ADOPTION OF MOBILE BANKING IN DHAKA CITY

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This Report Presented in Partial Fulfillment of the Requirements for the Degree of Master of Science (MS) Program in Management Information Systems (MIS)

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APPROVAL

This Project titled **Adoption of mobile banking in Dhaka City** submitted by **Md.Sajjat Hosen, ID No: 232-17-004** to the Department of MS in Management Information Systems, Daffodil International University, has been accepted as satisfactory for the partial fulfilment of the requirements for the degree of Master of Science (MS) Program in Management Information Systems (MIS) and approved as to its style and contents. The presentation was held on 11 January 2025.

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DECLARATION

We hereby declare that this project has been done by us under the supervision of **Dr. Arif Mahmud, Associate Professor, Department of MS in Management Information System,** Daffodil International University. We also declare that neither this project nor any part of this project has been submitted elsewhere for the award of any degree or diploma.

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ABSTRACT

Globally, mobile banking is becoming more and more popular as a substitute for cash, . The main goals of this research are to identify the key variables affecting the uptake of mobile banking and to recommend this technology. In order to fully tackle the intricacies of user behavior, the research incorporates three notable models: (VAM), (DOI) and (TRA). Bangladesh, an Asian nation, provided 185 replies to an online survey that was used to experimentally test the study model. The structural equation modelling method was used to analyze the data (SEM). In terms of the adoption of mobile banking and the intention to recommend this technology, we found that Effort Expectancy (EE), Perceived Behavioural Quality (PBQ), Performance Expectancy (PE), Social Influence (SI), Task-Technology Fit (TAC), and Technology Characteristics (TEC) had significant direct and indirect effects. Moreover, the addition of perceived trust and personal inventiveness as moderators results in improvements to the R2 and Q2, respectively. This research aims to develop a complete model that captures the complex interaction of factors impacting the behavioural intentions and actual adoption of mobile banking systems in Dhaka City. Bangladesh's tech-savvy Generation Z. It does this by synthesizing VAM, DOI, and TRA. It is anticipated that the results will provide insight into practical tactics for encouraging the country's wide adoption and use of mobile banking technologies.

Keywords: User behaviors, trust, Mobile Banking, and smartphones; SMARTPLS

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CHAPTER 1
Introduction

1.1 Introduction

Due to the rapid growth of digital technology, financial services have changed the world, including Bangladesh. Among all the innovations or developments, mobile banking is one of the most important technologies in the financial sector or financial system, especially in big cities like Dhaka. This introduction provides an overview of the use of mobile banking in Bangladesh, the current status of mobile banking in Bangladesh, and the integration of mobile banking in the Bangladeshi economy.

Mobile banking in Bangladesh has expanded and grown dramatically, owing to the widespread availability of smartphones and the ease with which all financial services can be accessed. This monetary service is popular rapidly, especially among urban people, due to its ease of use, user-friendliness and simplicity of transactions completed via mobile devices. According to recent research, mobile banking accounts have grown rapidly for everyday financial transactions. The rapid growth of mobile banking in Bangladesh is driven by several key factors, including ease of connectivity, new technologies that make mobile banking more efficient, and the availability of smartphones.

Overall mobile banking has increased across different regions of Bangladesh and different levels of people's adoption of mobile banking. The capital city of Bangladesh is Dhaka, and it is the technical and economic hub of the nation that also has higher adoption rates compared to rural areas. Dhaka city has a high population density, and a big portion of people use mobile banking for everyday life activities such as online shopping, managing finances and transferring money. However, there is still room for further penetration in rural areas and lower segments of income people.

Mobile banking has increased financial inclusion and contributed to Bangladesh's national economy. This monetary system makes all the transaction policies smoother, swiftly and steadily through mobile platforms which is helpful to increased economic growth. Mobile banking has

already made a great contribution to Bangladesh's Gross Domestic Product (GDP) with millions of transactions daily that have extensive economic value. Meanwhile, mobile banking also facilitates the transfer of funds to various employees and contributes significantly to the growth of the country's Gross Domestic Product (GDP).

1.2 Motivation:

Digital technology has brought about major changes in everyday life and one of the major changes is digital financial services. Mobile banking is the most widely used digital technology that promotes financial inclusion, particularly in metropolitan areas. Mobile banking in Dhaka City offers a wide range of services and a special chance to close the gap between traditional banking and the demands of a diversified and quickly expanding populace in Bangladesh's economic hub and bustling metropolis of Bangladesh.

This is the first step in the development of mobile banking in Dhaka city. While many people appreciate the many advantages of mobile banking such as low transaction costs, ease of use, and convenience, the adoption levels in Dhaka vary. Understanding these patterns is critical for identifying the barriers to adoption and developing a strategy to improve the accessibility and usability of mobile banking services.

Moreover, Dhaka's quick urbanization, high population density, quick growth of urbanization, and large unbanked population make it an exceptional case study. Other urban areas in developing nations could benefit from the effective implementation of mobile banking, which could serve as a model for a template.

The study was also designed to assess the potential of mobile banking to address social inequality in Dhaka city. The mobile banking option will provide access to financial services and adequate infrastructure to these marginalized communities. This study aims to identify factors that influence the adoption and implementation of a financial system that meets the needs of all citizens.

1.3 Rationale of the study:

The adoption of mobile banking has become increasingly interesting for practitioners and researchers, particularly in rapidly urbanizing cities like Dhaka. Even though mobile banking services are widely available, the adoption rate in major urban cities is not as high as expected. This raises important questions about the factors influencing the diffusion of digital banking and potential barriers.

The main objective of this study is to examine the use of mobile banking in Dhaka city to identify issues and challenges. Dhaka is not only the largest capital city of Bangladesh, but it also serves as its economic hub and a reflection of its diverse socioeconomic makeup. Urban populations have different levels of income, access to technology, and education, making them ideal for examining the various factors that influence the adoption of mobile banking.

The primary objective of this study was to examine the potential of mobile banking to improve market access. Mobile banking offers a unique opportunity to improve financial services for those who do not have access to services offered by traditional banking systems. This is particularly important in countries where many people are underserved or do not have access to financial services. In order to improve financial performance and increase financial inclusion, it is important to understand the various factors that influence mobile banking.

Another motivation for this study was the potential of mobile banking for Dhaka's economy. Mobile banking can empower small businesses and individuals by facilitating economic transactions, which ultimately contributes to overall economic growth. This is achieved by making banking services more easily accessible. Furthermore, this study addresses a gap in the literature. While there are many studies on the adoption of digital banking worldwide, there is no study on Dhaka City. This research will provide evidence-based direction that can help to find out the best customizing mobile banking services to better meet the different people's requirements in Dhaka city by properly identifying different barriers to mobile banking adaptation [1].

1.4 Research Questions:

Research questions raised by this work include:

1. What elements influence mobile banking adoption in Dhaka City?
2. What is the variance of the proposed model?

1.5 Expected Output:

This study on the adoption of mobile banking in Dhaka is expected to provide useful information that will enhance the adoption and use of mobile banking among the city's population. Based on the analysis of primary data of Dhaka residents, the main drivers, barriers, obstacles and influencing factors of mobile banking services were identified.

This study is expected to provide a comprehensive analysis of socio-economic and technological factors affecting the adoption of e-banking. The focus is on banking services and the role of sustainable and effective mobile banking apps. It is also determined by factors such as income, age, occupation, education, and motivation [2]. On the other hand, it also sheds light on different technical challenges, security and trust issues that barrier the acceptance of mobile banking services in Dhaka city.

Additionally, this study's main aim is to investigate how mobile banking services are offered to unbanked and underbanked populations through mobile banking and also how to enhance financial inclusion in Dhaka city through mobile banking services. It will assess how mobile banking can easily engage underserved communities through improved access to financial services, improved transaction efficiency and reduced cash dependency.

CHAPTER 2
Background

2.1 Introduction:

The global financial system has rapidly advanced in recent years, and significant transformation has happened through rapid technological advancement. Mobile banking is the most impactful innovation, which has changed how financial institutions and businesses interact. Mobile banking provides a unique opportunity to increase financial inclusion, such as in developing economies like Bangladesh. Offers easy access to basic financial services for a large number of underbanked and unbanked individuals.

Dhaka is Bangladesh's capital, as well as its cultural and economic hub, which has increased mobile banking adoption in Dhaka city dramatically. As the population grows rapidly and smartphone penetration increases, mobile commerce will play a key role in the financial sector and reduce dependence on traditional banks. Mobile banking solves a lot of problems that occur in traditional banking, such as operational and logistical issues. Especially in busy cities like Dhaka, where time management and efficiency are more crucial.

Numerous factors, such as widespread internet connectivity, easy affordability of smartphones, and different financial institutions creating user-friendly mobile banking platforms, are more responsible for adapting mobile banking in Dhaka city. Additionally, the mobile banking system has become more popular because the government pushes for a digital economy, especially when it aligns with support for broader campaigns to promote digital payments and cashless transactions.

Despite the rapid growth of digital banking, digital banking reforms face many challenges such as security issues, digital literacy, trust in different digital banking platforms and accessibility of digital banking across socio-economic groups which are essential for achieving sustainable development and sustainability. Policymakers need to understand the factors influencing the adoption of mobile banking. Financial institutions and IT service providers also need to expand and improve these services, which is crucial.

