

Research on the Impact of Mobile Payment Adaption in Bangladesh

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Abstract: The quick development of versatile installments in Bangladesh presents critical openings and challenges for benefit suppliers. This proposal examines the components affecting the appropriation of portable installments in Bangladesh and distinguishes methodologies to improve the competitiveness of versatile installment stages. Grounded within the Innovation Acknowledgment Demonstrate (TAM), Hypothesis of Arranged Behavior (TPB), and Quality of Benefit (QoS) hypotheses, this consider develops an auxiliary condition demonstrate to look at the affect of picture, seen esteem, and quality of benefit on client fulfillment and devotion.

This investigation utilizes a survey overview, collecting essential quantitative information straightforwardly from clients of portable installment frameworks in Bangladesh. Moreover, auxiliary information from existing writing and industry reports were analyzed to bolster the experimental discoveries. The discoveries emphasize the significance of moving forward stage picture, improving seen esteem, and optimizing benefit quality to boost client fulfillment and dependability.

Besides, considering the highlights required for benefit broadening to realize maintainable long-term development. Key comes about show that: (1) picture, seen quality of benefit, and seen esteem essentially impact the selection of portable installments (2) client fulfillment intervenes the relationship between these variables and client devotion and (3) families with higher instruction levels, higher earnings, and more smartphones are more likely to embrace and use mobile installments. Eminently, family units within the agrarian division are the slightest likely to receive portable installment frameworks.

The thought concludes with significant bits of knowledge and viable suggestions to move forward the viability of portable installment framework appropriation in Bangladesh and proposes bearings for future inquire.

Keywords: Mobile banking, social development, mobile payment usage, mobile money.

1. RESEARCH BACKGROUND AND SIGNIFICANCE

Bangladesh, with a population of approximately 200 million, has a low rate of bank account ownership, making secure and reliable cash transactions through traditional banking systems inaccessible to many. Historically, individuals without bank accounts relied on slow and unreliable postal money transfer systems or brokers to send money.

In the past decade, the widespread adoption of mobile phones has significantly changed the lifestyle of Bangladeshis. With affordable phone sets and low call rates offered by mobile operators, around 95% of the population now uses mobile phones (Islam & Tareq, 2016). This technological shift paved the way for Mobile Financial Services (MFS), which were introduced in Bangladesh in 2012 by Dutch-Bangla Bank, with full-scale operations starting in 2014. MFS, or Mobile Financial Services, enable financial transactions through mobile phones, offering a convenient alternative to traditional banking.

Research Gap

Research gaps in the field of mobile payment adoption offer opportunities for further investigation and exploration to enhance our understanding of consumer behavior, technological trends, and market dynamics. Despite growing attention to the socio-economic impacts mobile payment adoption, there remains a significant research gap in understanding the nuanced effects specifically related to the mobile payment and its operations in Bangladesh After carrying out the exhaustive review

of the literature, we identified that there has been continuous progress in the body of literature, there are major research gaps hampering the current research were identified. We propose some avenues for future research on m-payment. Despite the growing popularity of mobile payment systems, there remains a gap in understanding consumers' trust levels and security concerns associated with these platforms. Exploring the factors that influence trust formation and the effectiveness of security measures could provide insights into enhancing consumer confidence. Research often overlooks demographic variations in mobile payment adoption, such as age, income, education level, and geographic location. Investigating how these factors influence adoption rates and usage patterns could help tailor mobile payment strategies to different consumer segments.

Research Questions

This research study aims to investigate the factors influencing the adoption of mobile payment services in Bangladesh. Specifically, it seeks to:

1. Recognize the socio-demographic characteristics related with the appropriation of portable installment administrations in Bangladesh, counting age, sexual orientation, salary level, instruction, occupation, and geographic area.
2. Look at the seen benefits and concerns of buyers with respect to versatile installment selection, centering on perspectives such as comfort, availability, security, and believe within the framework.
3. Investigate the affect of innovative components, such as stage accessibility, client interface plan, ease of utilize, and compatibility, on the selection of versatile installment administrations.
4. Evaluate the part of social and social components, counting social standards, impact, and believe in conventional installment strategies, in forming consumers' states of mind towards versatile installment selection.
5. Assess the impact of administrative arrangements and foundation improvement on portable installment selection in Bangladesh, considering government directions, industry benchmarks, and framework availability.
6. Propose procedures and suggestions to advance broad selection of portable installment administrations in Bangladesh, pointed at policymakers, money related teach, versatile benefit suppliers, and other partners.

