Challenges of Digital Governance in the Financial Sector in Bangladesh

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This Thesis is Submitted as a Partial Fulfillment of the Requirements for the Degree of Master of Philosophy at the Faculty of Social Science, Department of Political Science, University of Dhaka

By

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Dedication

'Oh, my mother, your motivation to study has shaped my dreams.'
To make that dream a reality I fortunately got the teacher and supervisor of this study
Professor Dr. Dil Rowshan Zinnat Ara Nazneen.
I dedicate this research to my respected and talented Ma'am.

Declaration

I confirm that the thesis titled “Challenges of Digital Governance in the Financial Sector in Bangladesh” for M.Phil. Degree is my own independent work. The data and statistics used in it are derived from the results of the research. However, the ideas and extracts from all sources are duly acknowledged. The survey is free of any plagiarism and has not been submitted for award or publication in the past to any academic institution at home or abroad or elsewhere.

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Certification

I certify that the thesis entitled "Challenges of Digital Governance in the Financial Sector in Bangladesh" by Sheikh Muhammad Anwar Hossain was conducted under my own supervision. The thesis has been satisfactorily completed for submission to the Department of Political Science, Faculty of Social Sciences, University of Dhaka. Various data sources used in this thesis are duly acknowledged.

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Abstract

The digital financial sector has emerged as a major driving force for the national economy of Bangladesh. In this context, the relevance of digital governance practices in the financial sector tend to become critical in recent times. The purpose of this study is to explore and examine the digital governance practices in the financial sector of Bangladesh. The study attempts to explore new creative knowledge on digital governance practices in the financial sector by analyzing, synthesizing, and reflecting on previous research e.g. existing literature with an emphasis on review. The study is mainly based on a mixed method of non-experimental and descriptive research design.

The survey found positive results of massive improvement in Bangladesh's digital financial sector. It can be observed that citizens are eagerly accepting the services of the digital financial sector as a major equipment in their daily lives. The survey shows that 99% percent of the respondents use their own smartphones, digital gadgets, notebook computers, and tablets. About four-fifths of rural poor households use a smartphone for digital money transfer. 95% percent of the respondents in the survey said that they can deposit, transfer, withdraw, and invest money using their smartphone. As a result, the role of middlemen in the financial sector has been reduced and the citizens of Bangladesh have access to automated financial services at reasonable and affordable prices.

The survey reveals that Bangladesh's new generation of well-educated citizens has already grown up as 'digital natives'. They are the ones who are using and preferring the innovative works of the digital financial sector as a tool. They feel more comfortable shopping from online stores than going to the market; they have become accustomed to transacting money in the financial sector through debit-credit plastic cards and digital wallets anytime, anywhere and hassle-free cash transaction benefits. The convenience and trusted security of the digital financial sector have further motivated the citizens of the country to adopt this method. The digital financial sector has attracted wide attention among all segments of the population to provide benefits to citizens. Most households in urban and rural Bangladesh are regularly using the digital financial sector to pay utility bills. According to the respondents, the digital financial sector saves their transaction time and cost. The digital financial sector is playing an important role in increasing revenue and profits, and digital inclusion influencing the growth of the financial sector resulting in the further expansion of Bangladesh's mainstream economy has geared up. Most of the respondents agree—they will increase transactions in the digital financial sector in the future. In addition, the study analyzed the current service quality of the digital financial sector and found that the digital financial sector is helping every household in Bangladesh avoid financial crisis, debt, robbery, and theft. Protects against holding and carrying paper cash money. To smooth the trajectory of the digital financial sector in smart Bangladesh, this study attempts to explore how to mitigate the security issues of AI collaboration in the future digital financial sector. The study identified some of the issues and challenges hindering strong, sustainable growth of the digital financial sector.

Bangladesh require exploring new and innovative forms of the financial services to make the country sustainable. Also, there is no alternative to adopting strategies consistent with international standard governance practices and implementation. A simple and thorough understanding of the complexity of financial automation is essential to meet the demands of the future digital age. The study specifically recommends that the rate of digital financial literacy should be increased in the coming days. The findings and recommendations of the study may provide momentum to policymakers' ongoing efforts to address the challenges of digital governance practices in the financial sector in Bangladesh.

Key Words: automated governance in Bangladesh; digital governance in the financial sector; cashless economy challenges in Bangladesh.

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List of Abbreviations

3D	Three-Dimensionality
4IR	Fourth Industrial Revolution
5G	5th Generation Mobile Network
A2i	Aspire to Innovate
ABCD	Artificial intelligence, blockchain, cloud computing, and big data.
ADC	Analog-to-Digital Converter
AI	Artificial Intelligence
AL	Awami League বাংলাদেশ আওয়ামী লীগ
AML	Anti-Money Laundering
ANP	Analytical Network Process
API	Application Programming Interface
AR	Augmented Reality
ASRJETS	American Scientific Research Journal for Engineering, Technology, and Sciences.
ATM	Automated Teller Machine
Basel-III	Basel III is an internationally agreed set of measures developed by the Basel Committee on Banking Supervision.
BASIS	Bangladesh Association of Software and Information Services
BB	Bangladesh Bank
BBS	Bangladesh Bureau of Statistics
BD	Bangladesh, bd is the Internet country code top-level domain (ccTLD) for Bangladesh.
BDT	Bangladesh Taka
BEFTN	Bangladesh Electronic Fund Transfer Network.
BEI	Bangladesh Enterprise Institute
BFIU	Bangladesh Financial Intelligence Unit
BIBM	Bangladesh Institute of Bank Management
BIGD	BRAC Institute of Governance and Development
BNP	The Bangladesh Nationalist Party বাংলাদেশ জাতীয়তাবাদী দল
BRAC	Bangladesh Rural Advancement Committee
BREB	The Bangladesh Rural Electrification Board or BREB.
BRTC	Bangladesh Telecommunication Regulatory Commission
BTRC	Bangladesh Telecommunication Regulatory Commission
BUET	Bangladesh University of Engineering and Technology
C2G	Citizenry to Government
CBDC	Central Bank Digital Currency
CBS	Client-Based Software

