“Bank becomes cashless: Determinants of acceptance of mobile banking (fintech) services among banking service users”

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BANK BECOMES CASHLESS: DETERMINANTS OF ACCEPTANCE OF MOBILE BANKING (FINTECH) SERVICES AMONG BANKING SERVICE USERS

Abstract

Fintech services such as mobile banking are gaining significant acceptance among the citizens in Bangladesh. Therefore, this study aims to explore the determinants that influence banking service users' decisions to accept and use fintech services such as mobile banking in an emerging market, specifically in Bangladesh. A questionnaire was developed and distributed to individuals actively using banking services in Bangladesh. A total of 400 questionnaires were distributed to individuals who have active bank accounts. This study obtained a total of 315 valid responses that were deemed suitable for inclusion in the data analysis, with a response rate of 78.75%. Furthermore, a five-point Likert scale was utilized to evaluate the responses to the item-based questionnaire. To evaluate the hypotheses, a significance level of 5% was applied, and the data pertaining to the subject matter and purpose of this study were examined using the SPSS v.29. The results of the study display that the acceptance of mobile banking (fintech) services is pronouncedly shaped by perceived trust, privacy, and security but not by perceived risk. Importantly, perceived security (β value = 0.302) has the greatest impact on mobile banking acceptance among customers compared to other variables. This study contributes to the literature by investigating the propensity of using Fintech services within the context of mobile banking.

Keywords perceived trust, privacy, security, mobile banking, banking customers

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INTRODUCTION

The banking industry has recently undergone significant technological and regulatory changes. These changes have been driven primarily by reform and openness, technological advances, innovative transaction and savings methods, evolving security measures practices, and digitization. The global financial technology (FinTech) revolution is currently experiencing major growth (Hu et al., 2019). The idea of "FinTech" has commonly been used to describe technological advancements that have the potential to transform the financial services industry substantially. These advancements have led to the development of new business models, applications, processes, and products, ultimately resulting in notable advantages for customers in the banking sector. Bangladesh's banking industry has grown dependent on financial technology (FinTech) services, specifically mobile banking (m-banking), to improve its service provision and meet the demands of an evolving customer base. In recent years, the financial sector has witnessed noteworthy progress in information and communication technologies in Bangladesh (Khan et al., 2022). These advancements have played a crucial role in revolutionizing the way banks operate

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by utilizing mobile platforms to streamline and enhance various banking activities. In the present era, banks demonstrate a remarkable tendency towards incorporating technology, specifically in the domain of offering banking services via mobile banking (m-banking) and online banking channels. Customers can easily access various services, such as account inquiries, fund transfers, bill payments, and mobile top-ups, through mobile applications and USSD-based systems. These services are easily accessible on handheld devices. Despite an important rise in the number of active users of mobile banking services in Bangladesh, a notable portion of these users remain inactive. Hence, it is crucial to undertake an immediate inquiry to figure out the factors that impact the acceptance of mobile banking among individuals in Bangladesh.

1. LITERATURE REVIEW

Mobile banking refers to the use of handheld devices to carry out financial transactions and access a diverse range of financial or nonfinancial information (Karjaluoto et al., 2021). This is typically achieved through messaging services or wireless application protocols. This technology offers enhanced convenience, accessibility, and flexibility to users, empowering them to efficiently manage their finances, revolutionizing how customers handle their financial transactions (Munoz-Leiva et al., 2017).