The Main Content and Technique Road Map and Framework

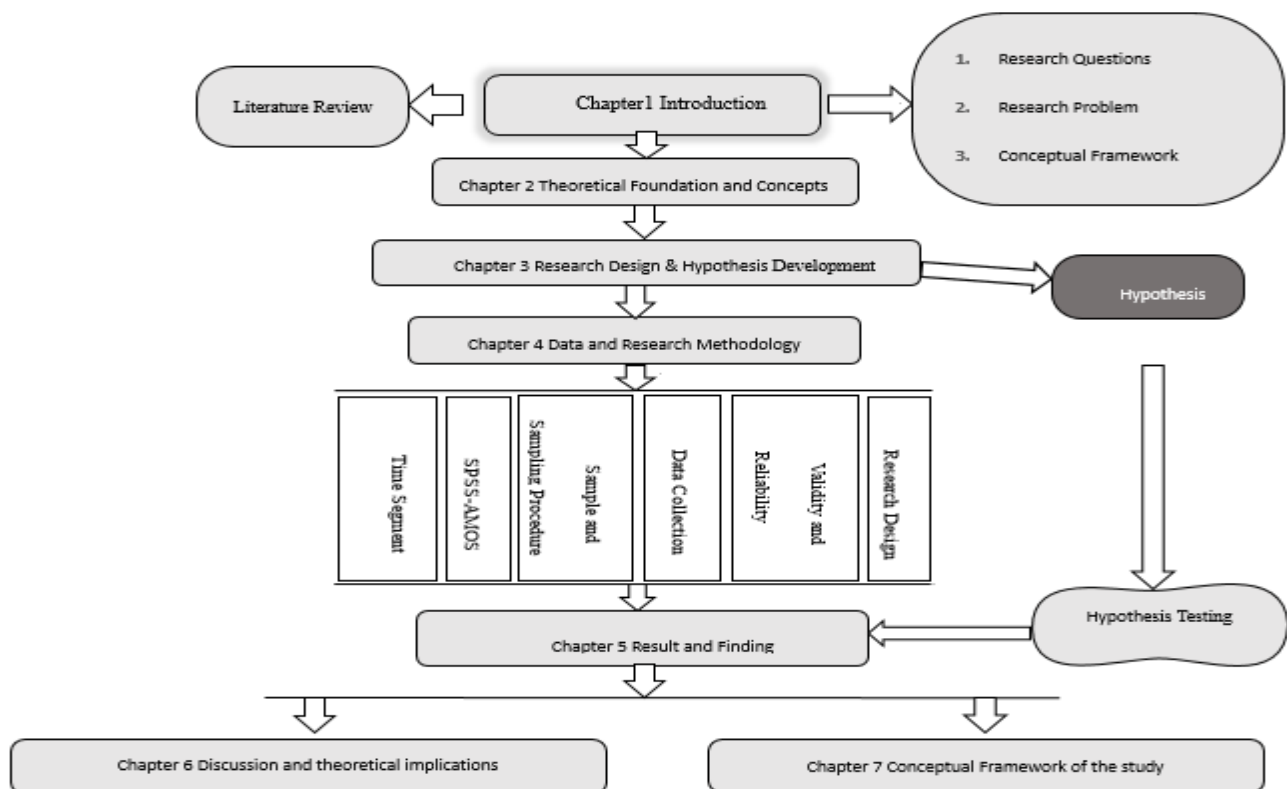


Figure 1: Main Content

2. LITERATURE REVIEW

Although research has been conducted to inspect the factors that influence mobile payment app adoption, there are a limited number of literature reviews that can provide a broad insight into this field. Among these research is a paper conducted by [20] in 2019, which focused on the UTAUT model, and at that time it obtained 25 studies, as well as a study conducted by [23] in 2019 on 57 studies, as it dealt with five models, including TAM and UTAUT. According to the current literature, there is no comprehensive study attempting to thoroughly examine the mobile payment app adoption studies that include the UTAUT model, TAM, with its extensions. Bangladesh has seen a significant increase in mobile phone penetration, with a large portion of the population owning smartphones. According to data from the Bangladesh Telecommunication Regulatory Commission (BTRC), the number of mobile phone subscribers exceeded 170 million by 2021, indicating widespread access to mobile devices.

Therefore, this article is inspired by Singh (1999), who argues that the users' perspective is needed to better understand payment systems and money. Also, this article is strongly related to Zhang, et al. (2017) and Unger, et al. (2020), who study the transactional network of Venmo. However, several differences are noteworthy. First, Movii's data is not publicly available. Second, Movii's data includes the value of the transactions—a most interesting addition for analytical purposes. Third, Movii's data starts on the day when the first transfer occurred, and it is daily from that day (November 18, 2017) to November 25, 2020; this allows a comprehensive study of the transactional network over time, including high-frequency (i.e., day-by-day) network statistics and visualizations—absent in Zhang, et al. (2017) and Unger, et al. (2020). Fourth, this article focuses on how the visual and quantitative complexity of the transfer's network evolves as a token of users' behavior and adoption of the mobile wallet.

