

Barriers of Access to Mobile Financial Services by the Elderly People in Plain Land Ethnic Groups in Bangladesh: A Quantitative Study

A thesis submitted to the Department of Sociology,
Hajee Mohammad Danesh Science and Technology University
in partial fulfillment for the degree of M.S.S in Sociology

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CERTIFICATION

This is to certify that the research work entitled as “**Barriers of Access to Mobile Financial Services by the Elderly People in Plain Land Ethnic Groups in Bangladesh: A Quantitative Study**” by Alamgir Kabir, has been carried out under my direct supervision. To the best of my knowledge, this thesis work is an original one and was not submitted anywhere for a diploma or a degree.

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Declaration

"I hereby certify that this thesis, entitled **Barriers of Access to Mobile Financial Services by the Elderly People in Plain Land Ethnic Groups in Bangladesh: A Quantitative Study**, is my original work submitted for the degree of Master of Social Science (M.S.S) in Sociology at Hajee Mohammad Danesh Science and Technology University, Dinajpur-5200. This work was completed under the supervision of Hasan Jamil, Associate Professor and Chairman of the Department of Sociology. I confirm that neither this thesis nor any part of it has been submitted for any other degree or diploma at any institution."



.....

Alamgir Kabir

Researcher

Dedication

**Dedicated to the martyrs who have sacrificed their life in the Liberation War of
Bangladesh, 1971**

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ABBREVIATIONS AND ACRONYMS

BBS	Bangladesh Bureau of Statistics
ESDO	Eco Social Development Organization
FinTech:	Financial Technology
GoB	Government of Bangladesh
MDG	Millennium Development Goals
MFS	Mobile Financial Service
NGO	Non-government Organization
PLEC	Plain Land Ethnic Community
PSR	Poverty Status Report
SDG	Sustainable Development Goals
SPSS	Statistical Package for Social Sciences
SSN	Social Security Number
Tk	Taka
UN	United Nations
UNDESA	United Nations Department of Economic and Social Affairs
UNHCR	United Nations High Commissioner for Refugees
WB	World Bank

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Abstract

Approximately two million people belonging to 27 officially recognized ethnic minority groups live primarily in the plain land of the northern divisions of Bangladesh. They are socially, economically, and politically vulnerable and marginalized. Among them, the elderly is considered to be more vulnerable due to their advanced age and economic circumstances. Additionally, they do not have access to conventional financial services. In this situation, mobile financial services (MFS) are utilized to ensure that the elderly of plain land have access to their funds and other government-provided financial services in a secure manner. This quantitative study aimed to access the barriers that prevent elderly members of ethnic minorities from accessing MFS. Though a structured survey administrated to a sample of elderly individuals from plain land ethnic groups in Bangladesh, data were collected on various factors including language barriers, digital literacy, trust in MFS service providers, experience of fraud. Descriptive and inferential statistical analyses were conducted to identify significant barriers to MFS access among the elderly. The findings indicate that elderly people of plain land ethnicity in Bangladesh face multiple obstacles when attempting to access and utilize MFS. The most significant obstacles for the elderly are the language barrier and limited digital literacy. Lack of trust in MFS service providers and attempts at fraud by service agents are also cited as significant obstacles. Therefore, the government and MFS providers should pay careful attention to essential adjustments to the MFS delivery mechanism in order to improve access and utilization by the nation's plain land elderly.

CHAPTER 1

INTRODUCTION

1.1 Background of the Study:

Bangladesh is a low-income country, with 31.5 percent of the population suffering from poverty and 17.6 percent suffering from extreme poverty (Khatun et al., 2021). Despite moderate economic growth, Bangladesh has accomplished significant progress in human development indicators in the last decade, (Khan et al. 2020) with some indicators even improving more significantly than in other countries with comparable per capita income (Masud-All-Kamal & Saha, 2014). Per capita income climbed from USD 754 to USD 2064 (Karim et al., 2022), life expectancy increased from 67 to 73 years, adult literacy improved from 58 to 75 per cent, poverty incidence decreased from 35 to 20.5 per cent, and extreme poverty rates dropped from 18 to 10.5 per cent (EFYP, 2021-2025). These accomplishments have enabled Bangladesh to transition from a low-income to a lower-middle-income country and are expected to ultimately lead to its graduation from the list of Least Developed Countries (LDCs) (EFYP, 2021-2025). The country's transition to the middle-income status is expected to bring significant economic and social benefits, such as improved access to finance, increased foreign investments, and improved access to new technologies, which will in turn further accelerate the country's development (EFYP, 2021-2025). However, although having been independent for more than fifty years, Bangladesh is unable to provide equal opportunities for everyone to live sustainably.

The older population is expected to increase globally both in terms of absolute and relative numbers and Bangladesh is no exception (Khan, 2006). Older people are treated as one of the most vulnerable group because of age. In Bangladesh, older individuals who are poor frequently experience a wide range of problems, the most significant of which is insufficient income support. There are several issues with how it was distributed. The way it has been allocated is questionable. For that reason, the Old Age Allowance program gives financial assistance to the elderly who are

in need. Poor senior persons in Bangladesh frequently face a variety of issues, the most serious of which is a lack of income support. Moreover, the vulnerability of Plain land indigenous old-age people is also a cause for concern. These people have been the most disadvantaged and neglected communities in the world. They are often the most marginalized and excluded in their societies, facing discrimination and marginalization in their day-to-day lives.

Access to and attachment to the MFS rate among ethnic groups in Bangladesh may deteriorate. It is true that mobile banking or mobile financial services (MFS) have brought about a big transformation in financial markets, particularly in allocating various types of allowance in Bangladesh, but it also has some drawbacks. Ethnic people make up a large proportion of the population, and because of their particular cultural and social structures, they stay distinct from mainstream communities (Vela-Corcía, 2019). In Bangladesh, ethnic minority groups, often known as Adivasi, are among the most marginalized populations. There are over 45 communities with similar cultural identities. Nonetheless, they can be generically categorized as 'Adivasi of the Plains' and 'Pahari' or 'Jumma' (hill tribes), with the former residing in the North and Northeastern plains and the latter in the Chittagong hill tracts (Walker et al., 2009). These plain land ethnic groups have traditionally been historically, socially and politically excluded; they live in isolated and mostly destitute locations; and they receive little attention from local or national actions (International Republican Institute, 2020). Ethnic minorities have two key aggravating barriers in gaining access to various services: their geographical isolation and discrimination. As a result, they are marginalized within society. Plain land ethnic groups, like other social facilities, benefit from both formal financial services and the MFS.

The elderly Indigenous people in Plain land are also particularly vulnerable to exploitation due to their lack of financial resources, education, and access to legal protection. This makes them more

vulnerable to being taken advantage of by unscrupulous people and organizations. The primary point to convey through this research is how the plain land indigenous older use the mobile banking system to obtain an old-age allowance. There is no doubt that MFS will have far-reaching consequences. Because most elderly individuals do not know how to use mobile phones effectively, using mobile banking is difficult for them. Considering all of these aspects, it is essential to measure the program's performance by determining the level of satisfaction among its recipients (Ferdous, 2014).

To the best knowledge of researcher, no significance study was done based on a survey by identifying the barriers faced by plain land ethnic elderly by accessing mobile financial service. By assessing the current financial landscape specific to this demographic, the study aims to uncover the types of financial services commonly accessed by elderly members of plain land ethnic groups. The investigation will delve into the diverse financial instruments and platforms that these individuals engage with, shedding light on their preferences and patterns of financial behavior. Through a quantitative approach, the research will analyze data to provide a comprehensive understanding of the financial services landscape for the elderly in plain land ethnic communities. This exploration serves as the foundational step towards addressing the broader objective of identifying and mitigating challenges hindering their access to mobile financial services. The study will contribute valuable insights into the financial behaviors of elderly individuals in these communities, laying the groundwork for informed strategies to enhance their overall access to mobile financial services while considering specific barriers such as language, digital literacy, trust, fraudulent attempts, and harassment from agents.

1.2 Statement of the Problem

The spread of mobile financial services in Bangladesh offers underprivileged groups a viable path toward economic empowerment and inclusion. However older people in plain land ethnic groups face significant obstacles that prevent them from using and accessing these services, which exacerbates economic inequality and prevents them from engaging in the financial ecosystem (Ahsan & Burnip, 2007; Mersha, Bishaw, & Tegegne, 2013).

Even though mobile financial services have been shown to have the ability to improve financial inclusion, there is a significant lack of information in the literature about the particular difficulties that older members of Bangladesh's plain land ethnic minorities experience. Although a number of demographic groups have had their financial inclusion and digital literacy barriers studied, there is a lack of empirical research on the more complex obstacles that older people face in particular ethnic contexts (Hijazi & Naqvi, 2006; Islam, 2014).

The existing research emphasizes the role of socioeconomic, cultural, and institutional factors in determining people's access to financial services. However, there has been little research into how these characteristics interact with the specific requirements and circumstances of elderly people from plain land ethnic groups, limiting their access to mobile financial service (Battle & Lewis, 2002; Farooq et al., 2011).

Furthermore, the rapid digitization of financial services in Bangladesh necessitates a nuanced understanding of the barriers that elderly people face, which may include issues with technology adoption, language barriers, trust, and financial literacy (Imran et al., 2017; Tangaraju, 2013). As consequently, this quantitative study aims to fill a research vacuum by looking into the challenges related to accessing mobile financial services faced by senior persons in plain land ethnic groups in Bangladesh. The research uses a quantitative approach to identify and examine these barriers,

with a sample of older people from plain land ethnic communities. The study will use statistical analysis to evaluate the prevalence and significance of various barriers, giving light on the variables that most significantly limit senior people's access to mobile financial services.

The research endeavors to provide insights into these obstacles in order to guide the creation of focused interventions and policy suggestions that would improve the usability and accessibility of mobile financial services for senior citizens living in Bangladesh's plain land ethnic communities. The study aims to support initiatives that promote financial inclusion and economic empowerment among this vulnerable demographic group by working with stakeholders and policymakers.

1.3 Literature Review

A literature review is a summary and explanation of the comprehensive and current state of knowledge on a certain topic as contained in academic books and journals. It makes a distinction between the process of reviewing literature and the final output or product known as a literature review (Shields & Rangarajan, 2013). It is also the text of a scientific work, which includes current knowledge, substantive discoveries, and theoretical and methodological contributions to a certain issue.

Krzysztof Kubiak (2019) conducted a survey on “Analysis of selected mobile applications from the perspective of seniors” mentions that the lack of knowledge and fear of new technologies are listed as principal barriers to seniors using mobile financial services. The paper analyzes selected mobile apps from the perspective of seniors. The research methods used are a face-to-face questionnaire and value network analysis. Face-to-face interviewed with standard questionnaire was used to analysis in this study.

Yilin Sun (2023) in his paper titled, “Research on the Usability Evaluation Model of Mobile Application Interface Design for Active Senior focuses on the usability evaluation model of mobile application interface design for active seniors. The paper focuses on improving the usability of mobile applications for active seniors. It proposes a usability evaluation model for mobile interface design. The paper compiles and summarizes the characteristics of active seniors and their mobile application status. The paper establishes a usability evaluation model for mobile application interface design. Literature research method Expert heuristic usability evaluation principle.

Anna Warchlewska (2020) in his paper on Will the development of cashless payment technologies increase the financial exclusion of senior citizens discusses the barriers to access mobile financial services for senior citizens, including psychological barriers and the impact of technological progress on financial exclusion. This paper the assess the attitudes of senior citizens towards cashless transactions. Psychological barriers hinder one of the most significance barrier to adoption of modern technologies by elderly. At the same time, it highlights the psychological barriers and technological progress hindering financial inclusion.

Ana Margarida Rodrigues Ferreira(2014) in the article named “Personal finances mobile application for seniors” focuses on the development of a mobile-based finance platform for seniors and the usability tests conducted on the application. This paper identified that older population is increasing, technology can help improve their living conditions. At a time, Mobile app created to assist seniors in managing personal finances. The developed Android application was evaluated with end users in two phases of usability tests in this study. It also identified that users can use the platform successfully, but obstacles with their relationship with technology need to be solved.

Sara Andalib (2018) studied the mobile banking situation in Malaysia. In the paper named “The Influence of Dispositional Resistance to Change on Seniors’ Mobile Banking Adoption in

Malaysia does not specifically discuss the barriers of access to mobile financial services by the elderly people. It focuses on the influence of dispositional resistance to change on seniors' mobile banking adoption. The study investigates the impact of dispositional resistance to change on seniors' mobile banking adoption. Dispositional resistance to change has a significant negative effect on seniors' intention to adopt mobile banking.

Cosmin Munteanu (2018) in the paper titled “Designing for Older Adults: Overcoming Barriers to a Supportive, Safe, and Healthy Retirement” focuses on barriers to the adoption of online FinTech services by older adults and how online technologies can be designed to be inclusive of their needs. The article identified that Older adults face barriers to accessing online services. The paper also investigates how online technologies can be designed to be inclusive of older adults' needs, abilities, and contexts. Finally, it proposes ways to help the FinTech sector incorporate new approaches to better serve older adults.