The existing academic literature reflects the complex nature of the trust concept, with various interpretations of trust being evident across many fields. Trust is commonly defined as the perception of an individual or entity's dependability, integrity, ethical conduct, efficacy, or comparable qualities (Al Khasawneh, 2015). In the realm of electronic commerce, trust manifests as a perceptual belief or the degree of confidence anticipated from the counterpart participating in an online transaction. In a study conducted by Kim et al. (2009), the focus was on investigating the influence of initial trust on the adoption of mobile banking by users. Trust was characterized as a psychological anticipation that a trusted entity would refrain from engaging in opportunistic actions. According to Ennew and Sekhon (2007), trust can be defined as an individual's inclination to accept vulnerability, driven by optimistic expectations about the intentions or actions of another party. This is particularly relevant in situations marked by interdependence and potential risks. Hence, the promotion of technological products or services holds significant importance in fostering customer trust (Irimia-Diéguez et al., 2023). The study by Kaabachi et al. (2020) highlights the importance of trust in establishing reliable expectations regarding future behaviors and intentions (Giovanis et al., 2019). Trust is of utmost importance when it comes to building and maintaining business relationships, especially in the field of mobile banking because trust plays a crucial role in reducing the risks that arise from uncertainty and insecurity (Baabdullah et al., 2019; Tiwari et al., 2021). Extensive research has provided substantial evidence supporting the crucial significance of trust as a key factor that predicts the likelihood of individuals adopting mobile banking services (Merhi et al., 2019; Ramos et al., 2018).

Privacy, in a broad sense, refers to the protection of personal information. The term 'privacy' refers to a collection of legal requirements and ethical principles that pertain to the management and treatment of personal information (Casaló et al., 2007). The concept of perceived privacy, as explained by Jarvenpaa and Toad (1996), refers to the concern that online entities may collect personal information and use it inappropriately. In their study, Wang et al. (2003) provide a more precise definition of perceived privacy. They describe it as the users' subjective perceptions concerning the safeguard of user data, regardless of whether customers are aware of this data collection or not. This pertains specifically to their interactions with an internet banking system. The concept discussed in this paper explores the viewpoints of users regarding a specific aspect of an information system. This aspect stresses a person's capacity to control the extent of computerized and digital data that would be disclosed to external parties (Luarn & Lin, 2005). The hesitancy of customers to share their personal information when asked by websites can be attributed to concerns regarding the improper exploitation of data transmitted over the internet, as well as uncertainties about how their data will be handled and used. As a result, online customers exhibit reluctance to reveal individual

level sensitive data to business firms. This is due to the widespread belief that these entities may misuse their data without proper consent or share it with third-party organizations (Lim, 2003). The processing, storage, and dissemination of electronic information are influenced by the perception of privacy, which subsequently influences users' inclination to embrace mobile banking facilities (Finn et al., 2013). According to Akturan and Tezcan (2012), a decrease in privacy would discourage the persistent usage of mobile banking services. Poon (2008) also investigated the influential effect of privacy on customers' inclination to participate in mobile banking platforms.

The concept of security, as explained by Salisbury et al. (2001), refers to a person's faith in the level of protection when sending sensitive information over the internet. According to Hussien and Abd El Aziz (2013), perceived security concern can be defined as the sense of unease experienced by consumers in relation to the safety and security of their transactions and personal information when utilizing a specific platform. Perceived security refers to individuals' perceptions of the internet banking system's capacity to securely carry out financial transactions and safeguard the privacy of their personal information. These perceptions play a crucial role in influencing their willingness to adopt internet banking services. According to various studies (Shankar & Kumari, 2019; Talwar et al., 2020), customers exhibit a tendency to avoid using online platforms for services. This behavior stems from their apprehensions about perceived security threats linked to these platforms. Multiple academic studies have provided evidence supporting the importance of perceived security in shaping customers' propensity to utilize fintech services. The value of security in relation to the adoption and utilization of electronic banking has been a topic of examination in various banking studies (Black et al., 2002; Pikkarainen et al., 2004).

The concept of perceived risk refers to the extent of expected uncertainty that an individual experiences when considering the potential outcomes of adopting a specific technology (Tan & Lau, 2016). According to Pavlou (2001), the concept of perceived risk pertains to the customer's personal expectation of experiencing a negative outcome when attempting to achieve a desired goal. Customers may face different types of risks, namely behavioral, communal, economic, cognitive, and emotional risks. These risks can make it more challenging to understand how perceived risk affects behavioral intention (Featherman & Pavlou, 2003). The perception of risk described above has a direct impact on customer behavior, resulting in increased client hesitation and the development of unfavorable attitudes towards the specific service being discussed (Kalaiarasi & Srividya, 2012). In their study, Tan and Lau (2016) examined the relationship between the perception of risk and the intention to adopt mobile banking. Their findings indicate that an increased perception of risk is linked to a decreased intention to embrace mobile banking. In a similar manner, Wei et al. (2021) discovered empirical evidence supporting the notion that risk exerts a detrimental influence on usage behavior. The perceived risk associated with mobile banking transactions is a crucial factor in determining behavioral intention (BI). It suggests that mobile banking users tend to be risk averse. Moreover, in their empirical investigation concerning the millennial population in South Africa, Thusi and Madaku (2020) observed that the perception of risk plays a significant role in shaping both behavioral intention (BI) and actual usage (AU). Furthermore, according to the study conducted by Cao and Niu (2019), it was observed that the acceptance of mobile payment by users is adversely influenced by their perception of risk.