Overview of Mobile Payment Adoption

The graph of flexible installment determination encompasses a wide understanding of the designs, drivers, challenges, and proposals related with the take-up of versatile installment courses of action over diverse areas and measurement parts. Convenient installment allotment in Bangladesh implies to the take-up and utilization of progressed installment courses of action empowered through versatile contraptions, such as smartphones. It talks to a move from routine cash-based trades to electronic installments, leveraging versatile development and progressed establishment to energize cash related trades. Over the past decade, Bangladesh has seen a basic increase in smartphone entrance, driven by declining contraption costs, amplifying versatile organize scope, and creating web organize. This development of smartphones has given the foundation for the choice of flexible installment courses of action. Long-standing time of flexible installment choice in Bangladesh is promising, fueled by advancing mechanical headways, extending smartphone invasion, and government back for computerized money related thought. Continued wander in progressed system, authoritative changes, and client instruction exercises will be essential for realizing the total potential of versatile installments in driving cash related thought and money related development.

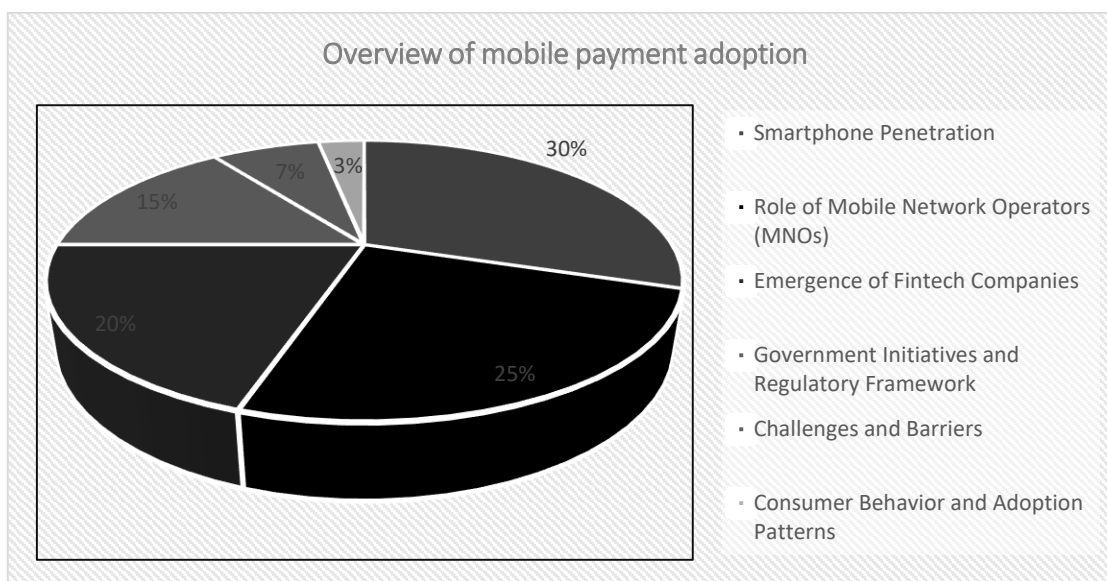


Figure 2: overview of mobile payment adoption

Smartphone Entrance (30%) speaks to the parcel of the populace in Bangladesh with get to to smartphones, which serves as the essential gadget for versatile installment exchanges. Part of Versatile Organize Administrators (MNOs) (25%) play a critical part in advancing versatile installment appropriation by advertising versatile budgetary administrations (MFS) through their systems, counting cash exchanges, charge installments, and dealer exchanges. Rise of Fintech Companies (20%) contribute to versatile installment appropriation by presenting inventive installment arrangements and advanced wallets, collaborating with banks, dealers, and other partners to extend the reach of versatile installments. Government Activities and Administrative System (15%) make an empowering environment for versatile installments, counting issuing licenses for versatile money related benefit suppliers and actualizing rules for electronic exchanges. Challenges and Boundaries (7%) section speaks to the challenges and obstructions ruining portable installment selection, such as moo computerized education rates, security concerns, interoperability issues, and the dominance of cash in regular exchanges. Shopper behavior (3%) towards versatile installments is impacted by variables such as comfort, believe, recognition with innovation, and social standards, affecting the selection rate among diverse socioeconomics and districts. Future Viewpoint and Openings (0%) section reflects long-standing time potential and openings for versatile installment appropriation in Bangladesh, driven by mechanical progressions, expanding smartphone entrance, and government bolster for computerized money related consideration.

In rundown, versatile installment appropriation in Bangladesh may be a energetic handle formed by socio-economic components, mechanical headways, administrative systems, and shopper behavior. Whereas noteworthy advance has been made, tending to remaining challenges and leveraging rising openings will be significant for progressing the selection of versatile installments and cultivating a more comprehensive and digitally-enabled budgetary environment in Bangladesh.