Ahmed et al. (2011) in the article titled, “Problems and prospects of mobile banking in Bangladesh” revealed some factors are so responsible for the mobile banking problems in Bangladesh that are of interest to use, time saving, service cost, time desired for the mobile financial service than the traditional banking service system, trustworthiness and proper use of this system. Security of services, service availability, services cost have a significant impact on customer's behaviors to usages of mobile financial services.

Gefen et al. (2003) mobile financial services trust depends on the user's faith and trust on the service ability of the organization, service integrity, security and reputation of the organizations actual services, products and their commitment level (Wang & Shan, 2013).

Venkatesh et al. (2003) found adequate obtainability of operative technological infrastructure support referring to the systems availability of physical instrumental resources, connectivity and information quality as the important considerations for consumers. It is important that customers regularly connect to the websites and visit banks services related to mobile banking applications. But, the connectivity between customers and banks is not possible without proper implementation of this technology. Hypertext Mark-up Language (HTML), Wireless Application Protocol (WAP) are the important procedures used in mobile financial services. Some devices' support depends on WAP browsers or only SMS, it creates a big challenge for banks to offer mobile financial solutions on any type of device. So, it is important to upgrade and update and download the necessary patches is significant for avoiding technological risk and optimum uses of the technology.

Mohamed (2019) used Statistical Package for Social Science (SPSS) and Microsoft Excel for analyzing the data and employed snowball and purposive sampling to select a population sample size of 78. The study found that mobile money has significantly improved the economy of Puntland due to a process of facilitating economic activities. Mobile money is easily accessible in remote areas and it is practically proven to be safe and trustworthy.

Zubayer et al. (2019) found that service availability is the most significant factor for choosing the mobile financial services in Bangladesh. They collected from respondents using a 5 point Likert scale and used SPSS for analyzing the data. Some important statistical tools like factor analysis and regression analysis were conducted.

Alamin et al. (2021) used quantitative research design and applied a 5 point Likert scale and used SPSS for analyzing the data. They found usages benefits, shopping benefits, easy access and psychological factors influence positively to use Mobile financial services in Bangladesh.

Enck et al. (2009) financial and other security are very important for transactions. MFS security is clarified by the protection of user data from criminal use or fraud, any unauthorized party cannot be seen by private information (Sanayei et al. 2011). Paylou (2002) argued that doubt of apparent risk stems from the operator's inability to forecast the result of their using decision lack of proper knowledge. Koenig-Lewis et al. (2010) explained when the outcome of the result is naturally unwanted in this situation desirable risk is connected to the prospect of these services.

1.4 Research Gap

The above study was conducted on different perspectives on mobile financial service related to seniors. Some of the study were conducted about the factors influencing adoption of digital service to overall population. Few studies identified the inadequate technological issues based on the financial service. Only few try to identify the trust and barriers of technological issues faced by seniors but it's not studied elaborately. But it should be mentioned that based on knowledge and analysis of different papers, there was no significant study was found which was conducted based on the barrier of using Mobile financial serviced on indigenous plain land community. In the case of financial service, indigenous population especially the plain land are far from away. Government service and adequate research was not done in the past. But especial focus on the elderly was the main barriers in that issue. This study takes the attempt to find out the barriers faced by the plain land indigenous community especially the elder in the northern part of Bangladesh.

1.5 Rationale of the study

The analysis of barriers preventing senior people from plain land ethnic groups in Bangladesh from accessing mobile banking services is important for various reasons, necessitating a thorough investigation of the subject.

Bangladesh is rapidly digitizing, with mobile financial services emerging as an important instrument for fostering financial inclusion and socioeconomic growth. Despite the potential benefits, elderly people in plain land ethnic communities have specific difficulties that limit their access to these services. Understanding these constraints is critical for developing targeted interventions to bridge the digital gap and promote inclusive growth (Ahsan and Burnip, 2007; Hijazi & Naqvi, 2006). The elderly constitute a vulnerable demographic group that is frequently disregarded in talks about technological improvements and financial services. This study seeks to shed light on the intersectionality of factors such as age, ethnicity, and socioeconomic status, which may exacerbate digital exclusion and financial vulnerability (Battle & Lewis, 2002; Mersha et al., 2013).

Furthermore, through investigating the barriers to accessing mobile financial services faced by elderly people in plain land ethnic communities, this study adds to the larger conversation about digital inclusion and equitable development. Policymakers and stakeholders can develop evidence-based policies to encourage greater inclusivity and involvement in the digital economy by identifying socioeconomic, cultural, and institutional barriers to access (Imran et al., 2017; Tangaraju, 2013).

1.6 Objectives of the study

General Objective:

The broad objective of this study is to examine the barriers hindering the elderly population belonging to plain land ethnic groups in Bangladesh from accessing mobile financial services.

Specific Objectives:

1. To examine and describe the current usage of financial services by elderly individuals in plain land ethnic communities in Bangladesh;
2. To explore and analyze the most influential barriers or obstacles faced by the elderly in these ethnic groups when attempting to access mobile financial services;
3. To propose effective strategies to alleviate the identified barriers and enhance accessibility to mobile financial services for the elderly population within plain land ethnic groups in Bangladesh.

Research Questions:

1. What types of financial services are currently utilized by elderly individuals in plain land ethnic communities in Bangladesh?
2. What are the most significant barriers or obstacles faced by the elderly in plain land ethnic communities when trying to access mobile financial services?
3. Which barriers are mostly affecting the accessibility of mobile financial services for elderly individuals within plain land ethnic groups in Bangladesh?

1.7 Hypothesis of the study

Formulation of Hypothesis:

The hypotheses for this study are formulated based on the identified barriers to mobile financial service access among elderly individuals in plain land ethnic groups in Bangladesh. It is hypothesized that language barriers significantly impede access, limited digital literacy poses challenges in utilization, and a lack of trust in mobile financial platforms hinders accessibility. Additionally, the hypothesis posits that the prevalence of fraudulent attempts has a negative impact on trust and, consequently, on service access. Furthermore, it is hypothesized that harassment from agents, whether through aggressive selling or misinformation, acts as a substantial deterrent to the elderly population's engagement with mobile financial services. These hypotheses provide a structured framework for investigating and understanding the multifaceted challenges faced by elderly individuals in plain land ethnic communities, guiding the study towards effective mitigation strategies for enhancing their access to mobile financial services.

Hypotheses:

1. H0: There is no significant association between language barriers and the challenges faced by the elderly in plain land ethnic groups when accessing mobile financial services.

H1: Language barriers are significantly associated with the challenges faced by the elderly in plain land ethnic groups when accessing mobile financial services.
2. H0: Limited digital literacy does not contribute significantly to the difficulties experienced by the elderly in plain land ethnic communities when attempting to access mobile financial services.

H2: Limited digital literacy significantly contributes to the difficulties experienced by the elderly in plain land ethnic communities when attempting to access mobile financial services.

3. H0: Lack of trust is not a significant factor influencing the accessibility of mobile financial services for elderly individuals within plain land ethnic groups in Bangladesh.

H3: Lack of trust is a significant factor influencing the accessibility of mobile financial services for elderly individuals within plain land ethnic groups in Bangladesh.

4. H0: Fraudulent attempts do not significantly impact the challenges faced by the elderly in plain land ethnic communities when using mobile financial services.

H4: Fraudulent attempts significantly impact the challenges faced by the elderly in plain land ethnic communities when using mobile financial services.

5. H0: Harassment from agents is not a significant barrier affecting the elderly in plain land ethnic groups when accessing mobile financial services.

H5: Harassment from agents is a significant barrier affecting the elderly in plain land ethnic groups when accessing mobile financial services.

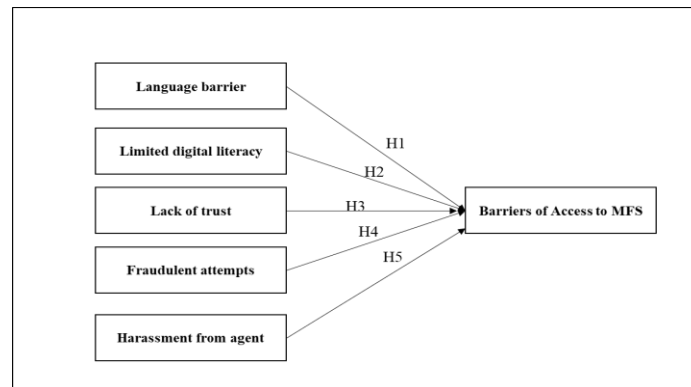


Figure-1 Hypothesis testing diagram

1.8 Variables of the study

Table 1: Variables of the study

Serial No.	Variables Name	Variables Description	Unit of Measurement
1.	Age	Age of the respondents	Year
2.	Gender	Sex composition	1 Male 2 female
3.	Education	Level of education	Level of education
4.	Income	Monthly Family income	BD Tk
5.	Resident Status	Place of residence	1 Urban 2 Semi urban 3 Rural
6.	Ownership	Ownership of mobile	1 Yes 2 No
7.	Trust	Trust on Technology	Likert Scale
8.	Literacy	Technology literacy	Likert Scale
9.	Barriers	Barriers of using MFS	1 Language barrier 2 Digital literacy 3 Trust 4 Fraudulent Attempts 5 Harassment from Agents
10.	Language barrier	Code	Description
		LB1	It's hard to understand the language used in instructions for mobile financial services.
		LB2	The language used in MFS is unfamiliar to me.
		LB3	The language used in MFS doesn't include people of my age group and ethnic background.
		LB4	It's challenging for me to communicate with customer support or service agents due to language differences.
		LB5	Understanding the terms and conditions of mobile financial services is hard due to language barriers.
		LB6	The language used in MFS is inclusive and not easy for me to understand
		LB7	Language barriers make it difficult for me to fully benefit from MFS
11.	Digital Literacy	DL1	I feel hesitant using mobile phones or other digital devices.
		DL2	I find it difficult to use mobile applications related to financial services.
		DL3	I am hesitant or uneasy about performing financial transactions using mobile.

		DL4	Understanding the features and functionalities of MFS is hard/overwhelming for me.	
		DL5	I need help from others to use MFS.	
		DL6	Learning new technologies is difficult and challenging task. for me.	
		DL7	I feel overload and stressed by the technological aspects of MFS.	
12.	Trust	T1	I feel insecure using MFS.	1. Strongly Agree 2. Agree 3. Neutral 4. Disagree 5. Strongly Disagree
		T2	My personal information is not protected well.	
		T3	MFS do not prioritize the security of financial transactions.	
		T4	I feel hesitant to share sensitive financial information through mobile applications	
		T5	Past negative experiences with MFS have contributed to my lack of trust in these platforms.	
		T6	I have no trust on MFS agent.	
		T7	Addressing trust issues is important for enhancing MFS service.	
13.	Fraudulent Attempts	FA	I worry about fraud while using MFS.	1. Strongly Agree 2. Agree 3. Neutral 4. Disagree 5. Strongly Disagree
		FA	MFS are vulnerable to fraudulent attempts or scams.	
		FA	I have experienced or witnessed fraud in MFS.	
		FA	Concerns about fraud influence my decision to use MFS.	
		FA	The frequency of fraud impacts the trustworthiness of MFS.	
		FA	Mostly frauds are happening by MFS agents or customer care.	
		FA	Awareness and education could help reduce fraud risks in MFS.	
14	Harassment from Agents	HA1	I have experienced harassment using MFS.	1. Strongly Agree 2. Agree 3. Neutral 4. Disagree 5 Strongly Disagree
		HA2	The behavior of agents is not familiar.	
		HA3	I feel uncomfortable interacting with agents.	
		HA4	Agent harassment is a significant barrier to the adoption of MFS.	
		HA5	I heard of harassment story from others.	
		HA6	I don't like to go to agents for withdrawing money.	
		HA7	I face harassments for my indigenous identity.	

1.9 Theoretical Framework

A theoretical framework consists of concepts and current theory applied to a specific issue, as well as definitions and references to relevant academic literature. A theoretical framework is a collection of related ideas, similar to a theory but sometimes not as thoroughly developed. Basically, any research is guided by a theoretical framework that specifies the variables we will measure. The theoretical framework has to show that the author understands the ideas and concepts that are pertinent to the research paper's issue and that link to the larger body of knowledge under consideration.

Technological Acceptance Model (TAM):

The Technology Acceptance Model (TAM), developed by Davis in the late 1980s and later refined by other scholars, provides a theoretical framework for understanding how people acquire and use new technology. According to TAM, perceived usefulness (PU) and perceived ease of use (PEOU) are important predictors of an individual's intention to utilize and actual use of technology (Davis, 1989).

Application to Research:

Perceived usefulness (PU):

In the case of senior people from plain land ethnic groups in Bangladesh, perceived usefulness relates to how much they believe adopting mobile banking services will improve their financial management, convenience, and overall well-being.

The study will look into how senior people perceive mobile financial services as making it easier to do financial transactions such as money transfers, bill payments, and savings. The availability of banking services in remote places, the convenience of executing transactions, and the perceived benefits of using mobile financial services for daily financial operations all have an impact on perceived usefulness.

Perceived ease of use (PEOU):

Perceived ease of use refers to how people believe utilizing mobile financial services would be simple and user-friendly. User interface design, language accessibility, and simplicity of navigation on mobile financial platforms can all have a big impact on how easy it is for the elderly to utilize them. The study will look into how elderly people perceive the ease and intuitiveness of mobile financial applications, as well as how comfortable they are with utilizing such technologies.