In accordance with the literature review, the study formulates the subsequent hypotheses as a means of attaining the stated objective.

H1: Perceived trust (PRTRST) affects banking service users' intention to accept m-banking fintech services.

H2: Perceived privacy (PRPRI) affects banking service users' intention to accept m-banking fintech services.

H3: Perceived security (PRSEC) affects banking service users' intention to accept m-banking fintech services.

H4: Perceived risk (PRRSK) affects banking service users' intention to accept m-banking fintech services.

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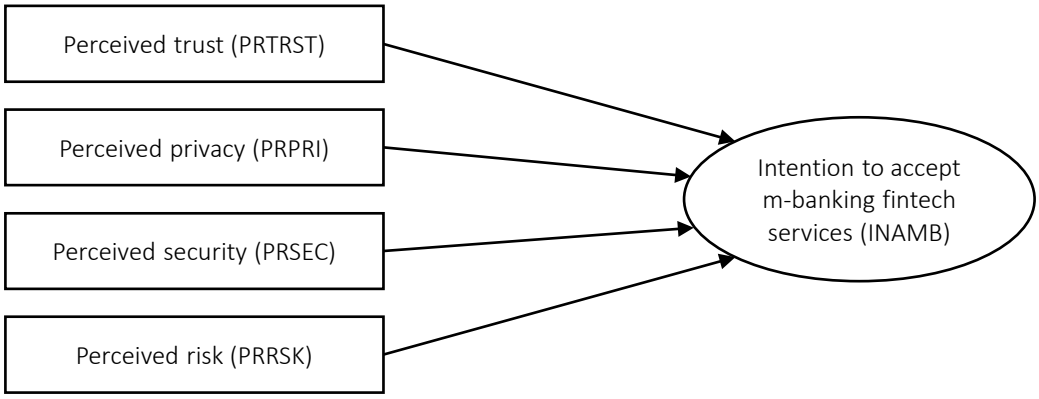

Figure 1. Research framework

2. METHODS

The study followed an explanatory approach and employed a quantitative design, utilizing just primary data sources. The data-gathering process used a non-probability random sample technique. In this approach, a well-structured survey questionnaire was sent out arbitrarily among those people who had been thought to own either a savings bank account or a fintech banking account. The survey began by asking participants about having any fintech bank accounts such as m-banking. If the response was negative, the study was discontinued, and an alternative participant was selected. The self-administered online survey form was distributed to a sample of 400 participants via email and cell phone calls to solicit responses. 315 participants actively engaged with the survey, providing their responses, and returning the completed form. This indicates a response rate of 78.75%.

Table 1. References for the design of interview questionnaires

Factors	Items	Reference
Intention to accept m-banking services	06	Asheq et al. (2022)
Perceived trust	04	Tiwari et al. (2021)
Perceived privacy	04	Akhter et al. (2020)
Perceived security	04	Akhter et al. (2020)
Perceived risk	05	Alalwan et al. (2016)

The questionnaires utilized in this study were selected from previous research, and the sources of the questionnaires are shown in Table 1. When assessing the internal consistency of individual variables, this study considers a Cronbach's coefficient (Alpha) score of 0.70 as an indicator of dependability. Every variable included in the analysis exhibits a high level of reliability, as indicated by a reliability score surpassing 0.70 for each variable. All factor loadings are greater than 0.7, which ensures strong construct validity (Hair et al., 2019). The data examination in this paper was performed using SPSS version 29.0. Hypotheses were evaluated at a significance level of 5%, and inferences were then accepted based on the results.