The objective of the study is to identify the technological, socio-economic and various factors influencing the adoption and adoption of mobile financial services in Dhaka city. The findings will provide insights into the challenges of e-banking expansion and some opportunities for e-

banking in the capital Dhaka.

2.2 Previous Work:

Numerous studies globally have been conducted on adopting mobile banking, looking at financial inclusion, socio-economic factors, and user behavior that influence its acceptance [3]. Much extensive research has been done about mobile banking adoption in Dhaka city, where technological adoption is increasing daily. This section describes key findings that help us understand mobile banking adoption in cities like Dhaka and highlights some critical decisions and barriers to changing the conversation around mobile financial services. However, customized research is required to find insightful information due to Dhaka City's unique culture, technological traits, and economics.

Here are some of the most important key areas of related work that have been expanded to mobile banking adaptation in Dhaka city.

- **Technology Acceptance Models (TAM):** Research needs to apply TAM models and help to become aware of the usefulness and ease of use that make individuals intend to adopt mobile banking services.

- **Trust and Security:** The research found that the role of trust in financial institutions and the perception of the security of mobile banking services influence changes in mobile banking behavior.
- **Sociodemographic Factors:** The research analyzed how different factors, such as income, occupation, age, gender, and income influence mobile banking adaptation.

- **Cultural factors:** The research examined the influence of cultural values, attitudes, and beliefs on the adoption of mobile banking services in developing countries with a large population, such as Bangladesh.

- **Policy Implication:** The research requires an analysis of the possible policy intervention that could encourage different lever people to adopt mobile banking and make better financial inclusion in Dhaka city.

SL	Reference	Author	Year	Journal	Sample	Result	Contribution
1	[4]	Rahman, M. M.	2014	International Journal of Information Management	350 Mobile Banking Users in Dhaka.	Key factors identified as critical for mobile banking adoption.	Developed a comprehensive framework linking technology acceptance theories with local banking behavior in Bangladesh.
2	[5]	Kabir, M. H.	2013	International Journal of Business and Management	Interviews with 200 participants.	Perceived usefulness and social influence are primary drivers of adoption. Perceived risk negatively affects the intention	Expanded understanding of social norms and their impact on financial technology adoption.
3	[6]	Alam, M. S., Rahman, M. M., & Islam, M. S.	2013	International Journal of Computer Applications	Case study analysis with data from leading Bangladeshi mobile	Mobile banking improves financial inclusion, especially for	Highlighted operational challenges and proposed strategies for improving service

					banking providers	underserved populations.	delivery.
4	[7]	Khan, S. N., Kabir, M. H., & Rahman, M. M	2015	International Journal of Information Management	A survey of 500 users across urban and rural areas	Trust, ease of use, and system quality were significant predictors of adoption.	Created a theoretical framework integrating user experience and system reliability.
5	[8]	Rahman, M.	2013	International Journal of Computer Applications	Data from 300 respondents	Security concerns and lack of infrastructure hinder adoption	Suggested policy and technical improvements for better system implementation.
6	[9]	Ahmed, S. S. U.	2022	International Journal of Mobile Commerce	150 rural residents in the Moulvibazar district	Financial need and accessibility of services are crucial for rural adoption	Provided insights into regional disparities and adoption barriers in rural Bangladesh.
7	[10]	Hossain, M. M., & Islam, M. S	2013	International Journal of Computer.	Survey data from 250 participants	Trust and system quality are major factors influencing mobile banking	Bridged gaps between user behaviour and technological offerings in mobile banking.

						satisfaction	
8	[11]	Khan, M. A., & Islam, M. S	2013	South Asian Journal of Management	300 students from Dhaka	Awareness campaigns significantly increase adoption rates.	Highlighted the role of education and communication in increasing awareness of mobile banking.
9	[12]	Rahman, M. M., & Islam, M. S	2013	An investigation of factors influencing the adoption of mobile banking in Bangladesh	involving 350 participants	Cost-effectiveness and perceived security strongly influence the adoption	Proposed cost-reduction models for service providers.
10	[13]	Luarn, P., & Lin, H. H.	2005	International Journal of Mobile Communications	441 mobile banking users globally	Perceived self-efficacy and credibility impacted adoption intentions.	Supported trust-building measures for mobile banking.
11	[14]	Hossain, S., & Rahman, F.	2016	Dhaka Business Review	350 users in Dhaka	Gender played a role in trust levels for mobile banking.	Identified gender-based marketing strategies.
12	[15]	Fishbein,	1975	Perspectives,	Theoretical	TRA	Framework

		M., & Ajzen, I		thoughts, desires and behaviors.	framework	highlighted the role of attitudes in adoption.	applied in mobile banking studies.
13	[16]	Thakur, R.	2014	International Journal of Bank Marketing	240 Indian respondents	Service quality and convenience positively influenced adoption.	Implications for improving banking services.
14	[17]	Ahmed, T., & Karim, S.	2022	Journal of Emerging Technologies	500 respondents from Dhaka	Awareness and mobile app features were critical.	Focused on improving user experience design.
15	[18]	Rahman, T., & Islam, S.	2019	Bangladesh Finance Journal	400 respondents in Dhaka and Chittagong	Transaction speed and accessibility were crucial.	Recommended network enhancements.
16	[19]	Siddique, M., & Kabir, R.	2021	Asian Journal of Banking and Finance	300 respondents from urban Dhaka	Satisfaction correlated with ease of use and reliability	Explored UX/UI elements in mobile apps.
17	[20]	Chowdhury, N., & Hossain, S.	2017	Dhaka Business Journal	200 mobile banking users	Education level influenced adoption rates.	Advocated educational outreach programs.
18	[21]	Alam, M.,	2020	Bangladesh	400	Perceived	Suggested

		& Islam, K.		Economic Journal	participants	cost and network coverage affected user satisfaction	infrastructure improvements.
19	[22]	Khan, A., & Rahman, M.	2018	International Journal of Finance	350 respondents	User loyalty linked to transaction security	Studied long-term customer behavior
20	[23]	Akter, S., & Ahmed, R..	2022	Journal of Banking Innovation	500 respondents	Financial literacy and app usability were adoption drivers.	Provided a model for inclusive financial services.

Table 1: Related Work

2.3 Comparative Analysis and Summary:

Mobile banking has begun to be one of the game-changers in the global financial system in recent years, offering an easily accessible and convenient platform for supervising financial transactions. Rapidly growing financial inclusion, increased internet connectivity, and widespread utilization of mobile devices have led to the rapid rise of mobile banking in developing countries. Bangladesh has witnessed a notable uptake in mobile financial banking, especially in its capital Dhaka, because of its evolving technological infrastructure and burgeoning population. Dhaka is the financial and commercial hub of Bangladesh, and it is also home to a large and varied population, including lower-class people, underprivileged people, and wealthy businesspeople, which makes the city an ideal case study for analyzing the adoption patterns of mobile banking.

Bangladesh Financial Service has undertaken significant changes in the past ten years, mainly

mobile financial service, which has generated substantial change in Bangladesh's financial service sector. The central bank in Bangladesh has promoted the adaptation use of different banking platforms such as Nagad, Rocket, and Bkash, which have become more popular names in Dhaka, the capital city of Bangladesh [24]. These financial platforms provide numerous services, including bill payment, money transfers, loans, and savings, all via smartphones. This mobile banking service is particularly useful in Dhaka because of its traffic congestion and dense population.

However, the different socioeconomic groups have not adopted mobile banking services in the same way. Various factors impact the rate of adaptation, including age, income, literacy level, trust in digital financial services, and access to technology. Although, mobile banking has changed urban people's financial needs. However, there is a clear contrast in the adaptation rates and utilizations habits of the numerous population segments.

This thesis analyses and compares the adaptation of mobile banking services in Dhaka city, looking at the barriers and motivators faced by different groups. Its main objective is to provide a comprehensive and comprehensive understanding of how various factors have influenced the use of mobile banking and provide guidance for expanding and improving the measures taken in the following section. This research will analyze adoption trends across different income groups, age groups, and educational background levels to identify trends and differences. By properly understanding the factors that hinder or encourage the use of mobile banking services, financial institutions and policymakers can better adapt to changes to increase adoption and ensure that the benefits of mobile banking reach all segments of Dhaka society.

2.4 Scope of the problem:

The transaction system of mobile banking is complex and diverse in nature. Here are some of the challenges faced by mobile banking agents:

i. **Security issues:** Two security risks of weak mobile banking systems are unsecured applications and the inability to make payments through secure mobile wallets.

ii. **Financial issues:** While digital banking systems can be used by the poor with access to cash, there are still many barriers to adoption, such as lack of access to banking, financial literacy, and banking information.

iii. **Interoperability:** Users who want to pay in other ways may face problems if mobile banking methods are incompatible.

Here, we will talk about some of the things that will help us to payment.