Behavioral Intention to Use:

Individuals' desire and preparedness to adopt and use technology is determined by their judgments of its usefulness and ease of use. The study can look into senior people's behavioral intentions to utilize mobile financial services, based on their perceived utility and simplicity of use. The study's analysis of the relationship between perceived utility, perceived simplicity of use, and behavioral intention to use can shed light on the elements that drive or impede senior people's adoption of mobile financial services.

Actual usage behavior:

Actual usage behavior relates to people's real-world usage patterns and behaviors using technology. The study can evaluate the real usage behavior of senior people in plain land ethnic

groups in terms of mobile financial services, such as frequency of use, transaction kinds, and satisfaction levels. By comparing perceived utility, perceived ease of use, and behavioral intention to use to actual usage behavior, the study can discover any gaps or differences between intention and behavior, as well as potential adoption hurdles.

The Technology Acceptance Model (TAM) is a strong theoretical framework for investigating the acceptance and use of mobile financial services by senior people in plain land ethnic groups in Bangladesh. The study's investigation of perceived utility, perceived simplicity of use, behavioral intention to use, and actual usage behavior can provide vital insights into the barriers and facilitators of access to mobile financial services for this demographic.

1.10 Conceptual Framework

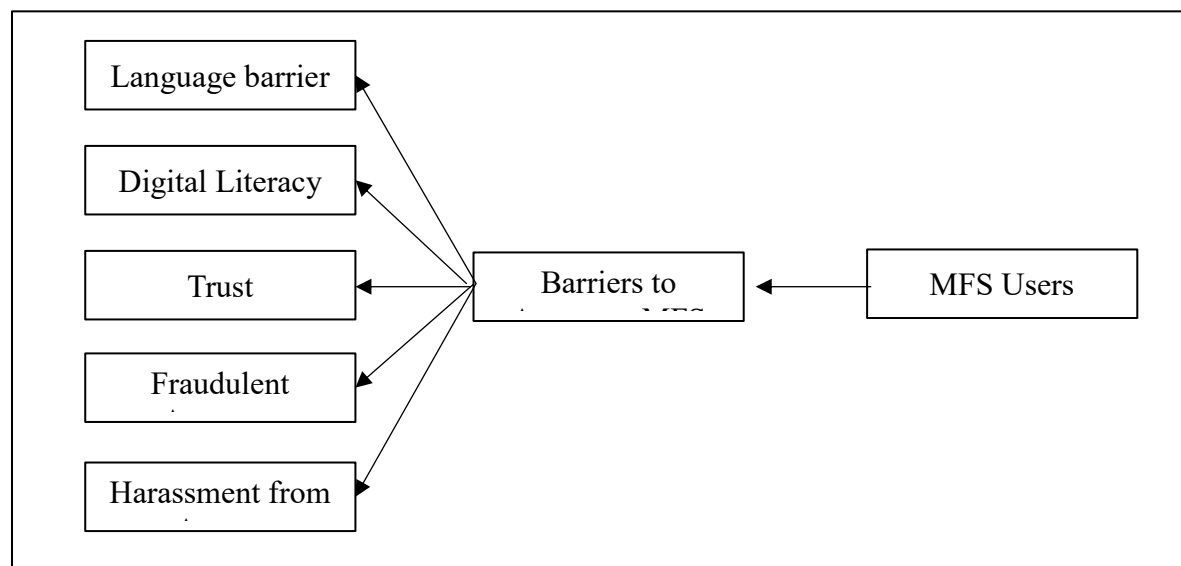


Figure 2: Conceptual Framework

1.11 Operational Definition of the Concepts

1.11.1 Digital Financial service

Digital Financial Service is a revolution in the financial industry that leverages digital technology to offer financial services to individuals and businesses. A broader definition of DFS includes various services such as mobile banking, digital payments, online lending, and insurance, provided through digital channels like mobile phones, the internet, and other electronic devices (Abbasi & Weigand, 2017). This market demand encourages financial institutions, software houses, and other service providers to offer advanced digital banking services together with the advent of new diversified products and applications to cater to the needs of both existing clients and the unbanked population. According to the Measuring the Information Society Report, the widespread availability of mobile cellular signal and increasing global internet penetration are driving the growth of DFS (Abbasi & Weigand, 2017). DFS, on the other hand, has the potential to encourage financial inclusion by providing access to financial services to the 3 billion unbanked population worldwide. DFS is a revolution in the financial industry that utilizes digital technology to provide services such as mobile banking, digital payments, online lending, and insurance through channels such as mobile phones, the internet, and other electronic devices. DFS is a transformative innovation that leverages mobile technology to expand access to financial services, particularly in areas with limited traditional banking infrastructure. DFS has the potential to promote financial inclusion and empower individuals, especially those in underserved communities, by providing them with convenient and secure ways to save, send and receive money, access credit and insurance, and engage in other financial activities (Akhter & Khalily, 2020). DFS is playing a significant role in

driving financial inclusion and transforming the banking sector in Bangladesh by providing individuals with convenient and accessible ways to conduct various financial transactions.

1.11.2 Mobile Financial Service

Mobile Financial Services refer to the use of mobile devices, such as smartphones, to access and perform various financial transactions and services. Mobile Financial Services (MFS) is an approach that allows individuals to conduct banking and financial activities using their mobile devices. Mobile Financial Services have gained significant popularity and adoption due to their convenience, accessibility, and ability to reach underserved populations especially in Bangladesh in the very recent years. Further, the analysis of the literature suggests that the research on the actual continuous use of MFSs is particularly relevant and essential for the financial services sector, including banking companies, mainly for two major reasons (Shaikh et al., 2022). Mobile financial services are attracting increasing attention due to their potential to drive financial inclusion and transform the way people access and manage their money. Therefore, understanding the factors that influence the continuous use of MFSs is crucial for financial service providers as it enables them to strengthen customer relationships and adapt their services to meet evolving customer needs. The banking sector in Bangladesh has grown rapidly in recent years, thanks to the widespread adoption and use of Mobile Financial Services (Akhter & Khalily, 2020). The growing popularity and adoption of Mobile Financial Services in Bangladesh have revolutionized the banking sector by providing individuals with convenient and accessible ways to conduct various

1.11.3 Plain land ethnic community

The term "plain land ethnic community" typically refers to an ethnic group or community that resides in low-lying or flat terrain, as opposed to mountainous or hilly locations. These

communities usually have unique cultural traditions, customs, languages, and lifestyles that are influenced by their geographic location.

Plain land ethnic communities can be found all over the world, including North America's vast plains, Africa's grasslands, Asia's river deltas, and Europe's fertile plains. Examples of such communities are the Amish in the United States, the Maasai in East Africa, the Bengali in Bangladesh, and the Punjabi in India.

These communities' primary means of survival may have traditionally been agriculture, pastoralism, fishing, or trading, and their interactions with the natural resources of the plains are often intrinsic to their cultural identity. In addition, they could have unique family structures, social structures, and religious beliefs that have developed throughout time in response to their environment and interactions with other communities. All things considered, plain land ethnic communities contribute to the intricate fabric of human diversity, and their recognition and preservation are essential to maintaining cultural legacies and fostering mutual respect and understanding among a wide range of social groupings.

1.12 Limitation of the Study

The limitations of this investigation were as follows:

- i. Financial support was required to undertake a comprehensive study, and as a student, the researcher will not have the financial resources to do the study on a wide scale.
- ii. For an all-inclusive investigation, time was limited.
- iv. The informants did not cooperate fully during the data gathering process.

CHAPTER 2

METHODOLOGY

Research Methodology addresses with the description of the methodologies used in carrying out research studies. The methodology is a systematic and theoretical investigation of the methods used in a particular field of study. It is the theoretical examination of the body of methods and principles linked with a field of knowledge. It is part of the epistemological concern with the scientific standing of sociology (Jary & Jary, 2000). It specifies a plan for collecting and analyzing data, including how, when, and where (Parahoo, 1997). It facilitates the methodical organization of experience, observation, inspection, and analysis of data, as well as their logical expression, in order to reach the final purpose and objective of the research.

2.1 Nature of the study

This study is explanatory in nature that explains examine the barriers hindering the elderly population belonging to plain land ethnic groups in Bangladesh from accessing mobile financial services. Explanatory research attempts to clarify why and how there is a relationship between two or more aspects of a situation or phenomenon (Dawson, 2002). Its primary goal is to understand or to explain relationships (Kumar, 2019). It attempted to explain the barriers faced by elderly indigenous people by testing hypothesis based on digital literacy, gender, education and demographic information.

2.2 Methods of the study

Research methods refer to all those methods or techniques that are applied by the researchers in performing research operations (C. Kothari, 1990). The study was conducted using a survey method. The survey approach was chosen because it provided more authentic data than other methods. The survey was done utilizing a schedule questionnaire.

2.3 Study area

The study was carried out in the Rangpur division, the northern part of Bangladesh. United Nations High Commissioner for Refugees (2018) describes the people of the north central and North West as a plains-dwelling population. Numerous indigenous people of the plains live in Rangpur, in the northern part of Bangladesh. This division includes eight districts in total, however the majority of those who live reside in Thakurgaon, Rangpur, and Dinajpur districts. After considering all of

the research goals, Dinajpur, Rangpur and Thakurgaon District was considered to be a suitable study area. The following criteria are also considered in the case of study area selection:

1. Dinajpur, Rangpur and Thakurgaon are chosen for data collection as it offers a representative sample of the plain land ethnic groups, ensuring the findings are applicable to the broader population under study.
2. The region's cultural specificity provides an opportunity to capture unique nuances influencing barriers to mobile financial service access among the elderly.
3. Dinajpur, Rangpur and Thakurgaon geographical accessibility streamline the data collection process, making it convenient for both researchers and participants.

This choice of research area could help us figure out what is going on with other ethnic groups as a whole.



Figure 3: Map of Bangladesh

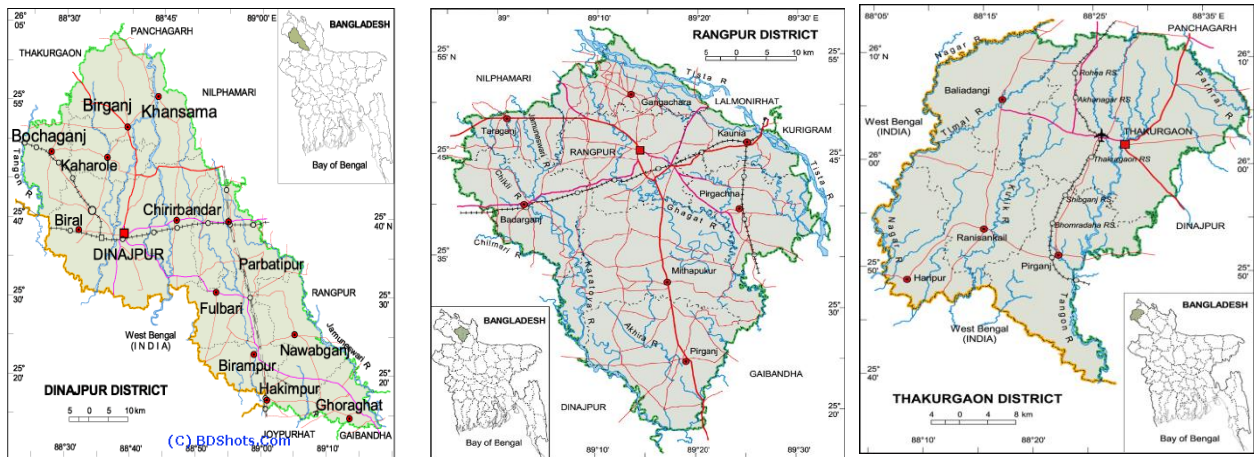


Figure 4: Map of Dinajpur, Rangpur and Thakurgaon district (Source: Rahman, 2017)

2.4 Unit of analysis

The unit of analysis is the major entity that is analyzed in the study in order to create summary descriptions of them and explain differences among them (Kane & Trochim, 2009). Unit of analysis is an important factor in conducting any research. To achieve the objectives, the elderly people over the age of 60 who get old age allowances or other Social Safety Net through mobile financial services will be the unit of analysis.

2.5 Population of the study

Population is the aggregate of individuals or items from which a sample is drawn (Jary and Jary, 2000). Out of the total population of Bangladesh, only 2% are native people, and of those, only 0.09% live in the Northwestern part of the country (ESDO 2021). A simple part of them live in the Rangpur Division, especially in the Dinajpur, Rangpur and Thakurgaon District. There are 8086 Santal people living in Thakurgaon, which is the most of any group in this district. The Orao, who make up 1569 people, are the second largest group of indigenous people who live here (ESDO-Premdip Baseline Survey, 2019). As the study's goal is to give older people a stronger voice, they will be the population who take part in it.

2.6 Sampling Procedure and Sample Size Determination

Sample is a representative portion selected from the population to represent the population as a whole ((Dawson, 2002). Purposive sampling method was used to select a representative sample from a wider population size where every individual had an equal probability of being selected. It should be mentioned that there is no available data based on age of the plain land ethnic people who are receiving allowance using MFS. So, purposively 212 respondents were selected for collecting data.

2.7 Sources of Data

Data are the results of the process of recoding responds, which may include observations and evidence about certain aspects of the problems or issues under investigation (Galtung, 1967). Data for the study came from two different sources.