CBS	CORE Banking Solutions
CDD	Centre for Disability in Development
CDM	Cash Deposit Machine
CEBR	Cebr is one of the UK's leading economics consultancies.
CEO	Chief Executive Officer
CFT	Combating Financing of Terrorism
CIB	Credit Information Bureau
CIPC	Customers Interest Protection Centre
CNG	Compressed Natural Gas
Covid-19	Coronavirus Disease
CPD	Centre for Policy Dialogue
CRM	Cash Recycling Machines
CSR	Corporate Social Responsibility
CV	Coefficient of Variance
DAC	Development Assistance Committee
DAS	Data Acquisition System
DBBL	Dutch-Bangla Bank Limited
DeFi	Decentralized Finance
DEMATEL	Decision Making Trial and Evaluation Laboratory
DFID	Department of Foreign Investment and Development
DFS	Digital Financial Services
DSE	Dhaka Stock Exchange
DTH	Direct-to-Home
E/D	Evaluation and Documentation
EIU	Economist Intelligence Unit
ESCAP	The Economic and Social Commission for Asia and the Pacific
FAS	Financial Access Survey
FCBs	Foreign Commercial Banks
FES	Friedrich Ebert Stiftung
FGD	Focus Group Discussion
FI	Financial Institution
FICSD	Financial Integrity and Customer Services Department
FY	Fiscal Year
G2B	Government-to-business
G2C	Government-to-citizen
G2G	Government-to-government
G2P	Government to Person
GB	Gigabyte

GCI	Global Connectivity Index
GDP	Gross Domestic Product
GDPR	General Data Protection Regulation
IAS	Internal Accounting Standard
IBRD	International Bank for Reconstruction and Development
ICT	Infrastructure and components that help to enable modern computing systems
IDRA	Insurance Development and Regulatory Authority of Bangladesh
IFC	The International Finance Corporation
ILO	International Labor Organization
IMF	International Monetary Fund
IPDC	Industrial Promotion and Development Company of Bangladesh Limited
ISP	Internet Service Provider
IT	Information Technology
ITG	Integrated Technology Group
ITU	International Telecommunication Union
IVR	Interactive Voice Response
KYC	Know Your Customer and sometimes Know Your Client.
LDCs	Least Developed Countries
M.Phil.	Master of Philosophy
Mbps	Megabytes per second.
MFIs	Micro Finance Institutions
MFS	Mobile Financial Services
MFSP	Mobile Financial Services Provider
MIS	Management Information Systems
ML	Machine learning
MMTS	Mobile Money Transfer Services
MNOs	Mobile Network Operators
MOU(s)	Memorandum of Understanding
MSB	Money Services Business
MSC	Micro Save Consulting
NBFI	Non-Banks Financial Institution
NCSI	National Cyber Security Index
NGO	Non-Governmental Organization
NID	The National Identity Card (Bengali: জাতীয় পরিচয়পত্র
NOC	No Objection Certificate
NPL	Non-Performing Loan
OECD	Organization for Economic Co-operation and Development
OSS	Open Source Software

P2G	Person to Government
P2P	Peer-to-Peer
PCBs	Private Commercial Banks
PINs	Personal Identification Numbers
PKSF	Palli Karma Sahayak Foundation
POS	Point of Sale
PPP	Public-Private Partnership
PS	Political Science & Politics
PSC	Primary School Certificate
PSD	Payment Systems Department
PSP	Payment Services Provider
QR	Quick-Response code
RAM	Random-access memory
RMG	Ready-Made Garment
ROM	Read-Only Memory
RPA	Robotic Process Automation.
RTGS	Real-Time Gross Settlement.
SBs	Specialized Banks
SD	Standard Deviation
SDGs	Sustainable Development Goals
SMEs	Small and Medium-sized Enterprises
SMS	Short Message Service
SOCBs	State-Owned Commercial Banks
SOEs	State Owned Enterprises
SPSS	Statistical Software Package for Social Science
SSC	Secondary School Certificate
SSRN	Social Science Research Network)
STATA	Statistical Software for Data Science
TCSA	Trust cum Settlement Account
Tk	Taka. The lawful currency of the People's Republic of Bangladesh.
UK	United Kingdom
UNCDF	The UN Capital Development Fund
UNCTAD	United Nation Conference on Trade and Development
UNDP	United Nations Development Program
US	United States
USAID	United States Agency for International Development
USD	United State Dollar
USSD	Unstructured Supplementary Service Data

VR	Virtual Reality
WAP	Wireless Application Protocol
WB	World Bank
WEF	World Economic Forum
WGI	Worldwide Governance Indicators
Wi-Fi	Wireless Fidelity
WTO	World Trade Organization

Chapter -1

Introduction

1.1. Background

'Digital' has been a common buzzword for several years. Since the last decade, the concept of digital governance has been evolving, when the people's hold and own the development and changes of sophisticated digital technological transformation. The wave of digital technological revolution across the globe has introduced new development thinking in the relationship among political, social, financial community of nations. Many countries in the world have been used to digital governance policy and provide wellbeing for citizen. Digital governance often refers to the use of digital tools like android, feature phone, smart phone, PC, gadget, dongle, internet, Wi-Fi, Bluetooth, digital spy cam, and smart android apps tools etc., which use by the political, social and financial sector e.g. government organ in order to constant touch with peoples.

The using of digital tools (Machine Intelligence) perform smart, speedy, time consuming efficient and transparent conduct with citizens. That are also the criteria of governance effectiveness. Many Scholler stated, digital governance provide transparency, reduces corruption, shortens delivery time, alleviating poverty, implementing governance and strengthening democracy. According to the World Bank Blogs [1] digital governance as "The developing countries of the world are trying to practice institutional governance by using digital technology to bring all kinds of services to citizens including businesses". Various developed countries of the world like China, America, Britain, Canada, Singapore have recognized the use of artificial intelligence or digital governance as a necessary and essential tool for performing governance.