Definition of SME

In Bangladesh, there is no consensus among organizations in defining SMEs. Different institutions, for their ease, tried to define SMEs in Bangladesh. Bangladesh Bank (2010), the central bank of Bangladesh, refers SMEs to 'the firm/business which is not a public limited company and complies the following criteria.

Table 1: Small and medium size enterprise sector analysis in Bangladesh

Serial No	Sector		Fixed Asset other than Loan & Building	Employed Manpower (Not above)
1	Small Enterprise	Service	50,000-50,00,000	25
		Business	50,000-50,00,000	25
		Industrial	50,000-1,50,00,000	50
2	Medium Enterprise	Service	50,00,000-10,00,00,000	50
		Business	50,00,000-10,00,00,000	50
		Industrial	1,50,00,000-20,00,00,000	150

However, National Industrial Policy (Ministry of Industry, 2016) classified the SMEs in the following ways.

Table 2: Small and medium size industry sector analysis in Bangladesh

S/L	Type of Industry		The amount of investment	Number of emoplyer woker
1	Cottage Industry		Below 10 lakh	Number of worker not exceeded 15
2	Micro Industry		10 lakh to 75 lakh	16 to 30
3	Small Industry	Manufacturing	75 lakh to 16 crore	31 to 120
		Service	10 lakh to 2 crore	16 to 50

Factors influencing mobile payment adoption

The M-payment system over the last decade has exerted a profound impact on the financial inclusion of the unbanked society and businesses around the world. As part of the financially deprived sector, SMEs can now perform a financial transaction without a bank account, anywhere, anytime, cost-effectively (Ngaruiya et al., 2014). IdentOling Factors Affecting Adoption of Mobile Payment System by SMEs in Bangladesh 51 Consequently, SMEs found significantly

improving their revenue and, in turn, financial performance through the adoption of m-payment systems (Atueyi et al., 2019; Mahakittikun et al., 2021; Masocha & Dzomonda, 2018; Ngaruiya et al., 2014; Talom & Tengeh, 2019). M-payment systems have enabled SMEs to tap the financial and banking service without the help of traditional banks and conduct business with the distant markets and unbanked societies, whom the formal banking sector left behind. Conwell & Stanslaus (2020) found that financial services features, perceived cost-saving, perceived security, and perceived convenience and reliability significantly influence mobile money services that spur SMEs internationalization. Although both the formal banking sector and financially excluded sector are benefitted from the facilities of m-payment systems, the adoption of m-payment systems significantly varies according to the level of nation's development, infrastructure, access to education, finance, critical mass, complexity, observability, etc. (Atueyi et al., 2019; N. A. Khan et al., 2021; Kirui et al., 2020; Ngaruiya et al., 2014; Talom & Tengeh, 2019; Tengeh & Gahapa Talom, 2020; Tengeh & Talom, 2020; Wang et al., 2016). The details of factors affecting mobile payment adoption by SMEs found across different research in different countries are stated in table.

Table 3: Factor affecting M-payment system

S/N	Reference/Authors	Factors Identified	Location
01	Chingapi & Steyn (2022)	Risk, convenience, ease of use, trust in service providers, system features, device features and issues, cost of fees, company image and credibility, Bluetooth connection, customer service, and integrated systems.	South Africa
02	Khan et al. (2021)	Trialability, complexity, relative advantage, compatibility, and observability significantly influence mobile payment adoption. Complexity and observability were essential factors for Pakistani SMEs. But, on the other hand, for Chinese SMEs, critical mass was a significantly important factor.	China and Pakistan
03	Tengeh & Talom (2020)	Accessibility, safety, convenience that entice SMEs adopting MMS	Cameroon
04	Kirui et al. (2020)	Group membership, gender, credit access, education, mobile phone ownership, radio ownership, registration of business, number of business units, and the total number of employees determined utilization of mobile money services	Kenya
05	Najib & Fahma (2020)	The intention to use digital the payment was determined by the perceived ease of usage, perceived usefulness, attitude towards digital payment, and trust.	Indonesia
06	Masocha & Dzomonda (2018)	Benefits of mobile money such as versatility, cost-saving, time consumption, and user-friendliness and challenges are thought to be necessary to accept mobile money services.	Zimbabwe
07	A. N. Khan & Ali (2018)	External pressure and relative advantages are the most important antecedents	China

Theoretical Background

The Innovation Acknowledgment Show (TAM) and the Advancement Dissemination Hypothesis (IDT), are connected to examine client acknowledgment of portable installments. Overview information from portable installments clients will be utilized to test the proposed speculation and the show. Auxiliary condition modeling (SEM) was utilized to test the show (Hair, Babin, Cash, & Samouel, 2005) and analyze the relations between inactive factors:

Execution desire, exertion desire, social impact, seen taken a toll and seen chance and the subordinate variable behavioral purposeful. The Theory of Organized Behavior (Ajzen, 1991) sets that individual behavior is chosen by three components. The investigate points to explore the components influencing consumers' appropriation and utilize of Versatile Installment