2.7.1 Primary data

The primary source is the field where the incident happens. The primary data came from a field survey. During this approach, data was gathered using a routine questionnaire as well as field observations in the neighborhood.

2.7.2 Secondary data

Secondary data is information provided by books, journals, newspapers, websites, institutions, organizations, NGOs, and other government entities. Data was also gathered from various sources to help comprehend and analyze the problem.

2.8 Techniques of Data Collection:

A schedule questionnaire in English was created and finalized by a pre-test, which included both open and closed-ended questions. Later, the researcher collected data from the field using a scheduled questionnaire. Data gathering was based on study objectives.

2.9 Development of Study Instrument

A schedule questionnaire was largely created and submitted to the supervisor for rectification. The corrected questionnaire was largely utilized to obtain data through pre-testing. During the pre-test, some issues were detected that required editing. According to the errors identified during the pre-test, the questionnaire was fixed with the supervisor's suggestions, and the corrected questionnaire was then utilized to gather data from the field.

The questionnaire contains three sections; that include:

Section (1) was designed to collect the socio-economic information of the elderly like age, sex, education qualification, place of residence, household income and so on.

Section (2) encompassed knowledge and attitudes regarding mobile phone, digital literacy, ownership of mobile phone, trust issues and so on.

Section (3) emphasized the barriers they face using mobile Financial service and their perception. In this section, Likert scale was used to know their perception on digital literacy, language barrier, trust, fraudulent attempts and harassment from agents and so on.

2.9.1 Pre-test

A pre-test was conducted in December 2023 with the initial schedule questionnaire. After that the final schedule questionnaire and other thing was prepared for final data collection.

Instruments

1. A schedule questionnaire for primary data collection.
2. Note book, pencil, eraser for observation.

2.9.2 Field Work

Fieldwork is essentially data collection done through a scheduled questionnaire. The study was conducted mostly using primary data acquired by the researcher between December, 2023 and March, 2024.

Table 2: Field work

Field activity	Duration
Pre-test	December, 2023
Final questionnaire and data collection	January, 2024

2.10 Processing of Data

Data processing entails editing, categorizing, classifying, and tabulating collected data so that it may be analyzed. The term "analysis" refers to the computation of specific measurements as well as the search for patterns of association between data groupings (Kothari, 2004). In this study, primary data was collected and processed in three stages: editing, coding, and tabulation.

Tabulated data was processed by computerizing and using computer applications such as SPSS-20, MS Excel, and MS Word, among others.

2.11 Analysis and Interpretation of Data

After gathering and evaluating data, the researcher must draw inferences and write a report. After data processing, statistical techniques such as frequency and percentile distributions, measures of central tendency, Pearson's Chi-square test, bivariate correlation, and Gamma were used to analyze and interpret the data. The task of deriving inferences from obtained data following an analytical and experimental investigation is referred to as interpretation (C. R. Kothari, 2004). The processed data was examined and interpreted in accordance with the study's objectives. The entire analysis and interpretation contributed to the creation of a written research report outlining the key findings.

A draft report has been prepared and submitted to the appropriate authorities for feedback and suggestions. The draft report was amended and finalized in accordance with the comments, before being submitted to the authority.

CHAPTER 3

FINDINGS AND DISCUSSION

3. Analysis and interpretation of data

Section 1: Socio-economic information of the respondents

3.1.1 Age composition

Table 3: Age of the respondents

Age of the respondents	Frequency	Percent	Mean 1.33 & Std. 0.580
60-69 years	154	72.6	
70-79 years	46	21.7	
80-89 years	12	5.7	
Total	212	100.0	

Field Survey: 2024

Table 1 shows that most (72.6 percent) of the respondents belonged to the age (60-69 years). And other 21.7 percent of the respondents were from 70-79 age. The mean and std. deviation of their age was 1.33 & 0.580. So most of the respondents belonged to the age (60-69).

3.1.2 Sex structure

Table 4: Sex of the respondents

Sex of the respondents	Frequency	Percent
Female	116	54.7
Male	96	45.3
Total	212	100.0

Field Survey: 2024

From the table it is observed that 54.7 students were female and 45.3 percent students were male.

3.1.3 Marital Status

Table 5: Material Status of the respondents

Marital Status	Frequency	Percent
Married	126	59.4
Widow	82	38.7
Divorce	4	1.9
Total	212	100.0

Field Survey: 2024

The data, presented in the table 7 shows that majority (59.4 percent) of the respondents were married and only 38.7 percent students were married. At the same time, 1.9 percent were divorce. So almost all the students were married.

3.1.4 Education Background of the Respondents

Table 6: Education Background of the Respondents

Education level	Frequency	Percent	Mean 1.35 & Std. 0.716
No formal education	156	73.6	
Primary	48	22.6	
SSC	6	2.8	
HSC	2	.9	
Total	212	100.0	

Field Survey: 2024

The data shows that majority 73.6 percent of the respondents have no formal education. Only 22.6 percent completed primary level. On the other hand, 2.8 percent completed SSC and .9 percent received HSC degree.

3.1.5 Occupation

Table 7: Occupation of the Respondents

Occupation	Frequency	Percent	Mean 1.93 & Std. 1.234
Unemployed	128	60.4	
Retired	2	.9	
Employed Part-time	58	27.4	
Employed Full-time	16	7.5	
Self employed	8	3.8	
Total	212	100.0	

Field Survey: 2024

The table shows a breakdown of jobs in a surveyed population, including frequency and percentages for key employment groups. Notably, unemployment is the most prevalent category, with 60.4% of respondents reporting it. The majority of employed people work part-time (27.4%), followed by full-time (7.5%) and self-employment (3.8%). Additionally, only 0.9% of responders are retired. With a mean occupation rate of 1.93 and a standard deviation of 1.234, the data show that job status varies moderately among the surveyed population.

3.1.6 Ethnicity/ Community

Table 8: Ethnicity/Community of the Respondents

Ethnicity/Community	Frequency	Percent	Mean 1.19 & Std. 0.499
Santal	180	84.9	
Rajbongshi	26	12.3	
Orao	4	1.9	
Mong	2	.9	
Total	212	100.0	

Field Survey: 2024

The table presents a breakdown of respondents' ages across ethnic groups, with percentages indicating the distribution within each category. The Santal ethnic group is the most prevalent, accounting for 84.9% of the entire sample, demonstrating a strong presence in the examined population. The Rajbongshi, Orao, and Mong ethnic groups have lower percentages, at 12.3%, 1.9%, and 0.9%, respectively. These numbers indicate differing levels of representation among different ethnicities in the sample. The mean age of 1.19, along with a standard deviation of 0.499, demonstrates the rather homogeneous age distribution of the questioned population.

3.1.7 Number of Family Members

Table 9: Number of Family Members

No. of Family members	Frequency	Percent	Mean 2.27 & Std. 0.939
1-2	44	20.8	
3-4	88	41.5	
5-6	64	30.2	
7-8	10	4.7	
More than 8	6	2.8	
Total	212	100.0	

Field Survey: 2024

The above table displays the distribution of family sizes in a surveyed population, including the number of family members per household and the corresponding frequencies and percentages. Notably, houses with 3-4 family members have the biggest share (41.5%), followed by those with 5-6 members (30.2%) and 1-2 members (20.8%). The remaining categories, which include

households with 7-8 people (4.7%) and more than 8 members (2.8%), account for smaller percentages of the total sample. With a mean of 2.27 family members and a standard deviation of 0.939, the results indicate a modest degree of variance in family size.

3.1.8 Number of Earning Members

Table 10: Number of Earning Members

No. of Earning members	Frequency	Percent	Mean 2.07 & Std. 1.005
1	63	29.7	
2	102	48.1	
3	24	11.3	
4	16	7.5	
More than 4	7	3.3	
Total	212	100.0	

Field Survey: 2024

The data presented in the table shows the distribution of earning people within households, along with frequencies and percentages. It highlights differences in the mix of earning individuals among questioned families. Households with one earning member make up the largest sector, accounting for 29.7%, followed by those with two earning members (48.1%), three earning members (11.3%), four earning members (7.5%), and households with more than four earning members (3.3%). The results, which included 212 surveyed houses, highlight the variability of household earnings.

3.1.9 Monthly Household Income

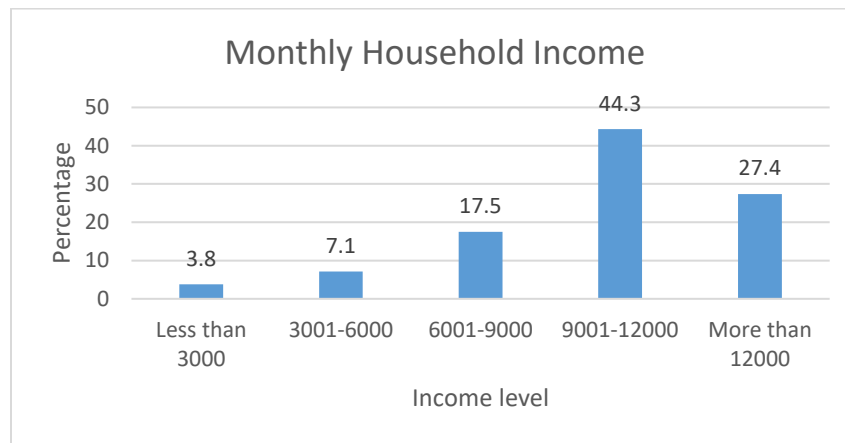


Figure 5: Monthly Household Income (Field Survey: 2024)

The data in the figure reveals a full breakdown of monthly family incomes in a surveyed population, including the distribution across income levels, as well as the accompanying frequencies and percentages. Notably, households with monthly wages between 9001 and 12000 make up the largest sector, accounting for 44.3% of the entire sample, followed by those earning more than 12000 (27.4%). Additionally, households with incomes below 3000, between 3001 and 6000, and 6001 to 9000 make up 3.8%, 7.1%, and 17.5% of the overall sample, respectively. This split illustrates the questioned population's economic diversity, particularly the prevalence of moderate to higher income levels.

3.1.10 Area of Residence

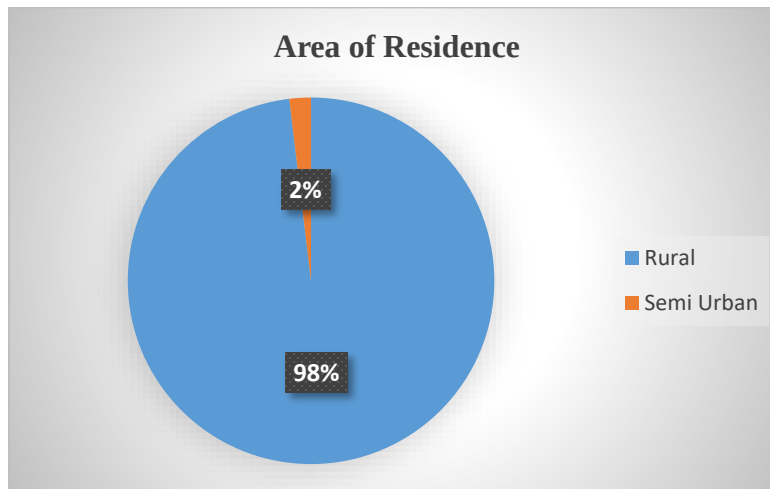


Figure 6: Area of residence (Field Survey: 2024)

The data presented in the figure that majority (98 percent) of the respondents are living in rural area. Only 2 percent are living in semi urban but no visible data was found who are living in urban. It shows that mostly indigenous people are living in rural area.

3.1.11 Language

Table 11: Language of the respondents

Language	Frequency	Percent
Bangla	126	59.4
Santal	86	40.6
Others	0	0
Total	212	100.0

Field Survey: 2024

The table shows frequencies and percentages for several language categories, offering insights into the linguistic preferences of an interviewed community. The majority language is Bangla, as indicated by 59.4% of respondents who said they were proficient in or preferred it. Remarkably, Santal and other languages together account for 40.6% of responders; 86 people indicated they spoke Santal, while none of them chose the "Others" option. Bangla is the most often spoken

language in this distribution, which highlights the linguistic diversity within the population questioned.