2.5 Challenges

Accepting mobile banking solves many problems. Some of these are as follows:

i. **Complexity of consumer behavior:** With the proliferation of mobile phones, understanding and predicting consumer behavior is becoming a challenging task. Consumer behavior is influenced by many factors including personal preferences, trust in technology, perceived value, and economic conditions. Studying large buildings often requires a rigorous research method and equipment.

ii. **Security issues:** Apps with security issues, lack of financial security on lost phones and exploits are some of the most common cyber threats that's why they can affect mobile banking systems.

iii. **User experience:** This low level of adoption can be explained by the complexity and inconvenience of mobile banking systems

iv. **Interoperability:** Users who want to make payments through multiple platforms may face difficulties if the various mobile banking platforms are not compatible.

v. **Financial inclusion:** Although mobile banking through credit is accessible to low-income individuals, there are still barriers to widespread adoption such as infrastructure lack of financial knowledge and regulation.

These are just a few of the challenges that arise when figuring out how to implement mobile banking solutions.

CHAPTER 3
Research Methodology

3.1 Introduction

This chapter reviews and explains how the study was designed. The first five chapters describe how the study was designed, the sampling method, and the proposed model and techniques. Chapter 6 discusses data collection and research, such as sampling, population selection, study group, response selection, data sources, data collection, household characteristics, and counting the number of questions asked. Chapter 7 describes the research design and analysis, including pretests, Likert scales, individual items, and time. Chapter 8 explains the differences between techniques, controls, and missing data. Chapter 9 describes how to answer questions such as reliability, validity, decision-making, and validity assessment. A summary of the methodology and techniques will be provided in Chapter 10 Backward Data, including SmartPLS. The results are presented in Chapter 11. Finally, key recommendations and conclusions are provided.

3.2 Research subject and instrumentation

Research subject: This could include understanding factors that influence customer adoption, studying the impact of specific features or security measures, or studying customer experience and satisfaction with payments mobile as a research topic. Specifically, for the analysis of mobile banking systems, the barriers and enabling factors for the adoption of a mobile banking system can be analyzed.

Instrumentation: Data collection tools can be used to accurately analyze questionnaires and surveys designed to collect quantitative data on behavior, preferences, and usage data on mobile banking applications, and behavioral analytics provides accurate quantitative data on customer behavior, frequency, and channel. Opportunity analysis is important to assess the efficiency, effectiveness and user satisfaction of mobile banking platforms. The security controls used in the payment system can be confirmed through security audits, including testing. Customer transaction data and feedback from the customer service network provide a better understanding of customer policies and issues.

3.2.1 Research process

According to Kothari (2004), the research process includes the following steps: problem identification, data analysis, hypothesis testing, research process, data collection and analysis, literature review, interpretation, conclusions and product development [25]. Last story. Therefore, the following protocol is used in this study as shown in Figure 1:

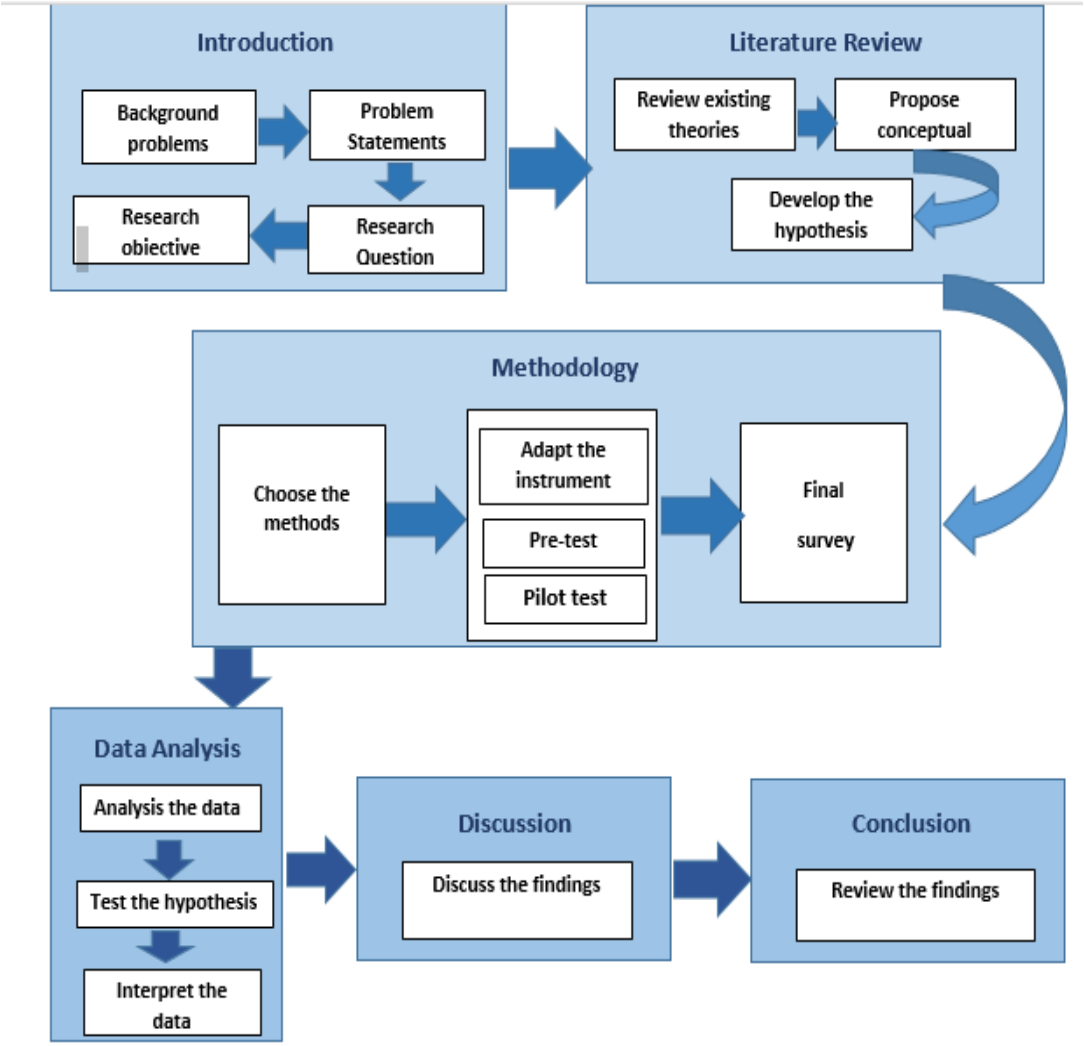

Figure 1: Research Process

3.2.2 Research paradigm

According to Bryman (2012), a model is an organizational structure that explains how research in a field should be conducted, how it should be carried out, and how the results should be presented. This model is based on the first ontological and epistemological concepts, scientists look at our world and what we know about it. In addition, it is known that the work of researchers in this field uses a variety of methods, such as interviews and interviews, but ultimately. A branch of philosophy that studies the nature and consequences of knowledge. It allows researchers to study issues of importance, trust, motivation, and behavior. Therefore, the research method must choose one of three methods: observation, critical theory, or interpretation. First, positivism uses quantitative methods, while positivism conducts empirical research. look at people's behavior. In addition, qualitative researchers look for quantitative data that can be used to answer research questions through statistical or nonparametric analysis. On the other hand, formal work and participation are often complex and effective. Although the primary purpose of this study was to gather participants' perspectives and obtain others' opinions on data, this study focused on race, gender, income, and past, positive economic discourse. He was chosen as the model for this study.

3.2.3 Research Methods

According to him, there are two aspects: qualitative and quantitative. Concept, content, method, and language are some of the elements used in successful research. This study collects participant data through open-ended interviews, in-depth interviews, and field notes. But activists see complex social structures. So, they avoid genocide and focus on data from specific people. However, quantitative analysis relies on statistics, observations, and data. According to Cresswell (2014), interviews and observations are two aspects of qualitative research, and this is the main reason we used this method in this study. Furthermore, testing the hypothesis proposed by the researcher is the last step of qualitative research [26]. These designs were tested through exploratory and confirmatory analyses to determine the relationships between the drivers before completing the final analysis. More importantly, the method uses the reward function M, which is described in Chapter 2 and is based on exploratory analysis. Another important benefit of saving is a reduction in energy and resource consumption. However, if the data is collected and

analyzed statistically, the results can be analyzed in more detail.

3.3 Data Collection Procedure/Dataset Utilized

The data was collected based on some criteria with different ages people, so let's see how I can collect this data.

3.3.1 Selection of Respondents

The data collected from different ages people who prefers to use mobile banking payment method because they use technology everywhere. The most important things that was consider in this paper are the participants lived in the Dhaka city and obviously used the mobile banking system. Therefore, people who meet those criteria to participate in the study.

- ✓ Must live in Dhaka City
- ✓ Use the Mobile banking.

3.3.2 Data collection sources

Primary data was collected in this regard. A survey form was developed and circulated with different ages, regions and places people and collected data from them based on their experience.

3.3.3 Collection of Data from the participants

As mentioned above, the data was collected from people of different ages who prefer to use mobile banking payment methods because they are familiar with the technology.

The data was collected with a two-month tenure from August 2024 through an online survey using Google Forms.

The data in our analysis can be divided into four categories. First, relevant Scopus articles and search terms were translated and the literature was reviewed for content and completeness. A pre-test was conducted to ensure that the questionnaire met our research objectives. Third, the final model was tested to ensure that the procedures were correct. The final stage of data analysis consists of three steps: structural analysis (quantitative validity, quantitative analysis, quantitative method, hypothesis testing, and input data), goodness of fit (input design in, heterogeneity, internal reliability, multivariate reliability, and support). and data processing.