Prime Minister Sheikh Hasina announced the vision of 'Digital Bangladesh' in her election manifesto on December 12, 2008. Despite the widespread ridicule and criticism of citizens with opposing political views on digital governance, digital infrastructure is shadowed in all state organs. As a result, the work of people from almost all sectors of the society becomes easy and time saving. The services of this digital technology are welcomed by citizens at all levels of the state. This digital Bangladesh policy has been continued throughout the country for a long 15 years. The citizens of Bangladesh, who are lagging behind in development, continue and persist in a new extraordinary journey along the path of the dream of digitization. GDP quadrupled as government service delivery improved among digitally lagging citizens. 9.26 billion workdays saved the state $11.22 billion. (Dhaka Tribune, 12 December 2021). [2] Like developed and developing countries across the world, the citizens of Bangladesh realize that “digital governance is not only necessary for the growth of the financial sector. Digital technology is also an excellent driver for state governance practices.” (a2i.pmo.gov.bd.) [3] To give priority to digital governance practices, the Bangladesh government under the leadership of Prime Minister Sheikh

[1]. World Bank Blogs. Published on January 28, 2014. Governance for Development. Article: Getting Digital Service Delivery Right. Published on Governance for Development. Getting Digital Service Delivery Right. Author Tina George Karippacheril & Emily Tavoulares.

[2] Dhaka Tribune, 12 December 2021. https://www.dhakatribune.com/opinion/317126/digital-bangladesh-to-innovative-bangladesh-the

[3] a2i.pmo.gov.bd.

Hasina has already started the implementation of developmental projects in various public and private sectors of the country under the name of 'Digital Task Force' under the Ministry of Planning.

Table 1.1: Digital Governance Agenda of Bangladesh

WHAT	**Digital Bangladesh**	Bring socioeconomic changes through ICT and digital revolution across the country.
HOW	*Vision 2021*	The goal is to alleviate poverty and become a middle-income country following the strategy of two phases 1ST Perspective Plan (2011–2015 &) & 2016-2020).
	Vision 2041	The goal is to become upper middle-income country by 2030 and high-income country by 2041. As a strategy, 2nd Perspective Plan (2021-2041) was announced on 25 February 2020.

Source: a2i

A few year ago, the term 'Digital Bangladesh' was considered a "political campaign tool". The ruling political party Awami League (AL) is often used in reference to any digital development project. The term digital governance is heard more and more in political discourse. Government campaign in this regard is also strengthened. On the other hand, the opposition party – BNP and its allies often ridicule and criticize the term 'digital' as a "joke". According to some political analysts, Digital Bangladesh is nothing but a political slogan to win the hearts of the educated and young generation of voters. But the government did not give in to these criticisms and mockery. The government has put a strategic emphasis on the use of digital technology to further engage the young generation with modern and progressive technological thinking. Put “Digital Bangladesh 2021” on the public agenda and proceed strongly in its implementation.

Meanwhile, the present Bangladesh has boldly achieved success in implementing its ambitious and Digital Bangladesh Vision 2021. Bangladesh's state-owned higher institutions are seen investing in digital technology for digital governance. Due to the reality of the present digital society in the age of science and technology, trust and reliance on 'digital governance' is increasing day by day across the world. Especially the digital financial sector which is important in the daily life of the citizens of Bangladesh is increasing the financial prosperity of the country. 'Digital governance' of the financial sector of Bangladesh, which has great potential, is considered not merely to set up a welfare-oriented, representative, along with developmental authority besides as a powerful weapon to combat deprivation. The cabinet of Bangladesh has prepared the entire country in a short period of time to achieve the Millennium Development Goals (MDG) through 'Digital Governance'. According to sociologists, "For the welfare of the state, it is necessary to ensure the delivery of more effective and time-efficient services at the doorsteps of citizens for the purpose of accountability, political stability, continuity, law enforcement, and decentralization." That is why the present government is digital with the aim of 'Smart Bangladesh' It has been working for fifteen years to realize the dream of building Bangladesh.

"Like other developing countries in South Asia, the current government of Bangladesh is moving forward with a priority on the digital sector. The government has faced a tough challenge to establish a new concept like 'Digital Governance' for Bangladesh, which was backward fifteen years ago. Despite this, the government has made a concerted effort to build a sound and robust framework for digital governance. As a result, citizens who are used to the ancient administrative system have been able to receive citizen services by connecting with all the administrative organs of the government, including the financial sector, 24/7 at home without standing in line at the counter. For this only effective and efficient use of online smartphones is required. By promoting digital service activities of all public sectors, including the digital financial sector, transparent, welfare governance and democracy can be improved and strengthened. It is true that the real purpose of digital governance is to establish welfare-oriented governance in the state." (Md. Anwarul Kabir et.al.,2007.). The current government has introduced the Public-Private Partnership (PPP) model to accelerate the use and application of technology and digital tools in public services. As a result, the share of digital investment has increased from about 2% to 6% of the country's GDP. (GSMA, 2018). A positive relationship between communication and good governance has emerged as digital governance is identified as a key element.

The modern digital paradigm we are seeing has an influence on every part of our life. Digital devices e.g. android gadget, PC have been almost literally determining which things to sell in stores and which not to they are doing functions that were previously performed by humans, and they will very certainly drive automobiles in the future (Khan et al., 2015). The advancement of digital smart phone or feature phone on marketing is even greater because marketers must deal with the critical tasks of product development, promotion and advertising, distribution channel selection, and customer relations, all of which have been reinvented by the various online systems, social media, business management apps, and digital devices (Roy et al., 2016). Every company sector, regardless of function, has been touched, either directly or indirectly, by digital advances in the external environment.

1.2. Necessity of Governance in The Financial Sector

Fifteen years ago, transactions in the financial sector of Bangladesh were done on paper and pen. One had to appear in person at the old-style office and sign the customer attestation in front of the office staff for transparency. Then the official of the office would take that signature and verify the authenticity by matching it with the signatures stored in the huge volume book. Then the rest of the transaction process was completed. But that day is gone. Now the foundations of the financial sector of the past have changed. Instead of paper and pen, digital technology is working, and the financial sector is moving towards a cashless society. It can be seen that plastic card and ATM booth transactions have increased in the digital financial sector of Bangladesh. It is also true that the digital financial sector is not equipped to reduce corruption. Because this remains a digital record of digital cashless transactions. That's why anyone can't evade tax at will. Also due to this digital technology, illegal, suspicious financial transactions, unethical practices in the financial sector, misconduct, and corruption are detected. Thus, digital governance plays a helpful role in reducing corruption in the financial sector. Bangladesh's digital financial sector can be thanked for this.