Table 2. Examinations of reliability and validity measures

Factors	Items	Loading	Cronbach (α) value
INAMB	INAMB1	0.957	0.849
	INAMB2	0.847	
	INAMB3	0.738	
	INAMB4	0.941	
	INAMB5	0.942	
	INAMB6	0.842	
PRTRST	PRTRST1	0.947	0.800
	PRTRST2	0.846	
	PRTRST3	0.839	
	PRTRST4	0.830	
PRPRI	PRPRI1	0.846	0.919
	PRPRI2	0.922	
	PRPRI3	0.749	
	PRPRI4	0.832	
PRSEC	PRSEC1	0.936	0.863
	PRSEC2	0.832	
	PRSEC3	0.731	
	PRSEC4	0.770	
PRRSK	PRRSK1	0.902	0.764
	PRRSK2	0.951	
	PRRSK3	0.713	
	PRRSK4	0.701	
	PRRSK5	0.740	

Note: n = 315.

3. RESULTS

Table 3 displays the demographic details of the participants involved in the study, which displays their distribution across different categories. The dataset consists of 315 respondents who were surveyed regarding their gender, education level, age group, marital status, and income. In relation to gender, the study reveals a notable disparity, wherein 61.9% (n = 195) of participants self-identified as male, while 38.1% (n = 120) identified as female. In terms of education, the respondents displayed a wide range of educational backgrounds. A total of 34 individuals, accounting for approximately 10.8% of the sample, reported having a high school qualification. On the other hand, 157 participants, constituting 49.8% of the sample, indicated that they held an undergraduate degree.

Table 3. Examination of sociodemographic details

Variables	Frequency	(%)
Gender		
Men	195	61.9%
Women	120	38.1%
Education		
Secondary school level	34	10.8%
Bachelor level	157	49.8%
Master Level	89	28.3%
Diploma certificate	35	11.1%
Age		
18-20 years	96	30.5%
21-30 years	87	27.6%
31-40 years	78	24.8%
More than 40 years	54	17.1%
Marital Status		
Single	213	67.6%
Married	102	32.4%
Income		
Less than 10,000 BDT	58	18.4%
10,001 to 20,000 BDT	70	22.2%
20,001 to 30,000 BDT	96	30.5%
More than 30,000 BDT	91	28.9%

Note: n = 315.

A significant portion of the participants, specifically 28.3% (n = 89), achieved a postgraduate degree, while 11.1% (n = 35) held diploma certificates. The participants' age distribution was classified into four distinct groups. The age range of 18-20 years had the highest proportion of respondents, accounting for 30.5% (n = 96). The participants were divided into age groups, with 27.6% (n = 87) falling into the 21-30 years bracket and 24.8% (n = 78) falling into the 31-40 years bracket. Out of the total number of respondents, 54 individuals, accounting for 17.1%, were found to be above the age of 40. The study findings indicate that a significant majority of participants, specifically 67.6% (n = 213), reported being unmarried when considering their marital status. In the study, it was found that 32.4% (n = 102) of the participants indicated their marital status as married. The income distribution of the respondents exhibited a range of financial backgrounds. The income group with the highest proportion was individuals earning between 20,001 to 30,000 BDT, accounting for 30.5% (n = 96) of the total participants. The subsequent significant cohort consisted of individuals earning over 30,000 BDT, accounting for 28.9% (n = 91) of the total sample size. A significant percentage of participants, specifically 22.2% (n = 70), indicated that their earnings fell within the range of 10,001 to 20,000 BDT. A total of 58 participants, accounting for 18.4% of the sample, reported an income level below 10,000 BDT.