3.3.4 Pre-test of the survey instrument

Experimental research was conducted to test the researchers' observations and determine whether the hypotheses were supported (Lewis et al., 2005) [27]. This allows the researchers to ensure that participants receive adequate guidance. They also recommend using a sample size of 5-15 people. In this regard, a preliminary test was conducted with eight people from October 15 to 28, 2020 [28]. In addition, two of them were scientists and one was a professional. Company. a house. In addition, they asked the participants to evaluate the duration and quality of the experiment and to change two parts of the program. Their opinions are valuable; only a few names were changed and nothing was added or deleted. The survey questions were modified using new questions from previous tests (see Table 3.2).

Selection of Participants	SP1	Do you use mobile banking?	
	SP2	Do you live in Dhaka city?	
Participants Information	PI1	Gender.	
	PI2	Age.	
	PI3	Marital status.	
	PI4	Academic qualification.	
	PI5	Profession.	
Usefulness Perceived	PU1	Using mobile banking improves my performance	
	PU2	Using mobile banking improves my results	
	PU3	Using mobile banking helps me.	
	PU4	Overall, using mobile banking is beneficial.	
Perceived Enjoyment	PE1	Using mobile banking is interesting.	
	TF2	Using mobile banking is pleasant	

	TF3	Using mobile banking is a great way to make someone happy.	
Compatibility Observed	CO1	Using mobile banking is involved in all aspects of my work.	
	CO2	I think using mobile banking fits the way I work.	
	CO3	Using mobile banking fits the way I work.	
Complexity	C1	Using a mobile phone requires a lot of mental work.	
	C2	Using mobile banking requires technical skills.	
	C3	Using mobile banking can be frustrating.	
Observe Ability	OA1	Access Mobile Banking Anytime, Anywhere	
	OA2	Mobile Banking No Queue	
	OA3	Access Mobile Banking Even When You're Out of Country	
	OA4	I Feel the Impact of Transactions Immediately with Mobile Banking	
Attitude	A1	Using Mobile Banking is a Good Idea	
	A2	Using mobile banking is a wise idea.	
	A2	I Like the Idea of Using Mobile Banking.	
	A3	Using Mobile Banking is an Enjoyable Experience	
Social Influence	SI1	Using mobile banking because the important people in my life want me to use it.	
	SI2	Using mobile banking because my friends	

		want me to.	
	SI3	Using mobile banking because adults tell me to use this service.	
	SI4	Using mobile banking because people encourage me to use it.	
	SI5	Using mobile banking because other people and the group want me to use it.	
	SI6	Using mobile banking as other people in my social circle want me to use it.	
Personal Innovativeness.	PI1	When I hear about banking technology, I look for ways to try it.	
	PI2	Among my friends, I always try to use the mobile banking service first..	
	PI3	Overall, I wouldn't hesitate to try the mobile banking service.	
	PI4	I want to try using the mobile banking service.	
	PI5	Using mobile banking because my family wants me to.	
	PI6	Using mobile banking because other people in my group want me to.	
Perceived Trust	PT1	I believe that mobile banking keeps the promises and commitments they make	
	PT2	Mobile banking are trustworthy.	
	PT3	I rate mobile banking as honest.	
	PT4	Using mobile banking is a pleasant experience.	
	PT5	Using mobile banking is responsible.	

	PT6	Generally speaking, I have confidence in the mobile banking	
Adoption Behavior	AB1	Recently Using mobile banking	
	AB2	Recommend using mobile banking with my friends or others	
	AB3	Using mobile banking is my first choice when I use online shopping, payment etc.	

Table 2: Pre-test of the survey instrument

3.5 Statistical Analysis

Our study on mobile banking usage uses several modern statistical analysis techniques. By examining the strength and function of the relationship between observable and unobservable variables, this data provides a deeper understanding of the reasons behind participants' decisions. Various tests are used to identify and correct for cases where there is a strong relationship between the independent variables. However, the validity of the test. For most users, multivariate can examine the relationship between them. The coefficient of variation provides information about the overall fit of the model and the percentage of variance explained by the model. Confirmatory analysis is performed to assess the predictive power of the model. We understand the strength and direction of the relationship between the mean and the dependent variable. The results of the study can be expressed using effect size analysis. Comprehensive statistical analysis adds to our knowledge and broadens our understanding of the variables that influence online shopping behavior.

3.5.1 Data preparation

Data preparation is the first step in the implementation process. The mean and standard deviation are adjusted for missing data.

3.5.2 Missing Data and Outliers

A cost-benefit analysis is not required for this study. Because most of the data collected was obtained through online surveys (about 300 out of 250 questionnaires). The program directly checks the incompleteness of the answers given in the online survey. Therefore, all answers are complete and contain all necessary information.

3.5.3 Data Analysis

Sample size and design criteria were considered for the proposed research model. Factor loading, multivariate, internal consistency reliability, convergent validity and discriminant validity are the measurement components of the model. The design includes effect size, number of paths, cross-validity, coefficient of determination and hypothesis testing.

3.5.4 Factor Loading

The factor, called "indicator loading", evaluates the degree of influence of the properties on the indicator. The extent to which the variance of the indicators was explained by the relevant latent variables was also examined [29]. To achieve this, a bootstrap value of at least 0.7 is required. Appropriate behavior. Ideally, if the input value is lower than 0.5, the item is removed from the measurement model. However, if the model fits a high AVE, some items with loadings between 0.4 and 0.7 will also appear, as supported by Dominguez84.

3.5.5 Multicollinearity

Multicollinearity describes the relationship between two or more variables in a regression model.

A small amount of polycollinearity can have a significant impact on the analysis.

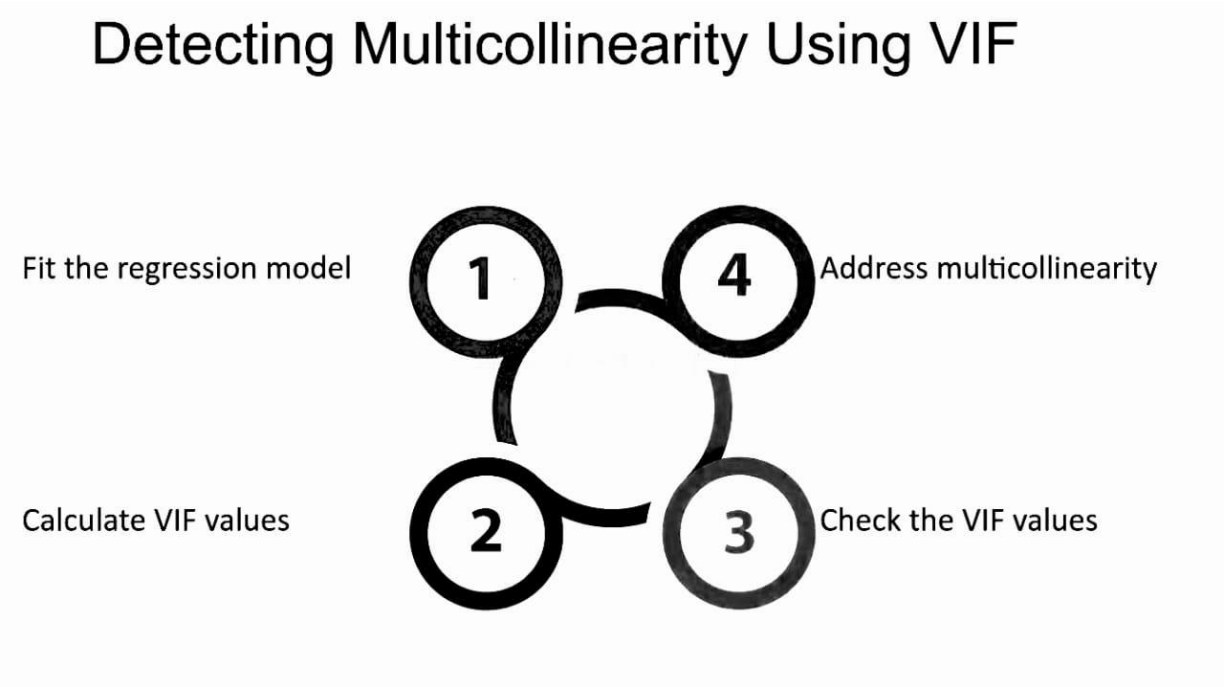

Figure 2: Multicollinearity using VIF

Therefore, any variation in the data can be identified using the variance inflation factor (VIF), which indicates heterogeneity. This VIF is defined as unbalanced if VIF = 1, positively correlated if 1 < VIF <= 5, and unbalanced if VIF > 5. Therefore, any VIF value greater than 5 represents a 10-bit value, otherwise the VIF is a 10-bit number. Bit Digit 3.5.6 Convergent Validity. [30].

Different subject conventions and different instruments control different variables. In addition, the most common test of correlational validity, the average variance extracted or AVE, calculates the mean squared coefficients of the variables. Furthermore, the recommended value for AVE is 0.5 [31].

3.5.7 Discriminating Validity

One aspect of discriminant validity is the degree of change in the measurement of more than one variable. It should be noted that this study used the method of Furnell and Larcker (1981) Hair et al. (2014) and Ann [32]. For this reason, the variable can be separated from the variable. According to the above rules. To calculate this threshold, the AVE for each variable must be greater than the smallest correlation coefficient for the other variables.. Table 3.3 summarizes the

performance criteria for validating measurement models.