It is no exaggeration that the modern wheels of digital technology have been put on the financial sector of Bangladesh. This digital wheel has turned the wheel of fortune in Bangladesh. The economic development of all citizens is at the root of the policies and decisions of a welfare-oriented democratic state. One of the prerequisites for people's empowerment is providing access to unfettered use of digital technologies in the financial sector. Efforts are being made so that even the grassroots, marginal, remote, and remote hill people of Bangladesh can avail of digital financial sector services using online smartphones. The government is going to introduce more modern digital technologies in the financial sector to deliver better services to citizens with greater transparency. How this government's initiative of digital connectivity in remote areas is towards public welfare is known from the concept of remote areas of India's nuclear scientist, former President APJ Abul Kamal Azad. He called for financial sector entrepreneurship in remote areas through physical, electronics, knowledge-science, and economic linkages for sustainable development in the Asia Pacific region. He said, “When knowledge is linked with physical and digital electronic connectivity, it increases production, ensures markets for products, makes people health conscious, and increases life expectancy. For this, there is a need to connect the center with the remote areas." World Bank's opinion in this context — "The state's antiquated rules and regulations, lack of its own digital technology capabilities makes the procurement process corrupt. As a result, citizens suffer. However, the state and social structure cannot function in this way. Although it is not possible to make overnight changes to eliminate these, the state can add some good services like digital governance in the financial sector to better serve its citizens." (World Bank Blog). “Digital financial services can come across the specific requirements of different types of purchasers. For example, online banking, digital money transfer, ATM card, credit card, digital financial services, etc. " (Khan, 2020).

Digital financial service, in particular, has piqued the market's attention and is regarded as the business's future, particularly with the convergence of communications, digital technology, electronics, and media (Khan et al., 2021). The android smart phone device has risen largely as a result of the requirement for mobility, which is driven by both the customer experience and the convergence angle. As a result, organizations are embracing mobility solutions from both corporate and individual users. Digital devices have become an integral component of most people's everyday life. (Khan et al., 2019). Innovation and advancements in Digital technology have the ability to revolutionize the way customers conduct financial transactions by providing them with new options that match their lives.

Digital money transactions have been adopted more widely in underdeveloped nations than in industrialized countries (Khan and Hossain, 2021).

We have noticed that digital governance has had a huge impact on individual lives and organizations during the recent Corona pandemic across the world. A lockdown is given by the government. Forced to keep social distance. At this time, digital governance has drastically changed almost all work fields. Various organizations direct their employees to work from home. Production or service delivery is restricted due to social distancing measures. Governments and organizations are forced to reduce the working hours of employees. In crises like pandemics, digital governance plays an important role in coordinating healthy responses, minimizing damage, and enabling recovery.

During the recent COVID-19 pandemic, Bangladesh has been appreciate just as included in leading nation in the universe in practicing digital in the financial sector. During the pandemic, people have realized how useful and contemporary digital technology is in the financial sector as a key strategy for development. During the pandemic, the digital financial sector has been deployed faster in Bangladesh than in other countries in the world. Rural poor marginalized citizens have received financial assistance from the state through the digital financial sector. The main reason for these successes is that the people of Bangladesh have been used to practicing the digital financial sector since a century before the pandemic. That is why the citizens of Bangladesh have understood that the practice of digital governance in the financial sector is not only necessary for the financial growth of the state but also a big inch of the welfare of the citizens of the country.

1.3. Statement of The Study Problem

Through the study of academic research literature of various scholars, it is known, "The success of the digital financial sector lies in the reform of the financial sector, competition, increase in savings and distribution of digital skills." How much can the digital development of the economic sector accelerate the economic growth of a country? Reputable and traditional legacy financial institutions in countries like Bangladesh are facing huge challenges in acclimatizing customers to new innovative technologies. Which is considered the biggest challenge of this time. However, it is true that the governance practices of the digital financial sector can be disrupted at any time. According to a study [4], “The data protection function of the digital financial sector cannot be compromised. Moreover, providing security against cyber-attacks in the digitally transformed financial industry is also a very complex task. Therefore, users of the digital financial sector must be deeply confident in this context. Because a good relationship between financial institutions and customers is an essential accessory.

[4] Research in International Business and Finance. Volume 42, December 2017. Exploring the nexus between financial sector reforms and the emergence of digital financial sectors culture – evidences from a developing country. https://www.sciencedirect.com/journal/research-in-international-business-and-finance/vol/42/suppl/C

Despite these challenges, the digital financial sector was established in Bangladesh like many countries in the world 15 years ago for the development of the financial industry. The digital financial sector stands for 'Cashless Society' which is an important component of modern digital society. For example, non-use of cash in financial transactions including salary, allowance, purchase, and sale of products. EFT or Electronic Fund Transfer is a modern digital method for the financial development of Bangladesh. Bangladesh Bank has played a leading role in introducing this system. In March 2012, the first salary allowance payment was started in Bangladesh. In 2019, the salaries of all government officials have started to be paid in this manner. In 2021, the use of digital methods by the financial sector has increased in disbursing state aid to government officials, employees, poor and marginalized citizens and providing government scholarships to students. In this way, the digital financial sector has permeated the masses by influencing and stimulating their professional and personal lives.

The present government is considering the governance of the digital financial sector in Bangladesh as a high-priority agenda. A developing country like Bangladesh has taken the first step in implementing the digital financial industry and has to face many challenges in the coming days to gain more acceptance among the users of digital technology in the financial sector. However, researchers say that most of the problems in the digital financial sector in developing countries are related to misconceptions and inefficient use of digital technologies. According to experts, digital governance practices in the financial industry need to be well adapted to the present socio-social situation in Bangladesh to avoid negative user responses to digital technology and to implement the best digital services in the financial sector. One of the most important and qualitative factors related to the implementation of digital governance in the financial industry is acceptance by service providers or users. Currently, almost all countries of the world are undergoing new reforms in the government and public service sector, especially in the financial industry. At the same time, the digital financial sector is facing various challenges to provide better information and knowledge to customers while providing more efficient and effective services. "Currently, the digital financial sector is replacing old technologies with new modern artificial intelligence (AI) digital technologies." (Sage Journal).[5] Hence it is necessary to ensure effective use of digital artificial intelligence (AI) for digital governance in the financial sector. It is necessary to improve the governance practices of the existing archaic financial sector, and digital artificial intelligence (AI) is needed to massively engage the citizens of tomorrow in more advanced digital financial services.