Section-2: Access and Ownership of MFS & Mobile Section

3.2.1 Ownership of mobile Phone

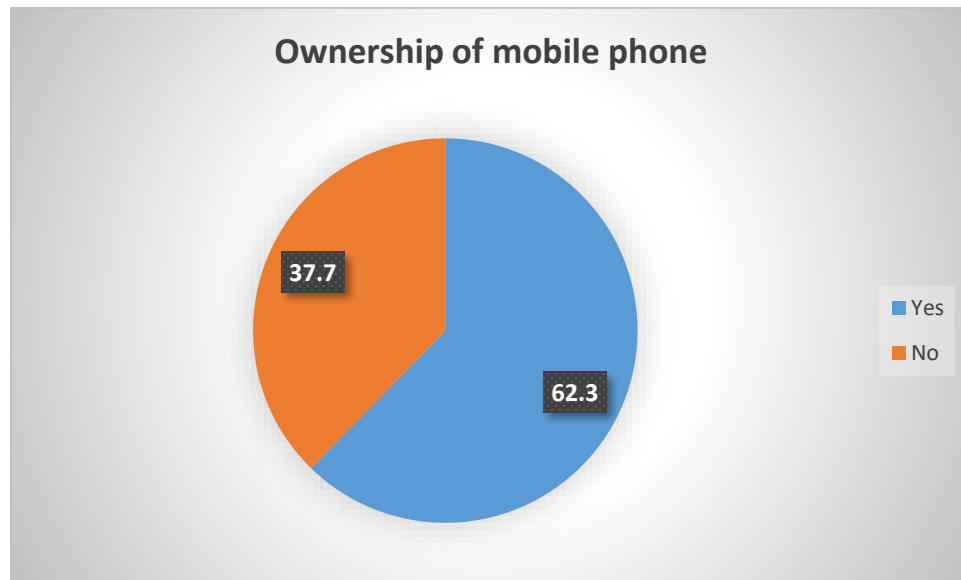


Figure 7: Ownership of mobile phone (Field Survey: 2024)

The data presented shows the ownership of mobile phones in a surveyed population, including frequencies and percentages across two ownership groups. Notably, the majority of respondents (132 persons, or 62.3% of the overall sample) reported owning a cell phone. In contrast, 80 respondents (37.7%) answered that they did not own a cell phone. This distribution emphasizes the extensive ownership of mobile phones among the questioned population, demonstrating the pervasiveness of mobile technology in modern life.

3.2.2 Uses of Mobile Phone

Table 12: Uses of Mobile Phone

Uses of Mobile phone	Frequency	Percent
Regularly	36	17.0
Occasionally	40	18.9
Rarely	50	23.6
Don't use Mobile phone	86	40.6
Total	212	100.0

Field Survey: 2024

The following table sheds light on the prevalence of mobile phone usage in the population under study by showing frequencies and percentages across a range of usage categories. Notably, the majority of respondents (86, or 40.6% of the sample as a whole) reported not using mobile phones at all, whilst 50 respondents (23.6%) indicated rare cell phone usage. In addition, thirty-six respondents (17.0%) stated they used their phones everyday, whereas forty respondents (18.9%) claimed they used them infrequently. This distribution demonstrates the variety of mobile phone usage patterns among the population polled; a sizable portion of participants utilize no mobile technology at all.

3.2.3 Technological literacy of the respondents

Table 13: Technological literacy of the respondents

Technological Literacy	Frequency	Percent
Very uncomfortable	104	49.1
Uncomfortable	108	50.9
Neutral	0	0
Comfortable	0	0
Very comfortable	0	0
Total	212	100.0

Field Survey: 2024

The above table presents frequencies and percentages across various literacy categories to show how technical literacy levels are distributed throughout a surveyed community. Surprisingly, out of the entire sample, 104 respondents (or 49.1%) said they felt extremely uncomfortable using technology, whereas none of the respondents said they were uncomfortable or very uncomfortable.

As opposed to this, the majority of respondents (108 people, or 50.9% of the sample as a whole) stated that they felt neither comfortable nor uncomfortable with technology. This distribution reveals a significant gap in respondents' comfort levels with technology, with a sizeable percentage reporting extreme discomfort.

3.2.4 Service taken using Mobile

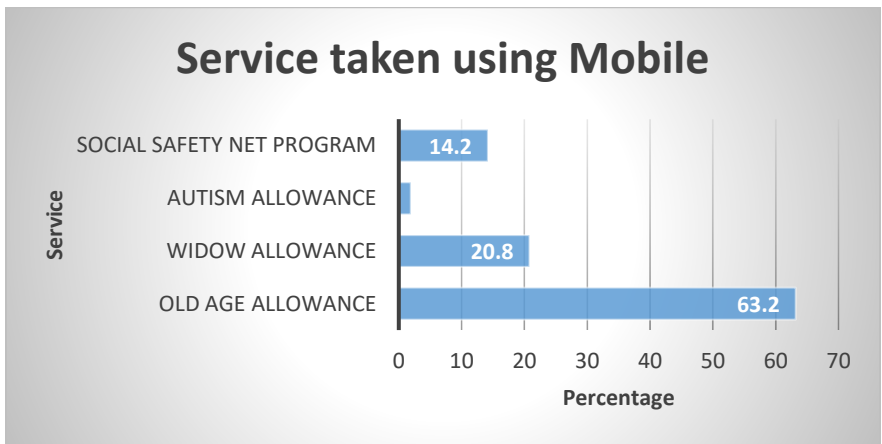


Figure 8: Service taken using Mobile Field Survey: 2024

The accompanying table, which shows frequencies and percentages for several service categories, illustrates how different social safety net services are used by respondents. Interestingly, widow allowance claimants make up the largest group; fifty respondents, or 23.6% of the sample as a whole, receive this assistance. Furthermore, 36 respondents (17.0%) said they were receiving old age allowance, while 86 respondents (40.6%) said they were receiving additional social safety net help. With just 40 responders, or 18.9% of the sample as a whole, autism allowance users were the least represented. This distribution highlights how the surveyed population uses a range of social safety net services, which reflects the different needs and support networks that exist in the community.

3.2.4 Ownership of MFS accounts

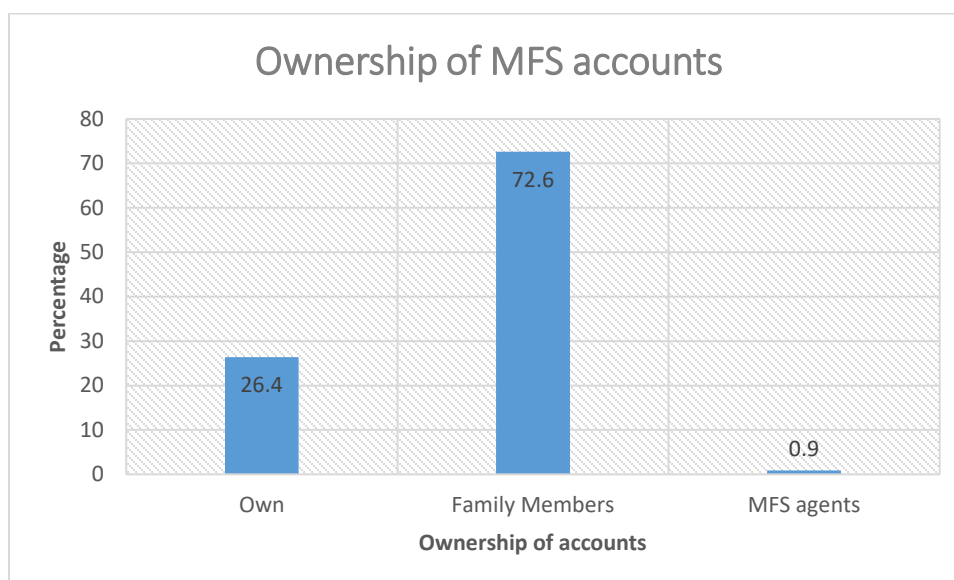


Figure 9: Ownership of MFS Accounts Field Survey: 2024

The data shown here depicts the distribution of mobile phone ownership methods among a surveyed population, with frequencies and percentages broken down per ownership category. Notably, the majority of respondents (154, or 72.6% of the total sample) reported getting their phones from family members. Furthermore, 56 respondents (26.4%) claimed that they owned their mobile phones directly, whereas only two people (0.9% of the total sample) reported accessing mobile phones via Mobile Financial Services (MFS) agents.

3.2.5 Access of open mobile account

Table 14: Access of open mobile account

Access of mobile account	Frequency	Percent
Own	10	4.7
Family members	120	61.3
MFS Agents	82	38.7
Total	212	100.0

Field Survey: 2024

The table above summarizes mobile account access in a studied population, including frequencies and percentages across several access categories. Notably, the majority of respondents (120, or 61.3% of the overall sample) said they accessed their cell accounts through family members. Furthermore, 82 respondents (38.7%) reported accessing their mobile accounts via Mobile Financial Services (MFS) agents. A smaller proportion of respondents (10 people, or 4.7% of the overall sample) reported owning their mobile accounts directly. This distribution highlights the various ways in which people access their mobile accounts, with family members and MFS agents being the most common.

3.2.6 Challenges faced by using MFS

Table 15: Challenges faced by using MFS

Challenges faced	Frequency	Percent
Language Barrier	48	22.6
Digital Literacy	144	67.9
Lack of Trust	8	3.8
Fraudulent Attempts	10	4.7
Harassment from Agents	2	.9
Total	212	100.0

Field Survey: 2024

The table below provides insights into the issues faced by a surveyed population, including frequencies and percentages across various challenge categories. Notably, the most common problem cited was a language barrier, with 48 respondents (22.6% of the total sample) citing difficulties owing to linguistic disparities. Furthermore, 144 people (67.9%) reported difficulties with digital literacy. Other issues mentioned include a lack of trust (4.7%), fraudulent attempts (0.9%), and harassment from agents (3.8%). This distribution emphasizes the diverse nature of the obstacles faced by the surveyed population, which range from communication barriers to concerns of digital literacy and trust.

3.2.7 Trust on Technology

Table 16: Trust on Technology

Trust on Technology	Frequency	Percent
Strongly Untruthful	106	50.0
Untruthful	72	34.0
Neutral	34	16.0
Trustful	0	0
Strongly Trustful	0	0
Total	212	100.0

Field Survey: 2024

The table shows frequencies and percentages for various trust categories and illustrates how respondents' degrees of trust in technology are distributed among the sample. It is noteworthy that a substantial proportion of participants (106 people, or 50.0% of the sample as a whole) expressed a strong sense of distrust towards technology. Furthermore, a total of 72 respondents (34.0%) reported feeling disloyal, but no respondents had any impartial, trustworthy, or extremely trustworthy feelings regarding technology. This distribution highlights the general lack of confidence that respondents had in technology.

3.3 Correlation Analysis

3.3.1 Correlation with Language Barrier and Challenges faced by using MFS

Table-17 :Correlations

		LB1	LB2	LB3	LB4	LB5	LB6	LB7	Challenges faced by using MFS
LB1	Pearson Correlation	1	.083	.294**	.310**	.224**	.485**	.387**	-.320**
	Sig. (2-tailed)		.231	.000	.000	.001	.000	.000	.000
	N	212	212	212	212	212	212	212	212
LB2	Pearson Correlation	.083	1	.347**	.123	.168*	.328**	.303**	-.049
	Sig. (2-tailed)	.231		.000	.073	.015	.000	.000	.474
	N	212	212	212	212	212	212	212	212
LB3	Pearson Correlation	.294**	.347**	1	.126	.242**	.426**	.375**	-.037
	Sig. (2-tailed)	.000	.000		.067	.000	.000	.000	.588
	N	212	212	212	212	212	212	212	212
LB4	Pearson Correlation	.310**	.123	.126	1	.192**	.356**	.170*	-.124
	Sig. (2-tailed)	.000	.073	.067		.005	.000	.013	.073
	N	212	212	212	212	212	212	212	212
LB5	Pearson Correlation	.224**	.168*	.242**	.192**	1	.250**	.401**	.033
	Sig. (2-tailed)	.001	.015	.000	.005		.000	.000	.634
	N	212	212	212	212	212	212	212	212
LB6	Pearson Correlation	.485**	.328**	.426**	.356**	.250**	1	.412**	-.159*
	Sig. (2-tailed)	.000	.000	.000	.000	.000		.000	.021
	N	212	212	212	212	212	212	212	212
LB7	Pearson Correlation	.387**	.303**	.375**	.170*	.401**	.412**	1	-.118
	Sig. (2-tailed)	.000	.000	.000	.013	.000	.000		.088
	N	212	212	212	212	212	212	212	212
Challenge	Pearson Correlation	-.320**	-.049	-.037	-.124	.033	-.159*	-.118	1
	Sig. (2-tailed)	.000	.474	.588	.073	.634	.021	.088	

s	212	212	212	212	212	212	212	212
faced								
by N								
using								
MFS								

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

This table presents a correlation matrix that demonstrates the correlations between several variables. The variables have been classified as LB1 through LB7, which represent seven distinct latent variables. The Pearson correlation coefficients show relationships between different variables (LB1, LB2, LB3, LB4, LB5, LB6, and LB7) and the barriers that people confront when using MFS.

The coefficients range between -0.320 and 0.485.

LB1: Pearson correlation coefficients range from -0.320 to 0.485.

LB2: Pearson correlation coefficients range from -0.049 to 0.347.

LB3 Pearson Correlation coefficients range from -0.037 to 0.426.

LB4 Pearson Correlation coefficients range from -0.124 to 0.310.

LB5: Pearson correlation coefficients range from 0.033 to 0.401.

LB6: Pearson correlation coefficients range from -0.159 to 0.485.

LB7 Pearson Correlation coefficients range from -0.118 to 0.412.

Significant Levels:

The correlations' statistical significance is determined by the significance levels (Sig. 2-tailed).

Correlations with p-values < 0.05 or ≤ 0.01 are statistically significant.

The row and column reflect "Challenges faced by using MFS," which appears to be a variable relating to difficulties or barriers encountered while using MFS.

Each cell in the table represents the Pearson correlation coefficient of two variables. The Pearson correlation coefficient evaluates the strength and direction of a linear relationship between two variables. The scale goes from -1 to 1, with 1 indicating a perfect positive linear relationship, -1 indicating a perfect negative linear relationship, and 0 indicating no linear relationship. The relevance of each correlation is also discussed. This determines whether the observed link is statistically significant or not. ** indicates $p < 0.01$; * indicates $p < 0.05$.