Validity and Reliability	**Criteria**	**Threshold Value and Guideline**
Indicator reliability	Factor loadings (FL)	FL > = 0.5
Indicator validity	Variance inflation factor (VIF)	VIF < = 5 or, VIF < = 10
Internal consistency Reliability	Composite reliability (CR)	CR > = 0.7
Convergent validity	Average variance extracted (AVE)	AVE > = 0.5
Discriminant validity	Fornell and Larcker (1981)	The AVE of each variable has to be larger than the maximum squared correlation of any other variable

Table 3: Summary of Validity Standards for the Measurement Model

3.5.8 Coefficient of Determination

The relationship between the variable explained by the unexplained variables and the total value is measured by the coefficient of determination or R2. According to Chin (1998), low, medium and high power values are 0.19, 0.333 and 0.67 respectively [33]. On the other hand, the level is high, medium and important. According to Hare et al. (2014), the explanatory power is 0.25, 0.5 and 0.75.

3.5.9 Cross Validated Redundancy

The predicted value of the internal components can be obtained from the redundancy regression method (Q2). The use of the matrix is based on assumptions that include outliers in the data matrix, estimation of sample parameters, and evaluation of the resulting models using a “metric”. In particular, the recommended threshold value is Q2>0 [34]

3.5.10 Path coefficient

The theoretical relationship between variables is called the path coefficient, sometimes called the beta coefficient or standard beta coefficient.

Specifically, this value is between + 1 and 1, and both values are significant when the lower value of the path coefficient is greater than 0.1 according to Hair et al. (2014).

3.5.11 Effect size

According to Urbach and Alleman (2010), the magnitude of change depends heavily on the variables [35]. Similarly, when Cohen's f 2 is achieved, the researcher can determine the significance of each sample, and the sample size depends on the F2 statistic. It can be small (usually 0.02 <= f 2 < 0.15), medium (when 0.15 <= f 2 < 0.35), or large (when f2 >= 0.35). Others in 2009 also suggested that the effect size can be small. Section 3.4 describes the reliability statistics used to test the model structure.

Validity	**Criteria**	**Threshold Value and Guideline**
The validity of the model	Path coefficient (β)	β > 0.1 or, β > 0.2
	Coefficient of determination (R2)	Substantial→0.67, moderate→0.33, weak→0.19 or, Substantial→0.75, moderate →0.50, weak →0.25
	Cross-validated redundancy (Q2)	Q2 > 0
	Effect size (f2)	0.01<= f2 < 0.02 → very small effect 0.02 <= f 2 < 0.15 → small effect 0.15 <= f 2 < 0.35 → medium effect f 2 >= 0.35 → large effect

Table 4: Summary of Validity Standards for the Structural Model

3.5.12 Pilot test process

When upgrading Prestige, pilot tests are carried out to test the changes. According to Levin and Curry (2014), pilot testing is preferred to ensure validity and reliability. They use refurbished equipment [27].

This statement was also supported by the pilot test. This study is limited by its small sample size and is considered a pilot study for a specific study. Specifically, to meet the selection criteria and demonstrate a good sample, Lewis et al. (2005)

- **Pilot test respondents**

The data for the pilot process is requested from Bangladeshi citizens between the ages of 15 and 26 who have the opportunity to use the Mobile banking method.

- **Sample size for the pilot test**

The sample sizes chosen for the experiments varied [36]. In addition, Brown (1995) used a sample of at least 35 respondents to provide data for this study. It is recommended that a size standard be established. More precisely, this is wisdom. Collected from Internet research via Google Sheets between September 10-25, 2023.

- **Demographic Profile of the Respondents**

Out of 35 respondents, 29 were male and 6 were female. 82.85% were single and most of them were 20-26 years old. All users are familiar with mobile banking systems and 82.9% of them have been using the bank for more than 4 years.

- **Pilot test results**

Item validity and reliability were assessed before the final survey was administered to the participants. A pilot test was conducted to see Therefore, the internal consistency of the proposed model. [36]. In this paper, SPSS 23. and SmartPLS 3.3.3 are used to estimate the parameters from the subdivisions.

Careful planning and analysis of various aspects is part of the planning process for the study of mobile banking system implementation. This is to estimate the expected model using partial least squares analysis in your table This is a feedback method that can be used to make predictions.

3.6 Recommended Procedure/Active Tool

Developing a research process for a mobile banking system requires careful planning and careful consideration of many factors. Here are some other options you can customize based on your situation and goals:

- **Research Goals:**

Clearly define your academic goals. What do you expect from this lesson? Are you trying to identify barriers to adoption, measure employee satisfaction, or understand what drives adoption?

- **Literature Review:**

Carefully study the data and analyze the mobile banking system. Choose relevant examples, ideas, and studies to support your research.

- **Structure of Theoretical:**

Create a set of ideas using the literature review as a guide. Your analysis should build on this process and identify key variables, relationships and their effects.

- **Research design:**

Choose the right learning method that suits your goals. Exams, distance learning, and case studies are common study methods.

- . **Sample and Population:**

Identify purchasing strategies and target demographics (eg mobile phone users or specific demographics). Depending on the characteristics of the target group, purposive, cluster or random sampling can be used.

- **Gathering information:**

Choose a data collection method that fits the research design. Surveys, interviews, focus groups, and observations are common methods.

- **Services and Variables:**

The variables of interest should be clearly defined, including user demographics, perceived risks

and benefits, ease of use, and acceptance.

Change current equipment or use an accurate meter to measure these conditions.

- **Pilot study:**

Try to find and solve problems using a question guide or the ability to read, understand or interpret a question.

- **Data analysis:**

Depending on the design and objectives of your research, you can use quantitative or qualitative methods that best suit your needs. Choose a quantitative research method. Examples of paradigm analysis: regression analysis, factor analysis, content analysis, and thematic analysis are also used.

3.7 Implementation Requirements

Least analysis method (PLS-SEM) and summary regression analysis (CB-SEM). On the other hand, SmartPLS version 3.9 and SPSS 23 were used in this study.

3.7.1 Structural Equation Modeling

This allows the researcher to examine the relationship between the dependent and hypothetical variables. According to Urbach and Aleman (2010), PLS-SEM is currently attracting many professionals. In their study, they focused on CB-SEM. In addition, according to Good et al. (2006), PLS-SEM is an important method in the field of MIS, this model study uses PLS-SEM as an example, and PLSSEM uses a software package Among The different ones are PLS-GUI, WarpPLS, and Smart PLS, Visual PLS, and Graph-PLS.

3.7.2 Statistical package for the social sciences

The Statistical Package for the Social Sciences (SPSS) 23 was used to analyze demographic and demographic data. In addition, the CMV of the data was calculated using the SPSS and Herman's packages.

3.7.3 SmartPLS

SmartPLS is a second-order equation modelling tool used in information systems and analytics. Considering its advantages and general use, it is one of the most used tools. In addition, many SEM algorithms have similar drawbacks. For example, compared to Visual-PLS and PLS-GUI, LVPLS is difficult to implement, requires good programming skills, and is difficult to handle with complex data. Other PLS-SEM methods still use it. This study focuses on SmartPLS because of its flexibility.

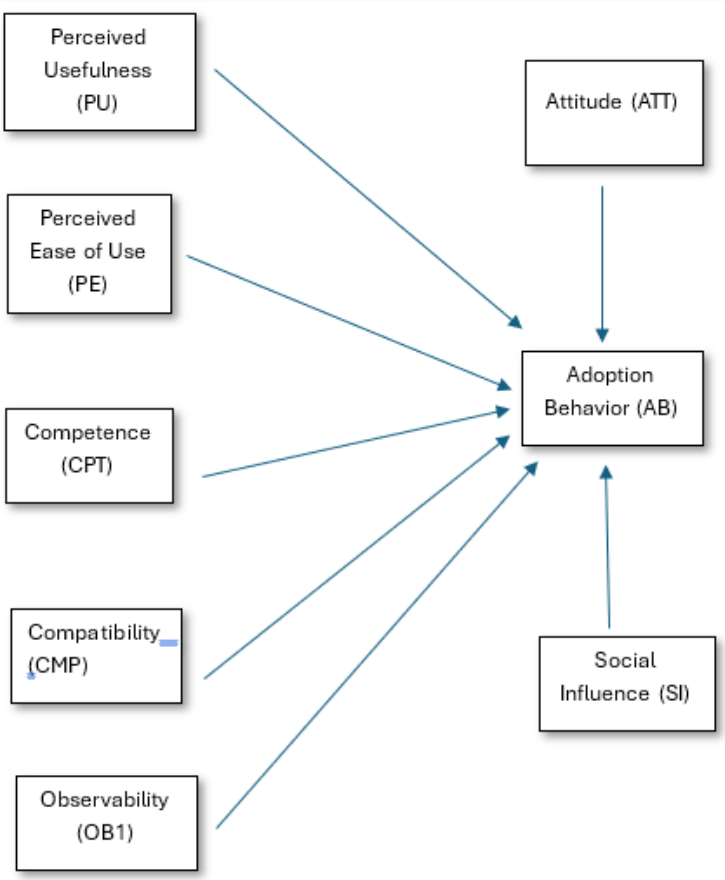

Figure 3: SmartPLS Model

CHAPTER 4
Experimental result and discussion

4.1 Experimental setup

To study the adoption of a mobile banking system, we created an integrated test environment to analyze the variables that influence the adoption and use of the system among users. Applicants were selected from a diverse population to ensure a representative sample. The test included surveys, usability tests, and real-world scenarios to measure user experience, perceived value, and behavioral intentions to adopt mobile banking [37]. To understand the impact of changes on decisions, we considered important factors such as system reliability, reliability, and development factors. The test was designed to provide important insights into the complex interactions that affect a mobile banking system. The results of this study will be helpful for academic research and rapid development of financial technologies.