As the digital transformation of the financial sector has reshaped the financial landscape, it has also created new opportunities. At the same time, it is also creating new risks. Bangladesh's digital financial sector is at the top of these risk trends. Admittedly, the

[5] Sage Journal. A Brief History of Artificial Intelligence: On the Past, Present, and Future of Artificial Intelligence. By Michael Haenlein and Andreas Kaplan.
https://journals.sagepub.com/doi/abs/10.1177/0008125619864925

digital financial sector generates huge amounts of data from various touch points. Big data analytics and AI help analyze that huge amount of data. A recent survey found that 67% of those involved in the digital financial sector agreed that a critical issue in continuing to practice digital governance in the financial sector is the lack of skilled digital manpower. So, the curious question of the researchers revolving around the digital financial sector is how will it be possible to deal with cyber security risks, cross-border digital platforms, and the impact of digital currencies in the future in the digital financial sector?

Meanwhile, in this era of recent digitalization, the term hacking has become the name of a dreaded crime worldwide. The cyber hacking landscape of the financial sector is constantly changing. With the help of hacking valuable data of online financial services, savings accounts, etc. is stolen. Sensitive incidents like fraud through hacking, and money embezzlement have now become routine matters. Hackers' sole objective is to find vulnerabilities in a predetermined computer network and gather information to breach the security of that system or network. These self-interested cyber hacker criminals keep reaching for this confidential information - data, passwords, and documents. Nowadays this cyber hacking is seen happening almost frequently. The news of hacking in the financial sector is visible when you open the pages of the newspaper. Hence, cyber hacking is the biggest concern of the time.

As technology continues to advance, the intricacies of hacking technology are taking a heavy toll on civilian life. “In 2016, North Korean hackers planned to hack a billion dollars from the central bank of Bangladesh and almost succeeded. But fortunately, the transfer of the rest of the money, except for $81 million, was blocked. Therefore, ensuring proper security measures in any digital technology is very important.” (Majumder, Mohammad Mehadi Masud and Sobhan, Abdus. SSRN.) [6] The financial sector security in Bangladesh faces major threats because of easy access to cash and customer information from this sector. So here lies the researchers' million-dollar question—who should actually be the authority on the digital financial industry? How does the "wrong" result come from this authority? Therefore, the policymakers should think more about the cyber hacking of the digital economy sector of Bangladesh in the future. Because the risk of cyber-attacks on financial services firms cannot be underestimated. However, following the Bangladesh Bank reserve hacking, several digital financial sectors have also increased spending on cyber security. Despite this, the Bangladesh Institute of Bank Management (BIBM), [7] an education, training, research, and consultancy institute of Bangladesh's financial sector, has released alarming information about cyber hacking in the financial industry. According to a recent study by the institute - "Currently 52% of Bangladesh's financial

[6] SSRN. Journal of Operational Risk, Vol. 15, No. 4. 24 Pages Posted: 25 Jan 2021. The Spillover Effect of the Bangladesh Bank Cyber Heist on Banks’ Cyber Risk Disclosures in Bangladesh. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3771379
[7] Mahbubur Rahman Alam, Associate Professor at Bangladesh Institute of Bank Management (BIBM). https://www.bibm.org.bd/faculties.php#

sector is at high risk of hacking, 32% is at medium risk of hacking and 12% is at low risk of hacking". [8]

Bangladesh is constantly facing various challenges while moving ahead with infinite courage to achieve its ambitious Digital Bangladesh Vision 2021 [9] priority. According to the researchers, it is now essential to introduce cutting-edge technology, artificial intelligence and orchestration to ensure the cyber security of organizations in the digital financial services sector. Emphasizing the need for more skilled engineers to combat cybercrime. The financial sector industry needs to develop in-house training programs to train employees to develop data science skills in addition to training to produce skilled data scientists. Now the focus should be on Data Acquisition Systems (DAS) in the financial sector. Digital training of employees as well as increasing digital awareness among users of digital devices can prevent problems. In short, the government needs to take bold steps to deal with cyber criminals. Government should collect international best modern technology system to prevent cyber hacking, crime. It should also work with development partners to build institutional capacity to combat cybercrime.

1.4. Justification of The Study

Reading at various previous studies, it can be seen, that the standard procedure of the asset management company using digital trust companies had a beneficial influence on the country's economy. i.e. facilitating savings, capital formation, and transactions. Which are making a country's austerity stand on a strong structure. In the present digital era in Bangladesh, digital payment solutions for instance cash transfer, cash in, cash out, bill clearance, etc., have greatly helped economically marginalized nations of Bangladesh to get financial benefits. In this regard, the curious question of this researcher is, how have digital financial services been used by households and businesses in the past years? How satisfied are individuals and business owners with digital financial brokerage fees? What are the usage patterns of digital financial services within our families and commercial trade organizations? Which one is the socio-professional impact of the family? Is family matter currently facing any challenges with this? These research questions are rarely answered in the literature due to the lack of studies. The literature on the Bangladeshi digital financial services sector is not yet robust, with some notable exceptions. Research on the impact of digital economic governance is still lacking. There is still a dearth of research on governance practices in the digital financial sector. In particular, the lack of significant studies that specifically survey businesses, professionals, households, and ordinary citizens in researching the digital financial sector in Bangladesh is still evident.

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[8] The Business Standard: 22 June, 2022. You cannot stop cyber-attacks. Our target is to minimize the damage' https://www.tbsnews.net/features/panorama/you-cannot-stop-cyber-attacks-our-target-minimise-dama ge- 444766)

[9] Digital Bangladesh vision 2021. The philosophy of "Digital Bangladesh" comprises ensuring people's democracy and human rights, transparency, accountability, establishing justice and ensuring delivery of government services to the citizens of Bangladesh through maximum use of technology, with the ultimate goal being the overall improvement of the daily lifestyle of general people.

There is a popular belief that digital governance can bring about better changes in financial affairs through proactive disclosure of information as a result of governance. However, many digital applications are coming in the financial sector. However, policies regarding updating digital applications are not yet in place. To succeed as a digital smart Bangladesh, the digital financial industry needs to harness the immense potential and opportunities of technology and explore and utilize new and innovative forms of financing. Because we inhabit an age where digital information production, visual dissemination is faster than the blink of an eye. In a short time, one has to think about what should be done and what should not be done. Digital governance consists of digital participation in social media. So, no one can avoid it. The present study has thoroughly investigated the changes and challenges of digital financial sector services in developing economically advanced countries as well as taking proactive steps to harness the digital potential in the financial sector in the coming days.