Key observations from the table:

- LB1 has significant positive correlations with LB3, LB4, LB5, LB6, and LB7, as well as a significant negative correlation with "Challenges faced by using MFS."
- LB2 displays significant positive associations with LB3, LB6, and LB7 but a significant negative correlation with LB4.
- LB3 exhibits strong positive relationships with LB1, LB2, LB5, LB6, and LB7.
- LB4 shows a substantial positive association with LB6 and a significant negative correlation with "Challenges faced by using MFS."
- LB5 shows substantial positive connections with LB1, LB3, LB6, and LB7.
- LB6 has substantial positive correlations with LB1, LB2, LB3, LB5, and LB7, as well as a significant negative correlation with "Challenges faced by using MFS."
- LB7 has a strong positive association with LB1, LB2, LB3, LB5, and LB 6.

3.3.2 Correlation with Digital Literacy and Challenges faced by using MFS

Table-18 :Correlations

		DL1	DL2	DL3	DL4	DL5	DL6	DL7	Challenges faced by using MFS
DL1	Pearson Correlation	1	.066	.160*	.068	.117	.262**	.267**	.095
	Sig. (2-tailed)		.342	.020	.326	.089	.000	.000	.166
	N	212	212	212	212	212	212	212	212
DL2	Pearson Correlation	.066	1	.175*	.179**	.248**	.295**	.254**	-.193**
	Sig. (2-tailed)	.342		.011	.009	.000	.000	.000	.005
	N	212	212	212	212	212	212	212	212
DL3	Pearson Correlation	.160*	.175*	1	.003	.357**	.078	.190**	.004
	Sig. (2-tailed)	.020	.011		.967	.000	.257	.006	.954
	N	212	212	212	212	212	212	212	212
DL4	Pearson Correlation	.068	.179**	.003	1	.180**	.084	.196**	.003
	Sig. (2-tailed)	.326	.009	.967		.009	.221	.004	.970
	N	212	212	212	212	212	212	212	212
DL5	Pearson Correlation	.117	.248**	.357**	.180**	1	.197**	.266**	-.042
	Sig. (2-tailed)	.089	.000	.000	.009		.004	.000	.541
	N	212	212	212	212	212	212	212	212
DL6	Pearson Correlation	.262**	.295**	.078	.084	.197**	1	.031	-.134
	Sig. (2-tailed)	.000	.000	.257	.221	.004		.655	.051
	N	212	212	212	212	212	212	212	212
DL7	Pearson Correlation	.267**	.254**	.190**	.196**	.266**	.031	1	-.060
	Sig. (2-tailed)	.000	.000	.006	.004	.000	.655		.384
	N	212	212	212	212	212	212	212	212
Challenges faced by using MFS	Pearson Correlation	.095	-.193**	.004	.003	-.042	-.134	-.060	1
	Sig. (2-tailed)	.166	.005	.954	.970	.541	.051	.384	
	N	212	212	212	212	212	212	212	212

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

The Pearson correlation coefficients shed light on the relationships between various features (DL1, DL2, DL3, DL4, DL5, DL6, DL7) and the obstacles that individuals confront when utilizing MFS.

The coefficients vary from -0.193 to 0.357.

DL1: Pearson correlation coefficients range between 0.066 and 0.262.

DL2: Pearson Correlation coefficients range from -0.193 to 0.295.

DL3: Pearson correlation coefficients range from 0.003 to 0.357.

DL4: Pearson correlation coefficients range from 0.003 to 0.196.

DL5 Pearson Correlation coefficients range from -0.042 to 0.197.

DL6: Pearson correlation coefficients range from -0.134 to 0.295.

DL7 Pearson Correlation coefficients range from -0.060 to 0.267.

The significance levels (Sig. 2-tailed) indicate how statistically significant the correlations are.

Correlations with p-values < 0.05 or ≤ 0.01 are statistically significant.

The significance levels (sig. 2-tailed)

Key observations:

- DL1 has a significant positive association with DL3, DL6, and DL7, as well as a strong positive correlation with DL5. It also has a substantial positive link with "Challenges faced by using MFS."
- DL2 has substantial positive relationships with DL3, DL5, DL6, and DL7, but a significant negative correlation with "Challenges faced by using MFS."
- DL3 exhibits substantial positive connections with DL1, DL2, DL5, and DL7.
- DL4 shows a strong positive association with DL5 and DL7.
- DL5 has significant positive relationships with DL1, DL3, and DL6.
- DL6 shows substantial positive connections with DL1, DL2, and DL5.
- DL7 shows strong positive relationships with DL1, DL3, DL4, and DL5.

The significance levels (Sig. 2-tailed) indicate how statistically significant the correlations are.

Correlations with p-values < 0.05 .

3.3.3 Correlation with Digital Literacy and Challenges faced by using MFS

Table-19 :Correlations

		T1	T2	T3	T4	T5	T6	T7	Challenges faced by using MFS
T1	Pearson Correlation	1	.139*	.308**	.216**	.230**	.281**	.347**	-.211**
	Sig. (2-tailed)		.042	.000	.002	.001	.000	.000	.002
	N	212	212	212	212	212	212	212	212
T2	Pearson Correlation	.139*	1	.154*	.145*	.210**	.179**	.049	.019
	Sig. (2-tailed)	.042		.025	.034	.002	.009	.481	.786
	N	212	212	212	212	212	212	212	212
T3	Pearson Correlation	.308**	.154*	1	.128	.317**	.107	.295**	-.005
	Sig. (2-tailed)	.000	.025		.063	.000	.119	.000	.944
	N	212	212	212	212	212	212	212	212
T4	Pearson Correlation	.216**	.145*	.128	1	.019	.129	.284**	-.227**
	Sig. (2-tailed)	.002	.034	.063		.778	.062	.000	.001
	N	212	212	212	212	212	212	212	212
T5	Pearson Correlation	.230**	.210**	.317**	.019	1	.272**	.344**	-.071
	Sig. (2-tailed)	.001	.002	.000	.778		.000	.000	.304
	N	212	212	212	212	212	212	212	212
T6	Pearson Correlation	.281**	.179**	.107	.129	.272**	1	.358**	.011
	Sig. (2-tailed)	.000	.009	.119	.062	.000		.000	.876
	N	212	212	212	212	212	212	212	212
T7	Pearson Correlation	.347**	.049	.295**	.284**	.344**	.358**	1	-.154*
	Sig. (2-tailed)	.000	.481	.000	.000	.000	.000		.025
	N	212	212	212	212	212	212	212	212
Challenges faced by using MFS	Pearson Correlation	-.211**	.019	-.005	-.227**	-.071	.011	-.154*	1
	Sig. (2-tailed)	.002	.786	.944	.001	.304	.876	.025	
	N	212	212	212	212	212	212	212	212

*, Correlation is significant at the 0.05 level (2-tailed).

**, Correlation is significant at the 0.01 level (2-tailed).

The Pearson correlation coefficients demonstrate the relationships between several parameters (T1, T2, T3, T4, T5, T6, T7) and the issues encountered when utilizing MFS. The coefficients range from -0.211 to 0.347.

T1: Pearson correlation coefficients range from 0.139 and 0.347.

T2: Pearson correlation coefficients range between 0.019 and 0.179.

T3: Pearson correlation coefficients range between -0.005 and 0.317.

T4: Pearson Correlation coefficients range between -0.227 and 0.284.

T5: Pearson Correlation coefficients range between -0.071 and 0.344.

T6: Pearson correlation coefficients range between 0.011 and 0.358.

T7: Pearson correlation coefficients range between -0.154 and 0.347.

The significance levels (Sig. 2-tailed) indicate how statistically significant the correlations are.

Correlations with p-values < 0.05 or ≤ 0.01 are statistically significant.

Key observations:

- T1 has significant positive correlations with T3, T4, T5, T6, and T7, but a significant negative association with "Challenges faced by using MFS."
- T2 has significant positive connections with T3, T5, and T6, but no significant correlation with "Challenges faced by using MFS."
- T3 has a strong positive association with T1, T5, and T 7.
- T4 shows an important positive association with T6 and a significant negative correlation with "Challenges faced by using MFS."
- T5 has significant positive associations with T1, T3, T6, and T7.
- T6 shows significant positive connections with T1, T5, and T7.

- T7 has a substantial positive association with T1, T3, T5, and T6, as well as a large negative correlation with "Challenges faced by using MFS."

3.3.4 Correlation with Fraudulent attempts and Challenges faced by using MFS

Table-20 :Correlations

		FA1	FA2	FA3	FA4	FA5	FA6	FA7	Challenges faced by using MFS
FA1	Pearson Correlation	1	.294**	.076	.148*	.139*	.163*	.363**	.046
	Sig. (2-tailed)		.000	.269	.032	.043	.018	.000	.504
	N	212	212	212	212	212	212	212	212
FA2	Pearson Correlation	.294**	1	.237**	.088	.170*	.157*	.112	.086
	Sig. (2-tailed)	.000		.000	.202	.013	.022	.103	.212
	N	212	212	212	212	212	212	212	212
FA3	Pearson Correlation	.076	.237**	1	.162*	.289**	.257**	.184**	.009
	Sig. (2-tailed)	.269	.000		.018	.000	.000	.007	.899
	N	212	212	212	212	212	212	212	212
FA4	Pearson Correlation	.148*	.088	.162*	1	.101	-.194**	.099	.065
	Sig. (2-tailed)	.032	.202	.018		.141	.005	.150	.345
	N	212	212	212	212	212	212	212	212
FA5	Pearson Correlation	.139*	.170*	.289**	.101	1	.098	.360**	.053
	Sig. (2-tailed)	.043	.013	.000	.141		.154	.000	.440
	N	212	212	212	212	212	212	212	212
FA6	Pearson Correlation	.163*	.157*	.257**	-.194**	.098	1	.095	.123
	Sig. (2-tailed)	.018	.022	.000	.005	.154		.166	.073
	N	212	212	212	212	212	212	212	212
FA7	Pearson Correlation	.363**	.112	.184**	.099	.360**	.095	1	-.177**
	Sig. (2-tailed)	.000	.103	.007	.150	.000	.166		.010
	N	212	212	212	212	212	212	212	212
Challenges faced by using MFS	Pearson Correlation	.046	.086	.009	.065	.053	.123	-.177**	1
	Sig. (2-tailed)	.504	.212	.899	.345	.440	.073	.010	
	N	212	212	212	212	212	212	212	212

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

The Pearson correlation coefficients show the relationships between several parameters (FA1, FA2, FA3, FA4, FA5, FA6, FA7) and the obstacles encountered when utilizing MFS. The coefficients range from -0.177 to 0.363.

FA1: Pearson correlation coefficients range between 0.046 and 0.363.

FA2: Pearson correlation coefficients range between 0.086 and 0.294.

FA3: Pearson correlation coefficients range from 0.009 and 0.289.

FA4: Pearson correlation coefficients range between 0.065 and 0.162.

FA5: Pearson correlation values range between 0.053 to 0.360.

FA6: Pearson correlation coefficients range between -0.194 and 0.257.

FA7: Pearson correlation coefficients range between -0.177 and 0.363.

The significance levels (Sig. 2-tailed) indicate how statistically significant the correlations are.

Correlations with p-values < 0.05 or ≤ 0.01 are statistically significant.

Key observations:

- FA1 has a significant positive relationship with FA2, FA4, FA5, FA6, and FA7, as well as a mild positive correlation with "Challenges faced by using MFS."
- FA2 has strong favorable correlations with FA1, FA3, FA5, and FA6.
- FA3 has a considerable positive connection with FA2, FA5, and FA6.
- FA4 has strong positive associations with FA5 and FA7.
- FA5 has significant positive relationships with FA1, FA3, FA4, FA6, and FA7.
- FA6 exhibits substantial positive relationships with FA3, FA5, and FA 7.
- FA7 has considerable positive connections with FA1, FA5, and FA7, as well as a significant negative association with "Challenges faced by using MFS."

3.3.5 Correlation with Harassment from Agents and Challenges faced by using MFS

Table-21 :Correlations

		HA1	HA2	HA3	HA4	HA5	HA6	HA7	Challenges faced by using MFS
HA1	Pearson Correlation	1	.295**	.226**	.183**	.029	.321**	.430**	.090
	Sig. (2-tailed)		.000	.001	.008	.674	.000	.000	.191
	N	212	212	212	212	212	212	212	212
HA2	Pearson Correlation	.295**	1	.450**	.457**	.312**	.262**	.406**	-.052
	Sig. (2-tailed)	.000		.000	.000	.000	.000	.000	.452
	N	212	212	212	212	212	212	212	212
HA3	Pearson Correlation	.226**	.450**	1	.563**	.175*	.052	.385**	-.088
	Sig. (2-tailed)	.001	.000		.000	.011	.454	.000	.204
	N	212	212	212	212	212	212	212	212
HA4	Pearson Correlation	.183**	.457**	.563**	1	.151*	.316**	.562**	-.174*
	Sig. (2-tailed)	.008	.000	.000		.028	.000	.000	.011
	N	212	212	212	212	212	212	212	212
HA5	Pearson Correlation	.029	.312**	.175*	.151*	1	.075	.134	-.087
	Sig. (2-tailed)	.674	.000	.011	.028		.280	.052	.205
	N	212	212	212	212	212	212	212	212
HA6	Pearson Correlation	.321**	.262**	.052	.316**	.075	1	.233**	-.202**
	Sig. (2-tailed)	.000	.000	.454	.000	.280		.001	.003
	N	212	212	212	212	212	212	212	212
HA7	Pearson Correlation	.430**	.406**	.385**	.562**	.134	.233**	1	.002
	Sig. (2-tailed)	.000	.000	.000	.000	.052	.001		.978
	N	212	212	212	212	212	212	212	212
Challenges faced by using MFS	Pearson Correlation	.090	-.052	-.088	-.174*	-.087	-.202**	.002	1
	Sig. (2-tailed)	.191	.452	.204	.011	.205	.003	.978	
	N	212	212	212	212	212	212	212	212

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

The Pearson correlation coefficients show the relationships between several parameters (HA1, HA2, HA3, HA4, HA5, HA6, HA7) and the obstacles encountered when utilizing MFS. The coefficients vary from -0.202 to 0.563.