Frameworks (MPS) in Southeast Asia. Extant hypothetical models have to be amplified to cover the interesting highlights of portable installment innovation. A Orderly Writing Audit (SLR) is conducted to analyze hypothetical models utilized to foresee the selection and utilize of portable installment. Over time, the hypothetical models endeavoring to clarify person behavior with respect to mechanical advancement were connected in modern settings and diverse stages of the buyer choice prepare. We highlight the repeating utilize of the UTAUT demonstrate within the final 10 a long time. Analysts have utilized various data systems/information innovation (IS/IT) hypotheses to get it person acknowledgment and utilize of data frameworks. A few writing audits on portable advances have over and over found TAM and UTAUT as two highest hypothetical focal point to look at person innovation appropriation (e.g., Chhonker et al., 2018; Slade et al., 2015b). In this manner, it is valuable to get it confinements of such models some time recently selecting hypothetical focal point for the current ponder study.

Hypothesis

States of mind, subjective standards, and seen behavioral control. Within the setting of portable installment appropriation in Bangladesh:

Speculation 1 (H1): Positive demeanors towards versatile installment frameworks will emphatically impact the deliberate to receive versatile installments among Bangladeshi customers.

Theory 2 (H2): Subjective standards, counting seen social weight and impact from noteworthy others, will emphatically impact the purposeful to receive portable installments in Bangladesh.

Speculation 3 (H3): Seen behavioral control, comprising seen ease of utilize and seen value of portable installment frameworks, will emphatically impact the deliberate to receive portable installments among Bangladeshi shoppers.

The Innovation Acknowledgment Show (Davis, 1989) proposes that seen ease of utilize and seen value essentially affect an individual's attitude toward utilizing innovation. Within the setting of portable installment selection in Bangladesh:

Theory 4 (H4): Seen ease of utilize of versatile installment frameworks will emphatically impact the deliberate to receive versatile installments among Bangladeshi shoppers.

Theory 5 (H5): Seen value of portable installment frameworks will emphatically impact the purposeful to receive versatile installments among Bangladeshi buyers.

The Advancement Dissemination Hypothesis (Rogers, 1962) sets that people embrace developments in stages, affected by different components including perceived qualities of the advancement, communication channels, social framework, and time. Within the setting of versatile installment appropriation in Bangladesh:

Speculation 6 (H6): Seen compatibility of versatile installment frameworks with existing buyer propensities and values will emphatically impact the deliberate to embrace versatile installments among Bangladeshi buyers.

Theory 7 (H7): Seen perceptibility of benefits, such as comfort and security, will emphatically impact the deliberate to embrace portable installments among Bangladeshi shoppers.

Theory 8 (H8): Seen complexity or trial capacity of versatile installment frameworks will adversely impact the deliberate to receive portable installments among Bangladeshi customers.

Believe plays a vital part within the adoption of unused innovations, especially in budgetary exchanges. Within the setting of portable payment adoption in Bangladesh:

Speculation 9 (H9): Seen believe within the security and unwavering quality of portable installment frameworks will emphatically impact the intention to receive versatile installments among Bangladeshi buyers.

Theory 10 (H10): Seen believe within the competence and astuteness of versatile installment benefit suppliers will emphatically impact the deliberate to embrace versatile installments among Bangladeshi buyers.

Theory 11 (H11): Social impact prompts people to follow to social-distancing rules by receiving versatile installment amid C-19 pandemic.

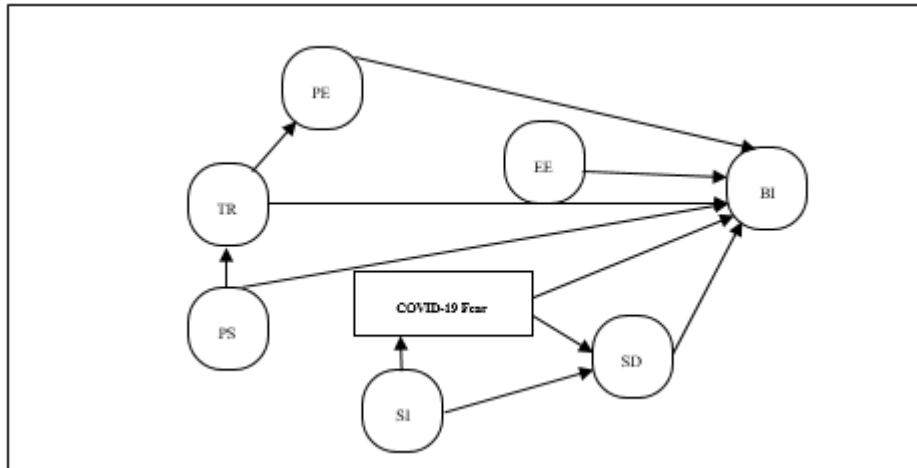


Fig 3

3. RESEARCH DESIGN

The members chosen for this ponder were chosen on the justify that they dwell within the locale of Bangladesh where Mobile payment takes put which the members have a relationship with Versatile installment benefit straightforwardly or in a roundabout way. Straightforwardly meaning they are partners to versatile installment or managing an account benefit or indirectly meaning they utilize portable installment to induce the compensation or for installments. Those members who don't connect with mobile payment are not permitted to fill out the survey. A pilot consider was conducted and after that my administrator prompted and guaranteed the questions assessed both the confront legitimacy and the substance legitimacy of the evaluation things.