This study investigates the association between the independent variables, specifically Perceived Trust (PRTRST), Perceived Privacy (PRPRI), Perceived Security (PRSEC), and Perceived Risk (PRRSK), and the dependent variable: INAMB. The results presented in Table 4 indicate a significant positive correlation between Perceived Trust (PRTRST) and INAMB ($r = 0.611$, $p < 0.01$). The findings indicate a favorable correlation between participants' perceived trust in mobile banking services and

Table 4. Correlation matrix

Variables	INAMB	PRTRST	PRPRI	PRSEC	PRRSK
Intention to accept m-banking (INAMB)	1	–	–	–	–
Perceived Trust (PRTRST)	0.611**	1	–	–	–
Perceived Privacy (PRPRI)	0.535**	0.514**	1	–	–
Perceived Security (PRSEC)	0.400**	0.404**	0.496**	1	–
Perceived Risk (PRRSK)	0.080	0.334**	0.204**	0.294**	1

Note: ** $p < 0.05$ (n = 315).

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their intention to accept and adopt these services. Additionally, the examination unveiled a statistically noteworthy positive correlation (r = 0.535, p < 0.01) between Perceived Privacy (PRPRI) and INAMB. The aforementioned statement suggests that an increased level of privacy awareness in mobile banking transactions is directly correlated with a greater inclination to accept and make use of mobile banking services. The present study reveals a noteworthy and statistically significant association between Perceived Security (PRSEC) and INAMB (r = 0.400, p < 0.01). The aforementioned statement suggests that the way participants perceive the security measures implemented in mobile banking has a direct impact on their inclination to accept and embrace these services in a positive manner. However, the study found that there was no significant correlation between Perceived Risk (PRRSK) and INAMB (r = 0.080, p > 0.01).

Table 5. Snapshot of the regression model examination

Model	R	R^2	Adjusted R^2	S_e
1	0.738	0.545	0.538	0.3046

Furthermore, Table 5 shows that together all the four IVs explain 54.5% of the observed variability in the acceptance of m-banking service.

Table 6 additionally demonstrates that the except perceived risk (PRRSK), p-values associated with perceived trust (PRTRST), perceived privacy (PRPRI), and perceived security (PRSEC) are well under within the value of 0.05, meaning that PRTRST, PRPRI, and PRSEC influence the intention to accept m-banking (INAMB).

To investigate the possible differences in survey respondents' opinions about INAMB in Bangladesh, this study performed t-tests (Table 7). The results reveal a significant dissimilarity of respondents' opinions about INAMB between men and women samples (μ = 4.234, t = 2.048, p < 0.05). It shows bank clients who are men are more willing to accept m-banking (INAMB) compared to their female counterparts.

4. DISCUSSION

Based on the data provided in Table 6, the acceptance of the hypothesis is dependent on the p-value being less than or equal to 5% or 0.05. *H1* states that perceived trust will affect banking service users' intention to accept fintech services, and thus *H1* is accepted at 5% ($\beta = 0.266$; $p < 0.05$). This observation aligns with findings from prior research, which showed that the level of trust users has in

Table 6. Brief results of the regression coefficient

Variable	β *value*	*t*- value	Sig.	Tolerance	VIF
Perceived Trust (PRTRST)	0.266	3.836	0.000**	0.746	1.836
Perceived Privacy (PRPRI)	0.278	2.837	0.000**	0.935	2.349
Perceived Security (PRSEC)	0.302	3.989	0.000**	0.638	2.627
Perceived Risk (PRRSK)	0.094	1.647	0.286	0.638	1.036

Note: R^2 = 54.5%; Durbin-Watson value = 1.749; **p < 0.05 (n = 315).

Table 7. Snapshot of t-test for sexual identity

Factors	Sexual identity	Sample	Mean	t-value	p-value
Intention to accept m-banking (INAMB)	Men	195	4.234	2.048	0.000**
	Women	120	4.037		
Perceived trust (PRTRST)	Men	195	4.632	1.874	0.103
	Women	120	4.335		
Perceived privacy (PRPRI)	Men	195	4.425	1.660	0.106
	Women	120	4.325		
Perceived security (PRSEC)	Men	195	3.836	0.926	0.345
	Women	120	3.900		
Perceived risk (PRRSK)	Men	195	3.994	1.537	0.224
	Women	120	3.861		

Note: ** p < 0.05 (n = 315).

