.956 (SD = 1.125) indicating that on average customers thought the government support to using online banking was not too high. The mean score for customer acceptance was 5.847 (SD = 0.961), which indicates on average customers are strongly in favor of accepting online banking.

TABLE I
RELIABILITY COEFFICIENT AND DESCRIPTIVE STATISTICS OF THE VARIABLES

Scales	Number of Items	Cronbach's Alpha	M	SD
Perceived Risks	5	.781	3.437	1.214
Perceived Ease of Use	5	.832	5.122	.862
Perceived Credibility	5	.724	5.310	1.164
Government Support	5	.695	4.956	1.125
Customer Acceptance	3	.801	5.847	.961

To test the hypothesis a correlation analysis was conducted on all the variables to explore the relationship between the variables. A two tailed tests of statistical significance at two different levels, highly significant ($p < .01$) and significant ($p < .05$) was carried out using bivariate correlation procedure. The result for all the variables is shown in Table II. It examines the correlations between perceived risk, perceived ease of use, perceived credibility, government support, and customer acceptance.

TABLE II
CORRELATION MATRIX FOR ALL THE VARIABLES

Variables	Perc. Risk	Perc. Ease of Use	Perc. Cred.	Govt. Supp.	Cust. Accep.
Perceived Risk	1	-.676**	-.407**	.086*	-.566**
Perceived Ease		1	.216**	.176*	.744**
Perceived Cred.			1	.399**	.476**
Govt. Support				1	.271**
Customer Accept.					1

** Correlation is significant at the 0.01 level.

* Correlation is significant at the 0.05 level.

Table II shows customer acceptance is positively correlated with perceived ease of use ($r = 0.744, p < .01$), trust ($r = .476, p < .01$), and government support ($r = .271, p < .01$). As expected the correlation matrix also shows, that perceived risk is negatively correlated and highly significant with customer acceptance ($r = -0.566, p < 0.01$).

According to [30], correlation coefficient should not go beyond 0.8 to avoid multicollinearity. Since all of the coefficients in table II are less than 0.8, we can assume that there was no multicollinearity problem in the research. The results on VIF and tolerance, as can be seen in table III, further supports that there is no multicollinearity as tolerance is more than 0.10 and VIF is less than ten [31].

TABLE III
LINEAR REGRESSION AND COEFFICIENTS

Model	Unstd. Coefficients		Sig.	Collinearity Statistics	
	B	Std. Error		Tol.	VIF
(Constant)	.883	.281	.000		
Prcev Risk	-.404	.063	.000	.444	2.251
Govt. Supp.	.027	.036	.037	.538	1.858
Prcev. Ease	.023	.036	.029	.639	1.564
Prcev. Cred.	.439	.023	.786	.766	1.305

a. Dependent Variable: CA

TABLE IV
LINEAR REGRESSION

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.841 ^a	.707	.702	.29405

a. Predictors: (Constant), G, PEU, T, PU

Multiple regression analysis was conducted to determine the relationship between customer acceptance of online banking and the independent variables. As can be seen from table IV, it can be observed that the coefficient of determination (R^2) was .702, representing that 70.2 percent of the acceptance of online banking can be explained by the four variables used. Thus the effect of this research is large. The proposed model was highly significant with a p value of 0.000. This indicates that model was a good fit and that there is statistically significant relationship between acceptance of online banking and the variables. The individual model, as can be seen from table III above, also shows that perceived ease of use ($\beta = 0.029, p < 0.05$), and perceived credibility ($\beta = 0.786, p < 0.01$) were found to be significant and positively related with customer acceptance of online banking. While perceived risk ($\beta = -0.346, p < 0.01$) was negatively related with customer acceptance. Therefore, the hypotheses H1, H2, and H3 were supported. However government support ($\beta = 0.037, p > 0.05$) had no significant relationship with customer acceptance, as such H4 is not supported.

V.DISCUSSION

As mentioned earlier, perceived risk is found to be a significant determinant in predicting the acceptance of online banking. This suggests that consumer's belief about the riskiness of the online banking affects their acceptance of online banking. The results show that trust in security and privacy of online banking will be highly significant in the acceptance of online banking. The result is understandable as it involves monetary transactions and customers from the developing countries will be more likely to be cautious as they are more used to conducting their banking activities face to face. The study also showed that customers were not willing to do high value transactions online and were more comfortable to just check their balances and keep an eye on their accounts.

Perceived credibility was also found to be significantly positively correlated with the acceptance of online banking. As expected, the number of years of the bank's operation in Bangladesh, the size of the bank and the perceived credibility of the bank affects the acceptance of online banking.

Perceived ease of use was also significant ($p < 0.05$) in the acceptance of online banking. Suggesting the design and the ease with which consumers can perform their tasks has an effect on the likelihood of acceptance of online banking.

Finally, the research showed that there are clear laws and regulations on internet transactions. The government can help the banking industry in Bangladesh by providing a better internet infrastructure to promote the use of online banking. Banks should work with the government to ensure that adequate laws as well as device policies are in place which will enable the banks to provide efficient and secure online banking for the customers.

Future research should be carried out to determine how other factors such as expenses related to the marketing of online advertisements help in increasing the usage of online banking. Since the survey was carried out only in Dhaka, future research should be expanded to include other areas of Bangladesh where customers can avail online banking, and this research should be repeated at regular intervals to observe the impact of changes.

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