HA1: Pearson correlation coefficients range from 0.029 and 0.430.

HA2: Pearson Correlation coefficients range between -0.052 and 0.457.

HA3: Pearson correlation coefficients range from -0.088 to 0.563.

HA4 Pearson Correlation coefficients range from -0.174 to 0.563.

HA5: Pearson Correlation coefficients range between -0.087 and 0.312.

HA6 Pearson Correlation coefficients range from -0.202 to 0.321.

HA7: Pearson correlation coefficients range from 0.002 to 0.430.

Significance levels (Sig. 2-tailed) indicate statistical significance of correlations. Correlations with p-values < 0.05 or ≤ 0.01 are statistically significant.

Key observations:

- HA1 has a substantial positive association with HA2, HA3, HA6, and HA7, as well as a modest positive correlation with "Challenges faced by using MFS."
- HA2 has substantial positive connections with HA3, HA4, HA5, HA6, and HA7, but a significant negative correlation with "Challenges faced by using MFS."
- HA3 has a considerable positive association with HA2, HA4, HA6, and HA 7.
- HA4 has substantial positive associations with HA2, HA3, HA6, and HA7, as well as a significant negative correlation with "Challenges faced by using MFS."
- HA5 exhibits a substantial positive connection with HA2.
- HA6 has significant positive associations with HA1, HA3, HA4, and HA7, as well as a significant negative correlation with "Challenges faced by using MFS."
- HA7 has strong positive connections with HA1, HA2, HA3, HA4, HA6, and HA7.

3.4 Hypothesis Testing:

Table 22: Pearson Chi-Square Test

Variables	Items	Test Statistics	P value	Hypothesis H0	Hypothesis Ha
Language Barriers (LB)	LB1	135.881a	.000	Rejected	Accepted
	LB2	17.849a	.022	Rejected	Accepted
	LB3	59.336 ^a	.000	Rejected	Accepted
	LB4	17.612 ^a	.347	Accepted	Rejected
	LB5	11.258 ^a	.507	Accepted	Rejected
	LB6	52.985 ^a	.000	Rejected	Accepted
	LB7	20.832 ^a	.053	Rejected	Accepted
Digital Literacy (DL)	DL1	12.365 ^a	.417	Accepted	Rejected
	DL2	56.139 ^a	.000	Rejected	Accepted
	DL3	35.814 ^a	.000	Rejected	Accepted
	DL4	8.094 ^a	.424	Accepted	Rejected
	DL5	21.854 ^a	.005	Rejected	Accepted
	DL6	12.658 ^a	.124	Accepted	Rejected
	DL7	14.520 ^a	.069	Accepted	Rejected
Trust (T)	T1	226.799 ^a	.000	Rejected	Accepted
	T2	24.660 ^a	.017	Rejected	Accepted
	T3	227.475 ^a	.000	Rejected	Accepted
	T4	221.806 ^a	.000	Rejected	Accepted
	T5	19.587 ^a	.239	Accepted	Rejected
	T6	64.942 ^a	.000	Rejected	Accepted
	T7	33.651 ^a	.000	Rejected	Accepted
	FA1	12.926 ^a	.114	Accepted	Rejected
	FA2	11.451 ^a	.491	Accepted	Rejected

Fraudulent Attempt (FA)	FA3	21.300 ^a	.046	Rejected	Accepted
	FA4	21.176 ^a	.048	Rejected	Accepted
	FA5	8.960 ^a	.346	Accepted	Rejected
	FA6	14.372 ^a	.278	Accepted	Rejected
	FA7	13.302 ^a	.102	Accepted	Rejected
Harassment from Agents (FA)	HA1	22.841 ^a	.118	Accepted	Rejected
	HA2	221.439 ^a	.000	Rejected	Accepted
	HA3	76.291 ^a	.000	Rejected	Accepted
	HA4	228.106 ^a	.000	Rejected	Accepted
	HA5	61.209 ^a	.000	Rejected	Accepted
	HA6	56.380 ^a	.000	Rejected	Accepted
	HA7	28.759 ^a	.004	Rejected	Accepted

The table shows the results of statistical tests on a variety of factors, including Language Barriers (LB), Digital Literacy (DL), Trust (T), Fraudulent Attempt (FA), and Agent Harassment (HA). Each item in these variables has its own test statistics along with associated p-values.

Key observations:

Language barriers (LBs):

LB1, LB3, and LB6: These items have significant test statistics with p-values less than 0.05, showing strong evidence to reject the null hypothesis and indicating meaningful correlations.

LB2 and LB7: Although these items have relatively good test statistics, they do not achieve standard thresholds of statistical significance ($p > 0.05$).

Digital Literacy:

DL2, DL3, DL6, and DL7: These items have significant test statistics (p-values < 0.05), indicating meaningful connections.

DL5: Despite the comparatively high test statistic, the p-value is somewhat higher than 0.05, indicating a lower level of significance.

DL1, DL4: These items do not show significant relationships because their p-values are greater than 0.05.

Trust (T).

All items in Trust (T) have highly significant test statistics (p-values less than 0.05), showing strong evidence of relationship.

Fraudulent Attempt (FA):

FA3, FA4: These items have significant relationships (p-values less than 0.05).

FA1, FA2, FA5, FA6, FA7: These items do not have significant relationships (p-values > 0.05).

Harassment by agents (HA):

HA2, HA3, HA4, HA5, and HA6: All of these items show highly significant relationships (p-values < 0.05).

HA1, HA7: Despite having relatively high-test statistics, their p-values are more than 0.05, indicating lower levels of significance.

Interpretation:

Language hurdles, digital literacy, trust, fraudulent attempts, and agent harassment are all important considerations in the environment under study.

Significant relationships indicate that some factors are more strongly related to the outcome under consideration than others. These issues may demand additional research or focused treatments.

Non-significant relationships may not necessarily imply a lack of importance, but rather suggest weaker evidence for a relationship in the context under consideration. More study or larger sample sizes may assist to clarify these relationships.

3.5 Descriptive Statistics of the Five Variables

3.5.1 Language barriers

Table-23

Items	Mean	Std. Deviation
LB1	4.43	.646
LB2	4.28	.529
LB3	4.28	.699
LB4	4.01	.832
LB5	4.11	.706
LB6	4.24	.761
LB7	4.30	.648
Average	4.24	

The table shows the mean and standard deviation values for several Language Barriers (LB)-related items. Here is the analysis:

Mean values:

- The mean numbers show the average scores assigned by respondents to each item.

- LB1 has the highest mean score of 4.43, suggesting that respondents believe this component of language barriers is the most pronounced.
- LB4 has the lowest mean score of 4.01, indicating that respondents consider this component to be less important than others.
- LB7 has a reasonably high mean score of 4.30, indicating that respondents believe this component is significant.

Interpretation:

- LB1 has the highest mean score, suggesting that it is viewed as the most significant language barrier among respondents.
- LB4 has the lowest mean score, indicating that it is regarded as less significant than other components of language barriers.
- LB4 also has the biggest standard deviation, showing more variation in replies, which could reflect respondents' varying impressions of this element.

Overall, respondents regard language barriers as relatively significant, with minor variations in perception across the various characteristics represented by LB1 to LB7.

3.5.2 Digital Literacy

Table-24

Items	Mean	Std. Deviation
DL1	4.37	.621
DL2	4.27	.543
DL3	4.17	.608
DL4	4.16	.618
DL5	4.29	.600
DL6	4.28	.580
DL7	4.33	.580
Average	4.28	

Mean values:

DL1: With an average score of 4.37, DL1 is one of the most highly scored areas of digital literacy.

DL4: In contrast, DL4 has the lowest mean score of 4.16, indicating that it is seen as significantly less significant than the other components.

DL5: DL5 has a high mean score of 4.29, showing its popularity among respondents.

The total average mean of 4.28 indicates that respondents believe digital literacy is relatively high across all items.

Interpretation:

DL5 has a high mean score, indicating it is seen as a key part of digital literacy by respondents.

DL4 has the lowest mean score, indicating that it is regarded as slightly less significant than the other characteristics.

The greater standard deviations in responses for DL3 and DL4 may imply that respondents have different perceptions of these characteristics.

Overall, digital literacy is viewed as reasonably high, with modest variances in perception across different characteristics represented by DL1 to DL7.

3.5.3 Trust

Table-25

Items	Mean	Std. Deviation
T1	4.06	.713
T2	3.87	.742
T3	3.96	.701
T4	4.13	.689
T5	3.92	.839
T6	3.94	.726
T7	4.32	.654
Average	4.02	

Mean values:

T7 gets the highest average score of 4.32, suggesting that respondents have a high level of trust in this area.

T2 gets the lowest mean score of 3.87, indicating that respondents have a lesser level of trust in this facet.

The total mean for all items is 4.02.

Interpretation:

T7 has the highest mean score, indicating a strong level of trust among responders.

T2 has the lowest mean score, indicating lower levels of trust in this facet than in others.

T5 has the biggest standard deviation, indicating that respondents had more diverse ideas about trust in this area.

Overall, respondents perceive a moderate level of trust across all items, with minor changes in perception across the qualities represented by T1 through T7.

3.5.4 Fraudulent Attempts

Table-26

Items	Mean	Std. Deviation
FA1	4.14	.558
FA2	4.05	.651
FA3	3.92	.698
FA4	4.10	.741
FA5	4.21	.596
FA6	4.18	.657
FA7	4.33	.563
Average	4.16	

Mean values:

FA7 has the highest mean score of 4.33, suggesting that respondents perceive a high level of fraudulent activity in this regard.

FA3 had the lowest mean score of 3.92, indicating that respondents attempted fewer fraudulent activities in this area.

The total mean for all products is 4.16.

Interpretation:

Respondents regard FA7 as having the largest level of fraudulent attempts, based on its highest mean score.

FA3 has the lowest mean score, indicating that there are less fraudulent efforts in this element than in others.

FA4 has the biggest standard deviation, indicating that respondents had more diverse views on fraudulent attempts in this area.

Overall, respondents perceive a moderate amount of fraudulent attempts across all items, with modest variances in perception across the various characteristics represented by FAs 1–7.

3.5.5 Harassment from agents

Table-27

Items	Mean	Std. Deviation
HA1	3.81	.816
HA2	3.95	.830
HA3	3.96	.630
HA4	4.07	.782
HA5	4.04	.701
HA6	4.08	.670
HA7	4.02	.903
Average	3.99	

Mean values:

HA6 has the highest average score of 4.08, suggesting that respondents feel a high level of harassment from agents in this area.

HA1 had the lowest mean score of 3.81, indicating that respondents experienced less harassment from agents in this particular facet.

The total mean for all goods is 3.99.

Interpretation:

HA6 is believed to have the most level of harassment by agents among respondents, as evidenced by its highest mean score.

HA1 has the lowest mean score, indicating that there is less harassment from agents in this area than in others.

HA1 has the biggest standard deviation, indicating that respondents had more diverse attitudes about harassment from agents in this regard.

Overall, respondents report moderate levels of harassment from agents across all items, with minor changes in perception across the various characteristics covered by HA1 to HA7.

CHAPTER 4

SUMMARY AND CONCLUSION

4.1 Key Findings

The study revealed the barriers faced by plain land elderly people by accessing Mobile Financial Service. It was found that majority (72.6%) of the respondents are at the age group of 60-69 years. At the same time 21.7 percent are from the group of 70-79 years. The study revealed that 54.7 percent were female and 45.3 percent were male. Majority (84.9 percent) of the respondents were Santal but Rajbonshi, Mong also represented a significance number. The majority of the respondents were married comprising 59.4 person of the entire sample. 38.7 percent of the respondents were widow.

The data represents that the education level of the sample is very low. 73.6 percent of the respondents had no formal education. Only 22.6 percent completed primary level. Because of age, 60.4 percent (128 sample) didn't participated in any work and totally dependent on family income. 27.4 percent involved in some part time work and some others are involved in full time and self-employment but that ration is very low remaining 7.5 percent and 3.8 percent. The mean of family members of the sample is 2.27. That's why 41.5 percent of the sample have at least 3-4 family members. On the other hand, 30.2 percent have 5-6 members in the family.