4.2 Preparation of data

Snowball sampling was used to obtain information about Gen Z leaders (aged 15-26) who are likely to use the Mobile banking system in Bangladesh. I collect this information from the internet. So about 500 respondents submitted 300 Google forms (English version). From the data, 250 responses were selected for further analysis. However, due to various reasons, 50 responses were not collected. Based on the variables, the survey was divided into 12 sections, and the first section was used to categorize responses according to the criteria mentioned in the fourth section. Received against answers; Do not throw objects outside. When everyone was asked about the 12 changes, I did my research based on their answers.

4.2.1 Analysis missing values

It is not necessary to measure the value of the material for this analysis. However, most of the data collected consisted of online surveys (300 out of 250 survey questions). This program effectively evaluates users with incomplete responses in online surveys. Therefore, all answers are easy to understand and contain all the necessary information.

4.3 Experimental Results & Analysis

According to our findings, the adoption of mobile banking by consumers is becoming increasingly popular. Through research and actual usage metrics, there is a significant increase in adoption by partners, demonstrating the adoption of the mobile banking system [38]. Equality, security, and availability of payment methods were identified as important factors in consumer decisions. In addition, our research shows that mobile banking adoption continues to grow due to ongoing efforts to improve user experience and address security concerns. I will summarize my findings below.

4.4 Demographic statistics

Data of mobile payment users can be seen in Table 4.1, their age is between 15 and 26 years old. Out of 250 respondents, 12.6% are married, 18.7% are single, 81.3% unmarried, and the male-to-female ratio is 87.4%. In addition, 123 of them (32% of the total) are between 23 and 26 years old. Most of the respondents have higher education, 5.6% have passed SSC, 18% have passed HSC, 4.8% want to pursue higher education, 56.4% are university graduates (first to fourth year), and 9.6% are graduates. Degree. 4% have a bachelor's degree. In addition, fourth-year freshmen and second-year students provided less information (from 0.8% to 20%) the students collected a lot of data.

Variables	Category	Frequency	Percentage
Q1	Do you use mobile banking? Yes Or No	185(YES)	100
Q2	Do you live in Dhaka city?? Yes Or No	185(YES)	100
Gender	Male	140	75.7
	Female	45	24.3
Age	18-25 years	55	29.7

	26-30 years	88	47.6
	31-35 years	15	8.1
	36-40 years	10	5.4
	41-45 years	4	2.2
	46-50 years	2	1.1
	51-55 years	6	3.2
	56-60 years	0	0
	61-65 years	3	1.6
	Above 65	2	1.1
Academic Qualification	No recognized academic degree	2	1.1
	SSC or equivalent	4	2.2
	HSC or equivalent	18	9.7
	Diploma or equivalent	5	2.7
	Honours or equivalent	84	45.4
	Master's or equivalent	68	36.8
	PhD or equivalent	1	0.5
	Post Doctorate or equivalent	1	0.5
	Others	2	1.1
Marital Status	Married	109	58.9
	Single	76	41.1
Profession	Don't work	20	10.8

	Public sector	7	3.8
	Private sector	83	44.9
	Student	46	24.9
	Business	16	8.6
	Freelancing	9	4.9
	• Others	4	2.2

Table 5: Survey Questions

4.4.1 Indicator Reliability

The weight is used to determine the content. This factor loading is retained although another factor, CMP3, has a value of 0.698 because the AVE value is similar to the other factors. Overall, Table 4.2 shows that the other factors loading are fully integrated, indicating a significant relationship between these factors and the construct.

	AB	ATT	CMP	CPT	OB1	PE	PU	SI
AB1	**0.857**							
AB2	**0.898**							
AB3	**0.874**							
ATT1		**0.855**						
ATT2		**0.886**						
ATT3		**0.925**						
ATT4		**0.858**						
CMP1			**0.889**					
CMP2			**0.888**					
CMP3			**0.698**					
CPT1				**0.898**				
CPT2				**0.917**				

CPT3				**0.915**				
OB1					**0.801**			
OB2					**0.782**			
OB3					**0.762**			
OB4					**0.744**			
PE1						**0.883**		
PE2						**0.849**		
PE3						**0.881**		
PE4						**0.873**		
PU1							**0.927**	
PU2							**0.938**	
PU3							**0.930**	
PU4							**0.911**	
SI1								**0.852**
SI2								**0.889**
SI3								**0.907**
SI4								**0.912**
SI5								**0.874**
SI6								**0.861**

Table 6: Indicator Reliability

4.4.2 Indicator validity

The variance inflation factor (VIF) measures the difference between the independent variables in a regression model. Multicollinearity analysis is important because the existence of multicollinearity does not reduce the model's explanatory power, but it reduces the statistical significance of the independent variables [39]. The higher the VIF, the greater the likelihood of differences and the need for further analysis. If the VIF is greater than 10, the heterogeneity is considered high. If R2 is 0, VIF or reliability is 1, it does not change itself and others again. There is no heterogeneity.

Variance Inflation Factor (VIF)

	Variance Inflation Factor (VIF)
AB1	1.809
AB2	2.502
AB3	2.202
ATT1	2.302
ATT2	2.856
ATT3	4.049
ATT4	2.698
CMP1	2.146
CMP2	1.650
CMP3	1.592
CPT1	2.373
CPT2	3.047
CPT3	3.041
OB1	1.667
OB2	1.721
OB3	1.411
OB4	1.407
PE1	2.407
PE2	2.307
PE3	2.656
PE4	2.681
PU1	4.658
PU2	5.181
PU3	4.291
PU4	3.674
SI1	2.560

SI2	3.487
SI3	4.549
SI4	5.205
SI5	4.014
SI6	3.183

Table 7: Variance Inflation Factor (VIF)

4.4.2 Internal consistency reliability

Composite reliability (CR) tests assess reliability and consistency within the test sample. If the model (CR ≥ 7) is valid [40]. The CR for each construct is above the model threshold, between 0.868 and 0.855, as shown in Table 4.3. This shows that the internal consistency of the model can be considered very reliable.

Internal Consistency Reliability

	Composite Reliability
AB	0.908
ATT	0.933
CMP	0.868
CPT	0.936
OB1	0.855
PE	0.927
PU	0.960
SI	0.955

Table 8 : Internal Consistency Reliability

4.4.3 Convergent Validity

In this study, discriminant validity was measured by the average variance extracted (AVE), as shown in Table 4.4. The AVE for each variable ranges from 0.689 to 0.597 Data sheet.

Convergent Validity

Variables	Average Variance Extracted (AVE)
AB	0.768
ATT	0.777
CMT	0.689
CPT	0.829
OB1	0.597
PE	0.760
PU	0.858
SI	0.780

Table 9 : Convergent Validity

4.4.4 Discriminant validity

The discriminant validity of the scale was assessed using the Fornell and Larcker (1981) scale. [32]. In addition, the sum of the residual correlation coefficients is the square root of the sum of the long-term AVE values. Long-term value. Move the complex values into rows and columns as shown in Figure 4.6. Therefore, the model is generally applicable.

Discriminant Validity

Fornell Larcker Criterion							

	AB	ATT	CMP	CPT	OB1	PE	PU	SI
AB	0.876							
ATT	0.620	0.882						
CMP	0.310	0.332	0.830					
CPT	0.690	0.787	0.413	0.910				

OB1	0.595	0.681	0.400	0.660	0.772			
PE	0.635	0.751	0.397	0.809	0.621	0.872		
PU	0.630	0.710	0.335	0.756	0.539	0.763	0.926	
SI	0.462	0.371	0.502	0.414	0.358	0.296	0.306	0.883