This investigation emphasizes sharing ideas to explore digital technology development activities that blend with financial information and systems. How to mitigate security issues during AI collaboration along with establishing digital tools in the financial sector. Digital financial systems are becoming familiar in Bangladesh and need further changes to reach all consumers in the country. The lack of digitally designed services is a major problem in Bangladesh's financial services sector system. People do not want to become customers of the financial sector due to a lack of user-friendly services. This study attempts to find solutions to some of the problematic challenges in sustaining the financial industry. We want to provide maximum service time in the digital financial system of Bangladesh and find better solutions for common people to use digital financial systems and business sectors. Therefore, the central objective and aim of the investigation is Measuring the Challenges of the Digital Financial Sector. For example, The Central of Bangladesh and another private digital financial sector are compared. In this case, information has been collected on the recent development of Bangladesh's digital financial service user's most beneficial organization bKash. Because bKash is now not only a digital financial service provider, it appears different digital financial sector. This study also examines the process of increasing accountability as well as transparency in the financial industry and public service institutions in Bangladesh. The current impact of digital governance implementation is also examined in the study.

1.5. Research Methodology

It is the original academic research work based on the essential and required coursework of the Master of Philosophy (M.Phil.) degree. The thesis covers the period from 2019 to 2020 academic session of Dhaka University. Titled, “Challenges of Digital Governance in the Financial Sector in Bangladesh”. There is no alternative to intellectual development and practice based on science and technical education in creating a bright future for the next generation in digital Bangladesh. The digital transformation in Bangladesh's financial sector has led to increased technology-based modern digital and creative economy practices. In recent times there has been very little research on the complex issue of exploring the challenges of digital governance in the financial sector in Bangladesh.

So, in this case, both secondary and primary data are collected to fulfill the research objective. The literature reviewed in this study is a significant and essential part of a country's digital governance development. Also, this study emphasizes previous research and review. By synthesizing and reflecting on previous research, a secure foundation for advancing new knowledge is created. Thematic literature has been read, researched, and analyzed for sources. The nature of analysis requires the methodology to combine analytical activities as well as descriptive methods. Therefore, both qualitative and quantitative information and data are needed to build the database for analysis.

The study also makes some recommendations on how digital governance can be fully operationalized in the potential of the digital financial sector. Although the basic framework of this study is a quantitative research technique, qualitative methods are also applied. In particular, digital technology tools have been used extensively in framing problems and proving research findings. Essentially: The research is a mixture of descriptive and explanatory research. So, in this research, the researcher has no control over the analysis and discussion of the results in this study; What happened to us only in the past? What is currently happening? And we can report what is going to happen in the coming days. This research will further accelerate the existing literature on digital governance by descriptively studying theoretical concepts and actual practices and reporting on organizational performance assessment. Hence, the above discussion, based on all considerations, can be said to be the purpose of this paper —to evaluate the proper investigation of the effectiveness of the digital financial sector in Bangladesh.

1.6. Nature of The Study

This research report is descriptive in nature. Because here only an attempt has been made to collect data and analyze it statistically. The research has been done by reviewing various published literature and collecting, and analyzing primary data on the digital financial sector reform program adopted in Bangladesh. the aforementioned study critically investigates the challenges of technology adoption in the area of finance in Bangladesh an emerging tiger country of South Asia, and presents a report exploring how digital inclusion can be linked to governance in digital finance in the context of the income and expenditure of ordinary people in rural villages in Bangladesh. The nature of this study is to generate insights into rural life in Bangladesh. Investigating similarities and differences between underlying assumptions in digital finance discourse. Thus, providing a comprehensive infrastructure for digital financial governance. With these goals and objectives in mind, research work investigates broad questions. How much of a blessing is the digital cash transaction system for the citizens of Bangladesh? To explore the barriers to entry of digital cash into this financial system and to find out how digital financial sector services with evidence are contributing to the financial development of Bangladesh. A detailed methodological process is also adopted as an essential part of this research.

Qualitative methodology was used in the study. The specialty of this research is to uncover the sensational facts and events of complex digital financial services in the current social context.