The data shows that 44.3 percent of the respondent's monthly family income was 9001-12000. Only 27.4 percent have income up to 12000 per month. 48.1 percent have only 2 income earners in the family compared to 29.7 percent had at least 1 earner. The data shows that majority of the respondents were living in rural area and represents 98 percent of total sample. Only 2 percent were from semi urban and no data is available about who were living in urban area. Mostly the plain land elderly people like to speak Bangla and their own language. 59.4 percent speak in Bangla and 40.6 percent speak in santal.

Of the participants, 46% claimed to have never used a cell phone, while 23% indicated they only used it rarely. Of the respondents, just 17% claimed to use the product frequently, while 18.9% claimed to use it occasionally. This implies that a significant portion of the elderly population in Bangladesh's Plain Land Ethnic Groups may have trouble accessing mobile financial services because of poor or nonexistent mobile phone usage.

Only 4.7% of respondents reported they have a mobile account. The majority (61.3%) accessed mobile accounts through family members, while 38.7% used services supplied by Mobile Financial Service (MFS) agents. This demonstrates how the elderly in Plain Land Ethnic Groups in Bangladesh rely on middlemen to get mobile financial services. The data showed that the language barrier was the most commonly stated issue by respondents, accounting for 22.6% of all cases. Other problems were low digital literacy (8%), a lack of trust (4.7%), fraudulent attempts (4.7%), and agent harassment (0.9%). These findings highlight the multifaceted barriers that elderly people face while accessing mobile financial services, underlining the importance of customized interventions to successfully address these issues.

Most of the respondents used MFS only for withdrawing money of old age allowance. 63.2 percent were involved in old age allowance program and only 20.8 percent were captured under widow allowance. 72.6 percent used family phones for opening MFS account. A small portion use agent account for taking money using MFS. Because of the age, most of the participants couldn't open accounts and depended on family members.

The study found a correlation between the five main variables like Language barrier, Digital literacy, Trust, Harassment from agents and Fraudulent attempts with the challenges faced by using MFS. Because of the member of indigenous community, the older people have distinct language. Majority of the respondents faced the mobile language as a significance barrier for maintaining an

account. Understanding the terms and condition with challenged faced by the elderly are associated and significantly one of the most barrier according to correlation analysis.

The study also revealed that older people are not familiar with digital technology. Because of age, they can't understand the mobile language and terms and condition. Most of the respondents need assistant to perform the MFS. Learning new technology is very hard to them and technological knowledge and digital literacy is very low to the elderly of plain land.

Trust is one of the main barriers in which the elderly people can't trust the digital technology. Most of the feel hesitate to run mobile phone and a significance number can't open or run it. Sharing mobile PIN for withdrawing money sometimes may cause a big barrier. Facing fraud, most of the time they couldn't access their account and withdraw money.

Majority of the respondents have faced the fraudulent attempts. Fraudulent attempts from family members, agents or relatives made a big barrier for receiving money. The association between challenged faced by elderly and the Fraudulent attempts are correlated and indicated the barriers faced by plain land indigenous elderly accessing MFS.

The chi square test of the result clarified that the main five variables like language barrier, digital literacy, fraudulent attempts, trust and harassment from agents are significantly associated with challenges faced by the elderly. The data showed that out of seven items in language barriers, five of them significantly accepted alternative hypothesis that means Language barrier and challenged faced by elderly are related and associated. It's found that for language barrier, communicating with agents, they didn't face any barrier but the mobile language and terms and conditions of mobile make them vulnerable for accessing MFS.

However, in digital literacy, majority of respondent feel difficult to navigate to run mobile financial services. At the same time, financial transection using mobile application is very difficult to them. But comparison to other variables, new technology learning and the mobile phone uses didn't affect or feel barrier comparison to mobile application.

To understand about the findings of the results, it's found from the study that application to a new technology and run MFS, majority faced the common barrier, Trust stand in the highest position in that arena. Few experienced fraud attempts and women faced harassment in receiving mobile money according to the dataset. ty of respondent feel difficult to navigate to run mobile financial services. At the same time, financial transection using mobile application is very difficult to them. But comparison to other variables, new technology learning and the mobile phone uses didn't affect or feel barrier comparison to mobile application.

To understand about the findings of the results, it's found from the study that application to a new technology and run MFS, majority faced the common barrier, Trust stand in the highest position in that arena. Few experienced fraud attempts and women faced harassment in receiving mobile money according to the dataset.

4.2 Recommendations

Based on the research findings about the hurdles that elderly individuals from Plain Land Ethnic Groups in Bangladesh face when accessing mobile banking services, the following recommendations can be made:

Develop and Implement targeted Awareness Campaigns:

- Create awareness campaigns that are targeted to the requirements and preferences of elderly people from Plain Land Ethnic Groups. These advertisements should educate

customers about the benefits and features of mobile banking services in their native language. Use culturally relevant communication outlets including community gatherings, local radio stations, and community leaders to effectively convey information.

Address language barrier:

- Recognize and address language obstacles by offering language-specific content and support services. Translate critical information about mobile banking services into local languages spoken by the older population.

Implement specific policies for ethnic elders:

- Advocate for the creation and execution of specific policies targeted at meeting the unique needs of ethnic senior people in terms of mobile financial services. These rules should take into account cultural sensitivities, traditional customs, and socioeconomic issues that may influence their capacity to accept and use digital financial solutions.

Provide support and training Program to improve digital literacy:

- Offer customized training programs and support activities to help elderly people improve their digital literacy abilities. Collaborate with local community organizations, non-governmental organizations (NGOs), and government agencies to plan workshops, training sessions, and one-on-one support programs aimed at teaching fundamental digital skills, navigating mobile applications, and comprehending financial transactions.

4.3 Conclusion:

This study focuses light on the challenges that elderly people from Plain Land Ethnic Groups in Bangladesh encounter when accessing mobile financial services (MFS). In a quantitative study,

we investigated several aspects that influence their access to and use of MFS, such as age, gender, marital status, education level, mobile phone usage, technology literacy, preferred access methods, and encountered barriers. The findings reveal that a considerable part of the studied group is old, with the majority falling between the ages of 60 and 69. Furthermore, there was a higher proportion of female responses than males. Marital status revealed that a large percentage of respondents were married, with a lesser proportion widowed or divorced. Furthermore, respondents' education levels varied, with a large proportion having no formal schooling. In terms of mobile phone usage, a significant proportion of respondents stated occasional or regular use, indicating some familiarity with mobile technology. However, the study also revealed issues connected to technical literacy, with a sizable proportion of respondents feeling uncomfortable or extremely uncomfortable with technology. When it came to accessing mobile financial services, the majority relied on family members, with a considerable proportion using services supplied by MFS agents. Respondents faced challenges such as language problems, a lack of digital literacy, trust issues, fraudulent efforts, and agent harassment. To address these challenges and enhance access to MFS for elderly people from Plain Land Ethnic Groups, specialized awareness campaigns, language-specific materials, culturally inclusive policies, and targeted training programs are advised. In essence, this study emphasizes the necessity of knowing the specific demands and constraints that elderly people from ethnic minority groups encounter while accessing vital financial services. Stakeholders can contribute to this demographic's overall well-being and socioeconomic development by implementing targeted interventions and legislative initiatives that promote increased financial inclusion and empowerment.

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Appendices

Photographs of the survey:



Taking interview from respondents(Survey 2023)



Taking interview from respondents(Survey 2023)



Taking interview from respondents(Survey 2023)



(Field survey 2024)



(Field survey 2024)



(Field survey 2024)



(Field survey 2023)



Survey team (2023 &2024)



Figure: Santal Village



Pretest of the survey (survey 2023)

Consent Form



Department of Sociology,
Hajee Mohammad Danesh Science and Technology
University, (HSTU),
Dinajpur, 5200, Bangladesh
<http://www.hstu.ac.bd>

Dear respondents,

I am a student from Department of Sociology, Hajee Mohammad Danesh Science and Technology University, (HSTU), Dinajpur, 5200, Bangladesh conducting the research titled **Barriers of Access to Mobile Financial Services by the Elderly People in Plain Land Ethnic Groups in Bangladesh: A Quantitative Study**. The purpose of this research is to examine the barriers hindering the elderly population belonging to plain land ethnic groups in Bangladesh from accessing mobile financial services. At the same time, the research's also try

- To examine and describe the current usage of financial services by elderly individuals in plain land ethnic communities in Bangladesh;
- To explore and analyse the most influential barriers or obstacles faced by the elderly in these ethnic groups when attempting to access mobile financial services;

Therefore, we are very pleased to invite you to participate in this survey. Your participation is highly valuable and important to complete this research successfully. It will take 10- 15 minutes to provide your responses in the questionnaire.

The information provided in the questionnaire will be used only for research purposes and kept confidential.

All your participation and cooperation in this survey is greatly appreciated.
Thank you for your cooperation.

Truly,

Alamgir Kabir
Graduate Student,
Department of Sociology,
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Questionnaire Number:

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Questionnaire

Section-1: Demographic Information

1. Age:
 - Below 60 years
 - 60-69 years
 - 70-79 years
 - 80-89
 - 90 and above years
2. Gender:
 - Male
 - Female
 - Other (please specify)
3. Marital Status:
 - Single
 - Married
 - Widowed
 - Divorced
4. Educational Background:
 - No formal education
 - Primary education
 - JSC
 - SSC
 - HSC
 - Honor's/ Diploma
 - Master's
 - Others
5. Occupation:
 - Unemployed
 - Retired
 - Employed part-time
 - Employed full-time
 - Others
6. Ethnicity/Community Affiliation:
7. Number of family members:
8. Number of earning members at family
9. Family monthly income:
10. Residential Status:

- Urban
- Semi-urban
- Rural

11. Language spoken:

Section-2: Information on Mobile phone Ownership and Usage

1. Do you have mobile phone?

- Yes
- No

If Yes, Ownership of mobile-

- Own
- Family members
- Relatives
- Mobile agents
- Others

If No, why don't you have mobile phone?

- No need to use
- Having phone to family members

2. Mobile Phone Usage:

- Regularly
- Occasionally
- Rarely
- Do not use a mobile phone

3. Technology literacy-

- Very uncomfortable
- Uncomfortable
- Neutral
- Comfortable
- Very comfortable

4. Which types of financial services do you currently utilize? (Select all that apply)

- Old age allowance
- Widow allowance
- Autism allowance
- Other social safety net program
- Others

5. Ownership of Mobile phone-

- Own
- Family members
- Relatives
- Mobile agents

- Others, Please explain:

6. Who opens your MFS account?

- Myself
- Family members
- Relatives
- Mobile agents
- Others, Please explain

7. Trust in Technology:

- Highly trust
- Trust
- Neutral
- Distrust
- Highly distrust

Section-3: Perception regarding on Barriers of Access to Mobile Financial Services (MFS)

Language barrier

Items	Strongly Agree	Agree	Neutral	Disagree	Strongly disagree
1. It's hard to understand the language used in instructions for mobile financial services.					
2 The language used in MFS is unfamiliar to me.					
3 The language used in MFS doesn't include people of my age group and ethnic background.					
4. It's challenging for me to communicate with customer support or service agents due to language differences.					
5 Understanding the terms and conditions of mobile financial services is hard due to language barriers.					
6. The language used in MFS is inclusive and not easy for me to understand.					
7. Language barriers make it difficult for me to fully benefit from MFS.					

Limited Digital Literacy

Items	Strongly Agree	Agree	Neutral	Disagree	Strongly disagree
1. I feel hesitant using mobile phones or other digital devices.					
2. I find it difficult to use mobile applications related to financial services.					
3. I am hesitant or uneasy about performing financial transactions using mobile.					
4. Understanding the features and functionalities of MFS is hard/overwhelming for me.					
5. I need help from others to use MFS.					
6. Learning new technologies is difficult and challenging task. for me.					
7. I feel overload and stressed by the technological aspects of MFS.					

Lack of Trust

Items	Strongly Agree	Agree	Neutral	Disagree	Strongly disagree
1. I feel insecure using MFS.					
2. My personal information is not protected well.					
3. MFS do not prioritize the security of financial transactions.					

4. I feel hesitant to share sensitive financial information through mobile applications					
5. Past negative experiences with MFS have contributed to my lack of trust in these platforms.					
6. I have no trust on MFS agent.					
7. Addressing trust issues is important for enhancing MFS service.					

Fraudulent attempt

Items	Strongly Agree	Agree	Neutral	Disagree	Strongly disagree
1. I worry about fraud while using MFS.					
2. MFS are vulnerable to fraudulent attempts or scams.					
3. I have experienced or witnessed fraud in MFS.					
4. Concerns about fraud influence my decision to use MFS.					
5. The frequency of fraud impacts the trustworthiness of MFS.					
6. Mostly frauds are happening by MFS agents or customer care.					
7. Awareness and education could help reduce fraud risks in MFS.					

Harassment from agent

Items	Strongly Agree	Agree	Neutral	Disagree	Strongly disagree
1. I have experienced harassment using MFS.					
2. The behavior of agents is not familiar.					
3. I feel uncomfortable interacting with agents.					
4. Agent harassment is a significant barrier to the adoption of MFS.					
5. I heard of harassment story from others.					
6. I don't like to go to agents for withdrawing money.					
7. I face harassments for my indigenous identity.					