Table 10: Discriminant Validity

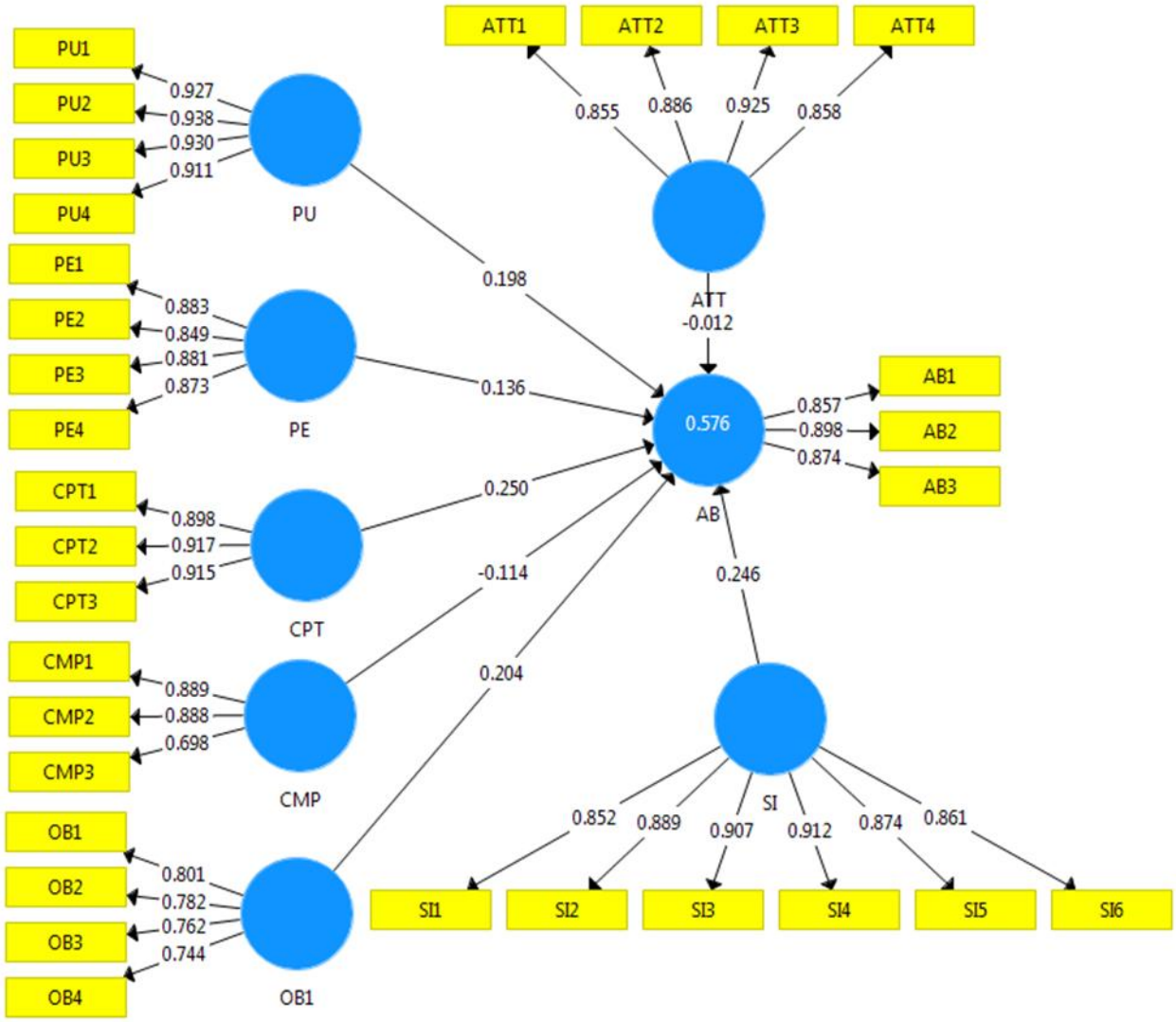

Figure 4: Research on SmartPLS Tool

4.4.5 Determination of Coefficient

In this study, the SmartPLS tool was used to calculate R2. The sample variance was 57.6% as shown below.

Coefficient of Determination

	R Square	R Square Adjusted
AB	0.576	0.559

Table 11: Coefficient of Determination

4.4.6 Cross-Validated Redundancy

In the second case, the AI value is 41.6%, which is greater than 0, indicating that the model is performing well (see Table 4.7).

Predictive Relevance

	SSO	SSE	Q^2 (=1-SSE/SSO)
AB	555.000	324.123	0.416
ATT	740.000	740.000	
CMP	555.000	555.000	
CPT	555.000	555.000	
OB1	740.000	740.000	
PE	740.000	740.000	
PU	740.000	740.000	
SI	1110.000	1110.000	

Table 12 : Predictive Relevance

4.4.7 Path Coefficient

To determine the significance of each relationship, statistics were calculated. Table 4.8 also shows the parameters of method, sample mean, standard deviation, t-value, and p-value. Additionally, the correlation is displayed in red when the p-value is greater than 0.05.

Path Coefficient

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
ATT -> AB	-0.012	0.001	0.105	0.117	**0.907**
CMP -> AB	-0.114	-0.107	0.072	1.585	**0.114**
CPT -> AB	0.250	0.244	0.115	2.171	**0.030**
OB1 -> AB	0.204	0.200	0.096	2.138	**0.033**
PE -> AB	0.136	0.131	0.109	1.254	**0.210**
PU -> AB	0.198	0.205	0.096	2.064	**0.040**
SI -> AB	0.246	0.246	0.075	3.289	**0.001**

Table 13: Path Coefficient

4.4.8 Hypotheses testing

NO	Hypotheses	Result
H1	A positive attitude raises the chances of adopting a mobile banking system.	Not Supported
H2	Higher perceived usefulness drives the adoption of mobile banking.	Not Supported
H3	Greater ease of use encourages the adoption of mobile banking in Dhaka City.	Supported
H4	Higher competence leads to greater adoption of mobile banking in Dhaka City.	Supported
H5	Higher compatibility leads to greater adoption of mobile banking systems in Dhaka City.	Not Supported
H6	Increased observability positively impacts the adoption of mobile	Supported

	banking in Dhaka City.	
H7	Strong social influence increases the adoption of mobile banking in Dhaka City.	Not Supported

Table 14: Hypotheses Testing Results

The results of SmartPLS on the six dimensions of expected performance (O = 0.012, p < 0.05), quality (O = 0.114, p < 0.001), and expectedness (O = 0.250, p < 0.05) showed supernatural. of technology and how it is used (O = 0.204, p < 0.01) and the benefits and contributions of technology (O = 0.136, p < 0.01) had a positive effect on cognitive skills. Received. In addition, the response levels are related to purchase intention and are closely related to ability expectations, personality traits, performance expectations, technical ability, technology use, and service use. Depending on the P value, the significance will be:

The use of technology has important implications in environmental management, understanding behavioral roles, technology integration, and adaptation to climate change and energy expectations. In contrast, adoption intention did not affect second-order placement (O = 0.246, p > 0.05). In addition, parental behavior was associated with social status and self-esteem. Thus, Table 14 shows that while H3, H4, H6, and H7 were supported. Again, unsupported words are highlighted in red.

4.4.9 Effect sizes:

The results show that 1 relationship marked in red is not significant, 2 relationships are highly significant, and 4 relationships are not significant (see Table 4.10). Additionally, Table 4.2 and Table 4.3 present the results of predictions and prediction tests using Smart PLS.

Table Effect Sizes

	AB	ATT	CMP	CPT	OB1	PE	PU	SI
AB								
ATT	**0.000**							
CMP	0.020							
CPT	0.034							
OB1	0.047							
PE	**0.012**							
PU	0.032							
SI	0.096							