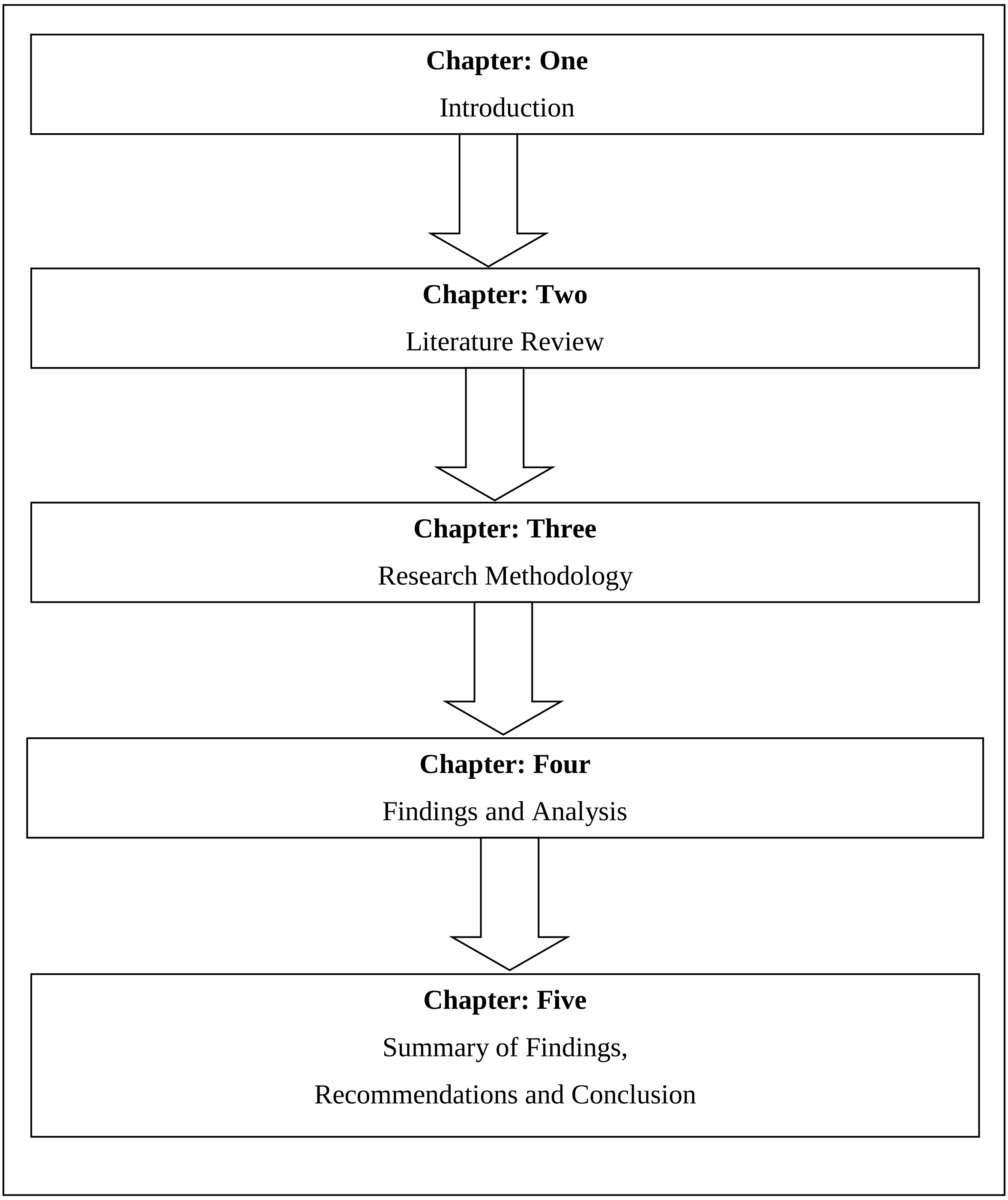
1.7. Organization of The Thesis

In the last decade, with the advent of digital technology tools in Bangladesh, digital technology-based financial services have been launched but among the most worrying in recent times, there are some problems in the multi-dimensional use of technology in Bangladesh such as the digital technology-based financial services sector. The digital financial sector creates many opportunities for marginalized people to access commercial services. subsequently, citizens at the bottom of the concerning social pyramid can be successfully brought into the economic sphere. Currently, digital finance is widely accepted and implemented in Bangladesh. Therefore, this study reflects the collective will of future digital citizens committed to achieving a Digital Smart Bangladesh. The paper describes in detail with evidence to find out the latest issues and solutions in the digital technology-dependent financial sector. This thesis is organized into various chapters and sections to present the research findings in a meaningful and understandable manner besides focusing on the current digital reality. The five interrelated research chapters in the ongoing research are arranged as follows. In the first chapter (1) special discussion is given to give a brief idea about how the latest digital technology is contributing to transactions and business in emerging Bangladesh in the financial sector. Which includes an introduction. This is an outline or research background of the importance of this research paper. It also includes a brief statement of issues related to the digital financial sector, the significance of current research, research objective, specific objective, organization of thesis, the research question, the rationale of analysis, the researcher's own analysis, justification, etc. are elaborated and finally this chapter is concluded with a conclusion.

The delivery of digital financial services has a huge effect on achieving the SDG goals of Bangladesh. Current digital financial inclusion in Bangladesh is playing a more positive role in improving the quality of life of tomorrow's citizens.

In the second chapter of study (2) various literature review studies on digital governance, literature closely subject of research, highlights, and a brief evaluation of existing published works on digital finance jurisdiction. Special discussion about the role of automated financial services structural transformation of the public and private financial sectors of Bangladesh. Then in the third chapter (3) refers to the technique. The item is intended to cover a discussion of the research methodology. There are also various mathematical formulas and sample designs. This includes methods of selecting an appropriate sample to characterize the entire population of Bangladesh and its actions. This chapter includes diagnostic techniques, methodology, data gathering, information analysis, etc., Chapter (4) explains and analysis of research findings. After this section provides data analysis the results are analyzed with tables, figures, and statistics. A statistical software output bound to that is shown in the figure. Finally, in the fifth section (5) synopsis, recommendations, implications, directions, and outcomes are included. At the end of this fifth chapter, the bibliography related to the acknowledgment content is listed.

Figure: 1.2: Organization of the Thesis



1.8. Expected Outcome

The financial market has been strengthened by the development and transformation of the digital infrastructure of the financial sector under the effective control and supervision of Bangladesh Bank. The use of digital technology in the financial industry has made the public sector and markets more productive and competitive. Through this transparency has been increased. Bangladesh's electronic payment system has been upgraded to international standards. Digital—Ensuring a stable and secure platform for better financial markets by strengthening technology governance. The security of the country's digital financial sector has been ensured by strengthening the structure of the Bangladesh Financial Intelligence Unit and establishing interconnections with other related institutions.

On the other hand, Bangladesh lacks skilled labor in every sector; The digital financial sector is no exception. Our current digital financial problems cannot be solved in old formats and traditional ways. In the digital age, we can learn from the mistakes of others and apply best practices to implement appropriate solutions, avoiding some stages of digital mistake repetition and pain. For successful implementation electronic direct democracy. in the economic part, the government should pay due attention to following digital financial guidelines, standards, and frameworks. In addition, necessary knowledge and training management are being developed for the relevant officials of the financial sector of Bangladesh in the areas of digital financial sector management, financial policy, scope, human resource development, etc.

1.9. Conclusion

Bangladesh has the characteristics of a developing country. The digital financial sector of Bangladesh has played a strong role in the transition to developing countries. The implementation of well-planned activities, policies, and strategies has been made possible due to the strong commitment of the government. That is why Bangladesh is witnessing an incredible digital systemic fundamental change or paradigm shift. Along with the digital transformation of the conventional financial sector, other sectors have also undergone digital transformation. In Bangladesh, after ordering online, burgers, and pizzas are now being delivered at home. Bangladesh's positive success in building a digital financial sector with an emphasis on the development of an innovative economy has been recorded by the entire world.

So, it can be said that the day is not far when the citizens of Bangladesh will be able to change their fortunes through digital technology and establish themselves in developed countries very easily. And there will be the real significance of winning the liberation war of Bangladesh in 1971.

Chapter-2

Literature Review

2.1. Introduction

Typically, scholarly researchers conduct literature reviews throughout their research career. A literature review summarizes and evaluates a body of writing about a particular topic. So, literature review is also considered as a critical review essay. Through this, the progress of a research topic is logically synthesized based on the results of previous studies. Each line of research is described and critically evaluated.