mobile banking services has a substantial influence on their willingness to adopt these services (Almaiah et al., 2023; Vaithilingam et al., 2013). It indicates that a higher level of trust in the mobile banking service will result in a higher rate of acceptance of mobile banking among a larger clientele. The creation of trust in the mobile banking service provider's capacity to protect sensitive data and carry out transactions with precision is a crucial factor in influencing consumer perceptions and promoting the widespread adoption of mobile banking services (Shaikh et al., 2015; Wang et al., 2015). *H2* states that perceived privacy will affect banking service users' intention to accept fintech services and it is also accepted ($\beta = 0.278$; $p < 0.05$). Perceived privacy is identified as an important independent variable in this study, indicating that the optimal level of privacy may influence the behavioral intent to get mobile banking services, and this finding matches with previous studies (Singh & Srivastava, 2018). The acceptance of mobile banking services by users can be influenced by their perception of privacy, as it shapes users' overall confidence in the confidentiality of their financial transactions conducted through mobile banking platforms. The concept of perceived privacy within the realm of mobile banking services extends beyond the simple protection of data, as it significantly influences the users' willingness to engage in financial transactions and the overall user experience (Sreejesh et al., 2016). When individuals have the perception that their privacy is well protected, it not only mitigates apprehensions regarding prospective hazards but also fosters an augmented perception of activity over their personal data. When individuals perceive an elevated level of privacy protection in mobile banking, they are more inclined to have a favorable intention to embrace and adopt it (Bakar et al., 2017). Hypothesis *H3* posits that the intention to use mobile banking is impacted by the perception of security, and this assertion is validated with a level of significance of 5% ($\beta = 0.302$; $p < 0.05$). This implies that there is a positive correlation between the implementation of enhanced security measures in mobile banking services and the likelihood of users actively utilizing mobile banking. This finding is relevant to prior results that revealed that the enhanced level of perceived security in mobile banking services has a substantial influence on customer willingness to adopt these m-banking services (Singh & Srivastava, 2020; Tan et al., 2010). The perception of security plays a crucial role in influencing consumers' inclination to embrace mobile banking services. When users feel that the mobile banking platform is highly secure, it fosters a sense of reliance on the safety of their sensitive data and monetary transactions (Purwanto et al., 2020). The level of trust that users have in the security measures has a direct influence on their readiness to use mobile banking services. This highlights the crucial role of trust in promoting the general adoption and acceptance of these financial technologies (Shaikh et al., 2021). *H4* states that perceived risk will affect banking service users' intention to accept m-banking services, and *H4* is rejected at the 5% level. In the specific context of Bangladesh, it is observed that consumers of mobile banking have little concern regarding risk considerations, likely due to the strong integration between the financial sectors and mobile banking service providers in the country. The interconnectivity observed in the banking industry produces a sense of assurance among users with respect to the dependability and certainty of their financial transactions.

CONCLUSION

In essence, the expansion of customer bases and provision of comprehensive financial solutions by various financial institutions through the integration of mobile banking services have established a close relationship between the growth trajectory of mobile banking and its acceptance among customers. Hence, this study bears considerable importance for the banking sector in Bangladesh since it offers significant and applicable insights. The study is centered on identifying the factors that influence customers' behavioral intention to utilize mobile banking services in Bangladesh. Among the four variables that were analyzed, it was found that perceived trust, privacy, and security had significant roles in predicting users' behavioral intention to embrace mobile banking services in Bangladesh. Although there is no statistically significant evidence to suggest that perceived risk plays a large role in explaining behavioral intentions, it

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is nonetheless advisable for mobile banking service providers to take this element into consideration in order to boost the competitiveness of their services in the market. The identification and management of factors that influence customers' inclination to adopt mobile banking can significantly aid financial institutions in better aligning their organizational objectives with customer preferences. This, in turn, can foster greater acceptance and adoption of the innovative mobile banking service.

AUTHOR CONTRIBUTIONS

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Writing – reviewing & editing: K. M. Anwarul Islam, Zulfiqar Hasan, Tawfiq Taleb Tawfiq, Abul Bashar Bhuiyan, Md. Faisal-E-Alam.

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