Data collection Instruments

The sample data were collected with a self-administered questionnaire. Several interviews with focus group of survey participants and suggestions from experts in mobile banking sectors aided to improve the survey questionnaire. Several other developments in the wording and order of questions were done based on extensive pretesting by pilot study. The survey included questions about respondents' social development, economic development, knowledge regarding mobile banking, usage of mobile banking features, experiences of mobile banking services, ICT literacy and attitude towards adopting and using ICT in their daily life. Each component was measured through a composite score from a number of questionnaire items specifically designed for this research. A 5-point Likert scale (5 = Strongly Agree ... 1 = Strongly Disagree) was used to measure the degree of influence that each item exerts on social and economic development of respondents. Respondents' average age and education were 35-50 (SD=.762) and graduate (SD=.937) respectively. 25% of the respondents were female. This paper points to investigate different information collection rebellious that can viably capture the complexities of portable installment selection within the setting of Bangladesh. By utilizing a mixed-methods approach, joining both quantitative and subjective techniques, this think about looks for to supply comprehensive experiences into the drivers and obstructions of versatile installment selection within the Bangladeshi advertise.

The members were chosen from 5 cities inside Bangladesh specifically, Dhaka, Magura, Chittagong, Cumilla, Rajshahi. A few information was collected from the neighborhood press.

4. ANALYSIS RESULTS AND DISCUSSIONS

This chapter is on the examination of the accumulated essential information, which makes a difference in determining the valuable comes about of this inquire about. This chapter is exceedingly basic since investigation of information leads towards the inquire is about conclusion and any carelessness amid the information examination may annihilate the endeavors of executing the investigate on the off chance that it leads to wrong comes about. Thus, to analyze the assembled subjective information of this investigate distinctive factual instruments counting; clear examination, unwavering quality and legitimacy, and relapse examination are utilized in this segment of the investigation.

Table 4: Descriptive analysis of participants' educational level

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Bachelor's Degree	38	34.7	34.7	34.7
	High School Diploma	14	14.9	14.9	49.5
	Less than High School	8	7.2	7.2	56.8
	Postgraduate's Degree	10	17.1	17.1	73.9
	Some College/Associate's Degree	30	26.1	26.1	100.0
	Total	100	100.0	100.0	

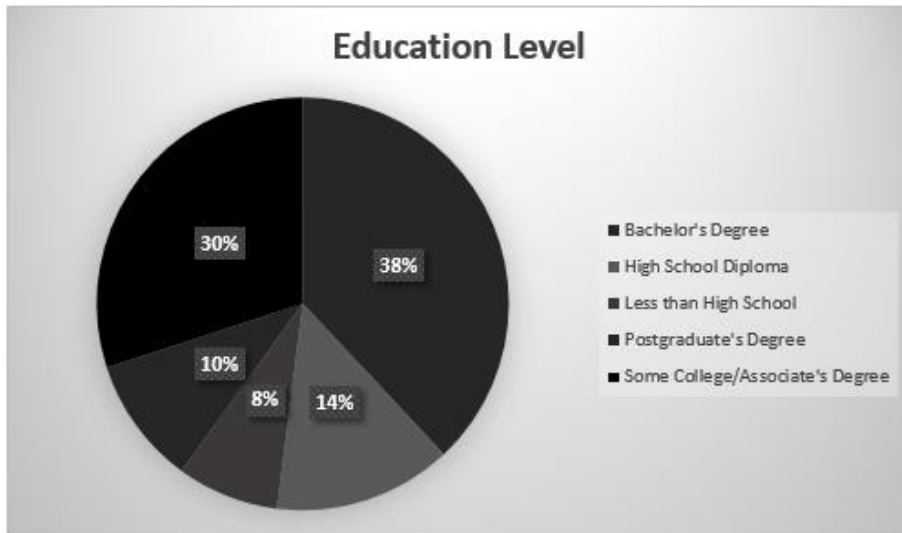


Figure 4: Education Level

Table 4. shows that most of the participants had at least a Bachelor's degree (38). The rest are shared between high school diplomas, college degrees, and less. All 100 participants' educational levels are valid.