Table 15: Table Effect Sizes

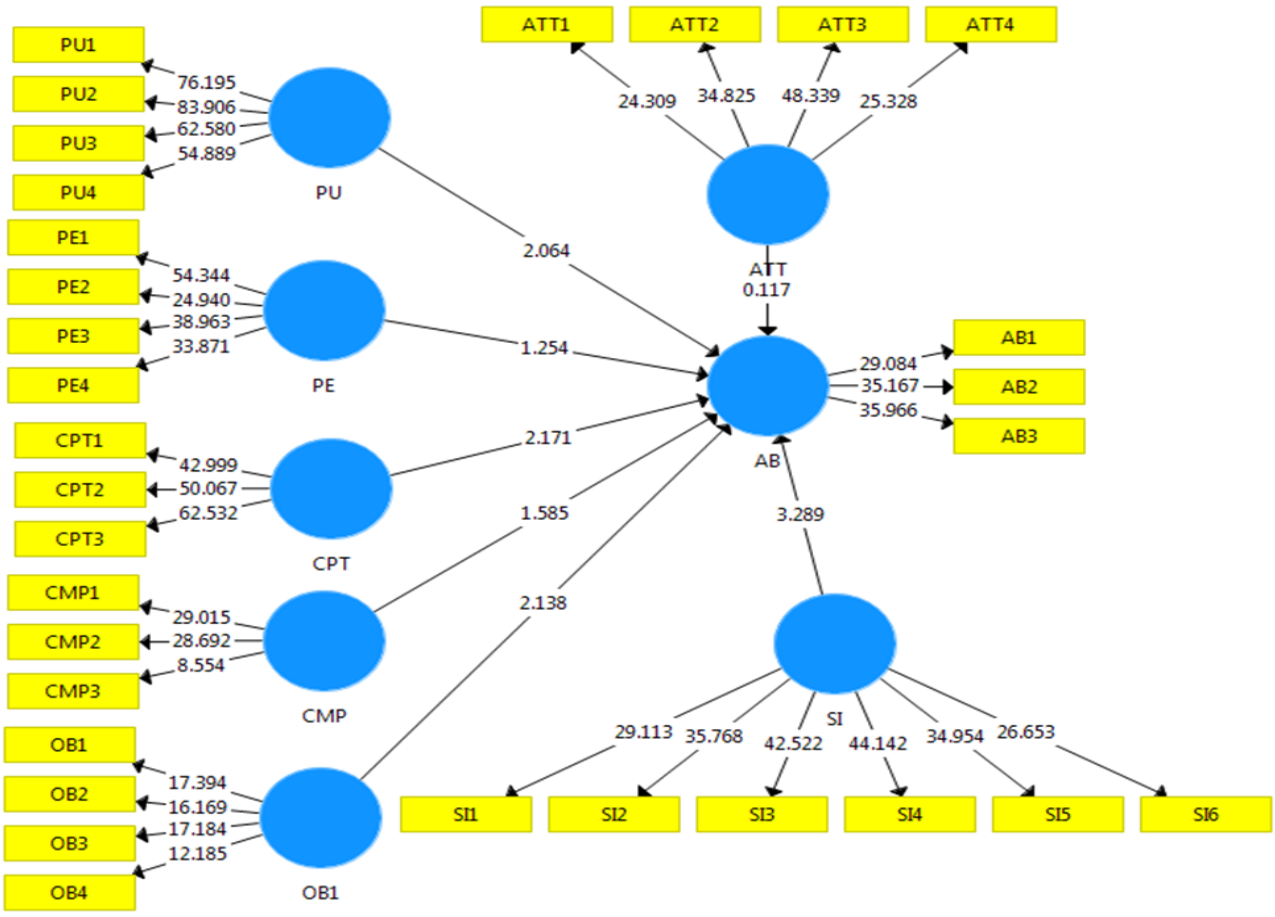

Table 16: Results of the structural model of the SmartPLS tool

4.5 Discussion

Partial least square analysis (PLS) was used to test the research model. In addition, the centre position and geometry are calculated and obtained using SmartPLS software. Conceptual support, conceptual support, group support, internal support. Continuous monitoring and evaluation is encouraged. Including the measurement model: In addition, the study found that five out of seven relationships were directly significant. Then, the quantitative estimates of confidence and self-knowledge f2, R2, Q2, β were converted to hypothesis testing using mediators. Some of them were working The difference in software is significant. Discriminant validity is considered when AVE is higher than the correlation between other variables. The path value is also 0.10.2. Social research is interesting and effective. The effect size is very small. Each absolute value provides an important explanation.

CHAPTER 5
Impact on society, Environment and sustainability

5.1 Introduction

Mobile banking systems can have sustainable, environmental and social impacts in several ways. For businesses, mobile banking increases revenue by giving them unbanked or unsecured access to digital financial services. This improves the economy and expands opportunities. It also has a significant impact on the environment, as the use of mobile banking reduces the demand for real money and reduces the carbon footprint of money creation and traditional banking services [41]. Saving and losing money has an environmental impact that can be reduced by moving to a cashless country. With supporting monitoring, the program can promote better usage behaviour and transparency in the payment process. However, mobile banking solutions have limitations, such as security issues, slow adoption, and regulatory issues.

By studying potential issues, researchers can better understand how consumers adopt and use mobile banking systems, and how these processes can be used. to support development and sustainable income.

5.2 Impact on society

The widespread adoption of mobile banking networks has changed the way people conduct financial transactions and has a profound impact on society. One of the biggest social benefits is more financial inclusion, as digital banking allows more people, especially those living in rural areas or those without access to financial services, to access financial services daily. Participation promotes economic inclusion and reduces social gaps by making financial transactions transparent and efficient for those without access to traditional banking services [42]. In addition, mobile banking systems have helped the economy become digital by making financial transactions transparent and efficient. With the convenience of mobile devices, people avoid buying cash, reducing the risks associated with real money, Like stealing and cheating. This shift gives consumers a convenient and convenient way to manage their money as part of the broader move to a cashless society. In addition, the use of mobile banking systems has impacted society by changing consumer expectations and behavior. The convenience and speed

of mobile business have a major impact on all aspects of people's lives, such as shopping, transportation and service delivery.

While the development of mobile banking has had a positive impact on society, challenges remain in terms of digital literacy, security, and equal access to technology in Dhaka City. Introducing mobile banking today can help address these challenges related to social development, financial rights, and economic growth.

5.3 Impact of environment

Mobile banking systems can impact the environment in several ways. A mobile banking system replaces traditional banking equipment and physical cash and has a positive impact on the environment. When you shop online, less paperwork is required, saving resources and reducing the carbon footprint of production and delivery [43]. Switching to electronic checks and balancing the environmental impact of paper use will reduce. For example, mobile banking systems can help reduce emissions and deforestation by eliminating the use of paper transactions. In addition to sustainability goals, a simple and practical mobile banking system can reduce energy consumption compared to traditional banking services [43]. Despite these advantages, free electronic management and data performance in mobile banking systems should be considered to ensure an environmentally friendly system.

5.4 Ethical Aspects

Issues of privacy, security and accessibility are important ethical issues related to mobile banking systems. Strong safeguards and clear procedures are needed to ensure the privacy and security of financial and business information. It is also an ethical principle to avoid discriminatory practices, eliminate the digital divide and ensure access to mobile banking technology for all social and economic groups. Maintaining customer trust requires a balance between fair practices and data handling, emphasizing the need for clear rules, informed consent and constant vigilance to mitigate regulatory challenges in the changing mobile banking environment [44]. fast However, there are ethical issues to consider regarding mobile banking systems. For example, there are many security risks in mobile banking systems, including security breaches due to

unsecured payment apps, lost phones and misuse. There are also concerns about privacy and accessibility. For example, consider the ease of use of these technologies, the ability of companies to protect their customers' financial information, and how these methods to be used. Researchers can better understand the adoption and use of mobile security measures. [44]. Supporting these ethical issues ensures that mobile banking systems are easy to use, secure, and accessible to all users.

5.4 Sustainability Plan

When assessing the impact of digital payment systems, mitigation strategies often include considering the environmental, social and economic impacts of the technology and developing strategies to mitigate any impacts [45]. For example, researchers can focus on reducing energy consumption by promoting the use of renewable energy sources and reducing the number of mobile money transactions. Researchers should focus on reducing inequality and reducing costs by using mobile communication services for all. Key research topics included ensuring consent, protecting participant confidentiality, and promoting diversity.

By designing a digital payment system that makes financial transactions more efficient and effective, researchers can find ways to create and distribute money more efficiently. Researchers can better understand how consumers adopt and use mobile banking systems and how these systems can be designed to improve retention and investment [45]. Identifying these gaps and complexities will ensure that research is conducted efficiently and effectively and used to create people who know human relations.

CHAPTER 6
Summary, conclusion, recommendation and implication for future research

6.1 Summary of the study

The study of mobile banking adoption examines the factors that influence the acceptance and use of these platforms. The study examines consumer behavior, preferences, and technology features that have the greatest impact on the adoption process. This review is based on several factors including ease of use, security, and social impact. Understanding the mobile banking landscape is important for businesses and technology companies that want to increase mobile banking adoption and transition smoothly to a cashless and digital economy.

6.2 Conclusions

Mobile Banking is becoming increasingly popular among consumers and consumers as an alternative to cash, checks and credit cards. Various strategies are needed to increase the adoption of mobile banking methods in Bangladesh. First, public awareness needs to be raised to educate the public about the benefits and capabilities of mobile banking in Dhaka. In addition, security issues will be addressed through the use of strong encryption methods to build trust and security in these systems. The relationship between financial institutions, mobile phone operators, and government agencies is critical in creating an environment that supports customer trust and access. System-wide development can be supported by ensuring interoperability between mobile banking platforms and expanding business networks with mobile banking. Finally, additional efforts in cooperation, education and security will be needed to promote the adoption of mobile banking systems in Bangladesh.

6.3 Implications for further research

The findings of this study on mobile banking systems have important implications for future research in the field of attachment. First, by identifying comfort and safety factors and conducting thorough research. His servant's preferences. and the development of management systems and banking systems.

In addition, my payments can be audited in conjunction with emerging technologies such as blockchain and artificial intelligence. Future research will explore the intersection of business and security and enhance user experience. Understanding the potential integration of mobile banking with technologies such as the Internet of Things (IoT) is also an interesting area of research.

A company that pays them across borders deserves special attention. Research can examine barriers to cross-border transactions, policies affecting cross-border migration, and the role and support of cryptocurrencies. This helps facilitate international trade

Linking mobile banking systems to consumer adoption is a promising new research topic, further research can identify ways to increase market adoption and business value mobile payment solution examples and drivers for general use.

The social and economic impact of the rise in mobile banking remains to be seen. Future research could examine the broader economic impact on financial inclusion, access to financial services, traditional banking institutions, and the financial economy.

The effectiveness of the system can be evaluated to ensure the security and integrity of the mobile banking system through continuous research, allowing rapid changes to the system. Further research is needed on the role of the regulatory framework in stimulating innovation and improving consumer protection and technological progress.

Additionally, ongoing research into user experience and interface design of mobile banking applications is needed to accommodate changing user preferences and ensure a seamless experience. Improving the overall mobile banking experience requires an understanding of how design affects usage and adoption.

Finally, as the mobile banking market continues to grow, demographics, mobility, and consumption will continue to grow market competition.

In summary, the implications of this study show the different types of mobile banking systems. Further research into this need could provide valuable information to develop and optimize mobile banking systems to ensure they remain relevant and effective in the changing digital environment.

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