Table 5: Descriptive analysis of locations surveyed in Bangladesh

Valid		Frequency	Percent	Valid Percent	Cumulative Percent
	Cumilla	10	9.2	9.2	8.4
	Dhaka	35	40.4	40.4	11
	Magura	15	10.5	10.5	18.6
	Chittagong	25	22.5	22.5	26.6
	Rajshahi	15	17.4	17.4	35.4
	Total	100	100.0	100.0	100.

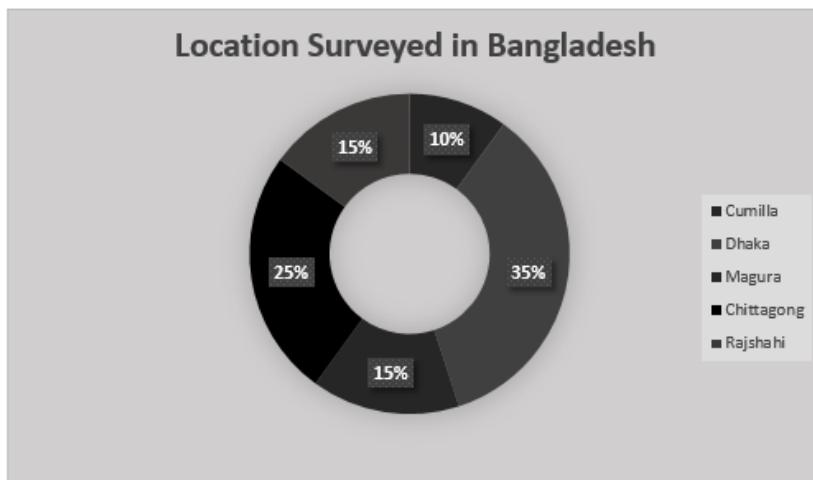
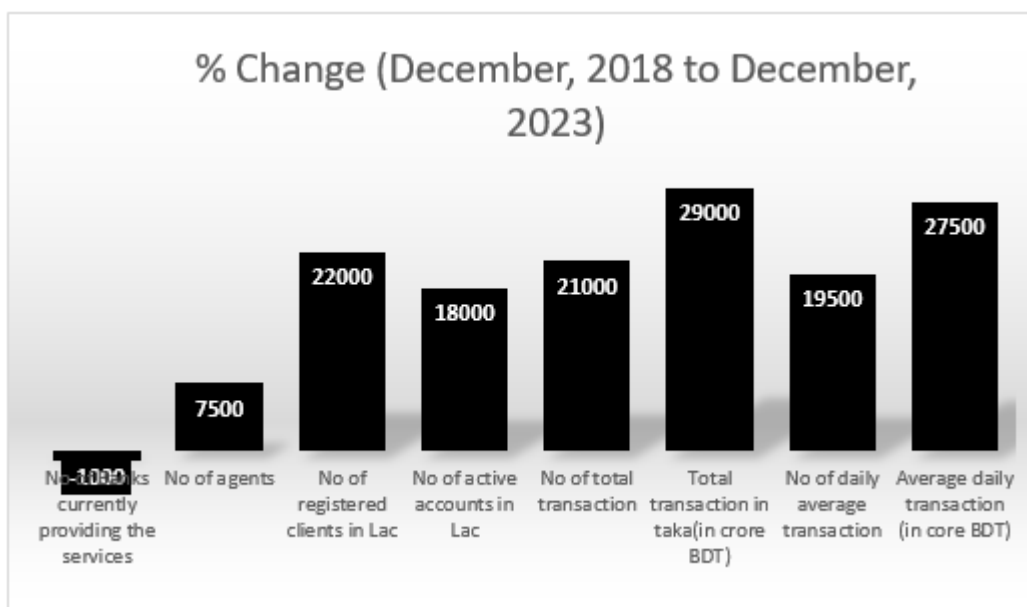


Figure 5: Location Surveyed in Bangladesh

The survey was carried out in these communities in Bangladesh. Table 5 shows the number/percentage of participants residing in each of these communities in Bangladesh. Dhaka had the most participants and Cumilla had the least participants. All 100 participants' locations are valid.

Table 6: Key Information on Mobile Financial Services in Bangladesh from December, 2018 to December, 2023

SL	Description	Amount in December, 2018	Amount in December, 2023	% Change
1	No. of Approved Banks	29	-	-
2	No. of Banks currently providing the Services	21	18	-14.2857143%
3	No. of agents	540,994	971820	79.63600336%
4	No. of registered clients in Lac	261.86	805.08	207.4467273%
5	No. of active accounts in Lac	131.54	356.46	170.989813%
6	No. of total transactions	74,473,668	227,422,335	205.3728131%
7	Total Transactions in TAKA (In core BDT)	10,583.04	40,747.64	285.0277425%
8	No. of daily average transactions	2,482,663	7,336,324	195.5022087%
9	Average daily transactions (In core BDT)	359.57	1411.23	292.4771255%



[1 Lac = 0.10 million and 1 crore = 10 million]

Source: Payment System Department, Bangladesh, 2023

Figure 6: Key Information on Mobile Financial Services

It is found from the aforementioned analysis that Bangladesh Bank has provided the approval to 28 banks for running mobile banking services as on December 2018; out of 28 banks, 19 banks have already launched mobile financial services in December 2018. Currently, 16 banks are providing mobile banking services. The number of clients stood at 79.51 million at the end of December 2023, it was 25.19 million in December 2014. Out of the 79.51 million registered clients, only 34.65 million accounts are active, which is less than half of the registered clients. The number of total transactions and the amount of total transaction stood at 227.42 million and BDT 406,476.40 million in December 2023.

5. RESULT AND FINDING

Bangladesh has seen a quick selection of versatile installment arrangements, essentially driven by the far reaching accessibility of versatile phones and the moderately moog to to conventional managing an account administrations. Administrations like bKash, Rocket, and Nagad have ended up family names, empowering exchanges that were already not conceivable for a huge fragment of the populace. Portable installment frameworks have strikingly expanded money related

incorporation, bringing keeping money administrations to unbanked populaces, especially in country regions where conventional bank branches are rare. These administrations have too made a difference in engaging ladies by giving them get to to money related assets, which has been essential in advancing sex value in budgetary spaces.

Little and medium-sized ventures (SMEs) have profited altogether from versatile installments, as these frameworks give a dependable and simple strategy to oversee exchanges without the required for physical managing an account foundation. The ease of sending and accepting cash through portable installments has changed the settlement scene, permitting vagrants to send cash back domestic more productively and securely. versatile installment frameworks in Bangladesh have not as it were extended budgetary administrations to already underserved populaces but have too reshaped the financial and social texture by presenting more energetic, comprehensive, and imaginative monetary hones. The progressing improvement in this segment proposes that portable installments will proceed to play a basic part in forming the money related scene of Bangladesh.

6. DISCUSSION

Over the last decade, the payments landscape in Bangladesh has undergone a structural shift. The digital payment landscape is showing promise in Bangladesh.

With the modification in customer behavior, the scene is getting to be progressed —moving towards contactless and frictionless trades. The Bangladesh economy has withstood the enemies of the around the world broad and is experiencing an exceptional progression heading over all its crucial fragments. Over the long time, the center and well-off course (MAC) people has been creating, the per capita wage is extending, more than 62 percent of the people comprises of youth and the government is on the mission to digitalize the country. The country has made striking changes in various enhancement zones – filing a 57 percent increase in budgetary consolidation between 2013 and 2018, and a 31.5 percent web entrance as of the beginning of 2022. As a result, the country is experiencing colossal progression in progressed organizations as the current time is tech-savvy and depends on online organizations for consolation. More businesses are moving online and this has opened the digitization and broadening of the installment systems. The Covid-19 broad has development actuated the surge of computerized installments as Convenient Budgetary Advantage (MFS) trades extended by 7% inside the third quarter of FY 2019-20.

7. CONCLUSION

This study examined the impact of mobile payment adoption on Bangladesh's financial and social landscape. The research findings indicate that mobile payments have significantly influenced financial activities in the country.

Key findings include:

- Increased financial inclusion: Mobile payments have extended financial services to previously unbanked populations, particularly in rural areas.
- Streamlined transactions: The data shows a reduction in transaction times and costs compared to traditional banking methods.
- E-commerce growth: Our analysis revealed a correlation between mobile payment adoption and the expansion of e-commerce activities.
- Empowerment of specific demographics: The study found higher adoption rates among women and young adults, suggesting increased financial autonomy for these groups.
- Shift towards cashless transactions: Survey results indicated a growing preference for digital transactions over cash-based ones.

The research data supports the conclusion that mobile payment adoption has contributed positively to financial development and social inclusion in Bangladesh. However, this study also identified areas where further research is needed to fully understand the long-term implications of this technological shift. .

Limitation of the study and Future Research

This study encountered several limitations that should be considered when interpreting the results:

- Sample representativeness: The study sample may not fully represent the broader Bangladeshi population, particularly those in rural or underserved areas.

- Survey design limitations: The questionnaire may not have captured all aspects of the user experience with mobile payments.
- Self-reporting bias: Data collected through self-reporting may be subject to respondent bias.
- Time constraints: The research was conducted within a limited timeframe, which may have impacted the depth of analysis.
- Lack of face-to-face engagement: The absence of direct interaction with respondents may have limited the nuanced understanding of their perspectives.

Future research could address these limitations by:

- Expanding the sample size and ensuring broader demographic representation.
- Employing mixed-method approaches to gain deeper insights into user experiences.
- Conducting longitudinal studies to assess long-term impacts of mobile payment adoption.
- Investigating the interaction between mobile payments and other economic factors.
- Exploring the role of regulatory frameworks in shaping mobile payment adoption and impact.

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