However, sometimes literature review can pose challenges even to an experienced researcher. By focusing on the research question, research evidence and arguments related to that question are identified. Then evaluation, selection, and production are attempted. Literature review greatly helps researchers to formulate questions and get reasonable answers. That is integrates the perspectives of researchers. A literature review is therefore particularly useful in facilitating theory developers.

This chapter summarizes some of the current literature on digital governance such as Bangladesh's society e.g. political system, environment, digital infrastructure, digital economy, digital commerce, digital financial sector transactions, cryptocurrency, supply chain, security of digital financial sector services, financial power, wealth and future challenges, etc. factors affecting digital governance in the financial sector have been duly investigated in the research methodology. This chapter discusses in detail some literature and research findings related to digital governance practices and existing issues related to factors affecting digital governance in the financial sector in Bangladesh.

2.2. Overview of The Governance

'Governance' cannot be defined or analyzed through any single concept. The concept of 'governance' is multi-dimensional. The concept of 'governance' has been reinvented by the World Bank in this century. As a development aid institution, the World Bank was the first to make the concept of 'governance' important in the context of development. The suffix 'governance' was first used in a study by the World Bank. It identifies the underdevelopment of developing countries and states that such underdevelopment is happening due to the lack of 'governance' practices. 'Governance' is a kind of new governance process through which power is exercised fairly. In this 'governance' process, people can participate freely and are informed about the policies and activities of the government and women and men can freely express their opinions. It ensures transparency, accountability, and the rule of law.

What is governance? According to UNDP, 1997, [10] the concept of governance has become an essential part of life. "Governance is the process of decision-making. The process by which state decisions are implemented or not implemented." Governance can be regarded as a set of relationships between the interests of the state's governed public, civil society,

[10] What is Good Governance". UNESCAP. https://en.wikipedia.org/wiki/Governance

citizens and their institutions, the state government and its organs, and the large-scale private sector. "The appropriate are those involving the relative importance put in an application in bureaucratic, judge, devising and geo-information systems for collective dimensional designing. (Science Direct)."

Figure 2.1. Structure of Governance

Source: Study

The concept of governance has become an essential part of life. If asked what governance actually is? Then the answer may vary depending on the requirement. Simply put, governance is nothing but the practice of government. The scholars explained, "The first thing the government should do is to ensure the safety of the citizens, protect the rights of private property, reduce social crimes and problems like injustice and corruption, and play a leading role in the exercise of state power for social development and public welfare." The meaning of governance was limited to "the exercise of political power in the management of an ethnic group" (Leftwich, 1993). About two decades later, a simple, clear definition of governance emerged that states, "Governance is the government's ability to formulate and enforce certain rules and regulations for receiving and providing services" (Fukuyama, 2013). What is governance? According to UNDP, 1997, "Governance is the process of decision-making. The process by which state decisions are implemented or not implemented." Governance can be regarded as a set of relationships between the interests of the public governed by republic, civil population, citizens along with their institutions, all government of the state and its organs, and the large-scale private sector."

Usually, political leaders and social actors manage the country by steering development. Various activities of the state and social development have to be left to them. These developments are carried out through a network where hierarchy, and democracy plays a very small role. As a result, the citizens are forced to accept many things like the ultimate blow even from the benevolent government. The state leader cannot then hierarchically manage or control the society. So, in this case governance is called the steering of the state. Which gives proper effective direction and power to the citizen. “Governance is seen as an alternative to government. If the objective of the head of state, world leader or any the organization is to make a better standard of life for the nation, then it’s essential to measure the performance of the government to look at governance separately" (Rotberg, 2014). “First, we need to understand what the normative elements of governance are” (Grindle, 2007) since it forms a platform for securing a set of institutional enterprise characteristics on which authoritarian development occurs. Again, many researchers cast governance as a specific issue. “Governance has differentiated itself from previous rule patterns by changing the type, structure, style, and orientation of reactive activities along with developmental activities of state power regulators” (Li et al., 2017). International development concerns acting as UNDP, WB, the Development Assistance Committee (DAC) of OECD, and various scholars have defined governance the same as the "exercise of state authority or power" to control the nation’s financial, legislative, and regulatory phenomenon. In accordance with the Global Monitoring Report (2009), “Governance is concerned with the formal and informal processes of power relations, policy-making and resource allocation.” It also states that “Governance is the process of decision-making and the process of holding governments accountable” (UNESCO).

Scholars have been discussing the concept of governance for a long time. Here is a summary of the interpretations scholars have put forward over the past fifteen years on governance: “Governing is a composition and procedure designed to ensure broad-based participation. Governance includes responsibility, lucidity, lawfulness, strength, fairness and involvement, and equity in empowering citizens. In fact, governance creates values. Through governance, the state manages the affairs of its citizens by an approach that is crystal clear, cooperative, equitable, all-inclusive, and amenable. So, the act of governing is so indistinct that it is rarely detectable. But it is as extensive as the organs of government. According to some researchers, "Governance is the culture of the institutional environment through which citizens and the state interact, increasing public participation in state decision-making."

2.3. The Worldwide Governance Indicator

Many scholars explain that 'governance' concerning slightly state system that emphasizes accountability, transparency, administrative efficiency, rule of law, human rights, etc. 'Governance' is another name for the rule of law. 'Governance' is the name of rational and efficient governance. Law and order, responsibility, accountability, fragmentation of capacity, and citizen participation in the system of the state is ensured through democratic means called 'Governance'. As per the World Bank (WB), "Governance is the process by which political authority and institutional resources are used to address the problems and needs of society." According to (McCorney), "Governance is the relationship between the state and civil society, the governed with the people, and the governed with the governed." Generally, 'Governance' refers to an ideal system of government that works for the governmental, economic, public, and lifestyle development of a state of affairs.

To measure nation-state governance globally, the World Bank (WB) has released Worldwide Governance Indicators (WGI) According to the WB, the standards, elements, or pillars of 'governance' practice are- 1. Government administration system, 2. Appropriate or legitimate development framework 3. Responsibility and Accountability 4. Transparency and free flow of information. On the other hand, in the view of UNDP, the standard of "governance" practice is 1. Partnership 2. Rule of Law 3. Equality and Justice 4. Clarity 5. Sensitivity Respect for public opinion Equality 6. Effectiveness and Efficiency 7. Liability. Again, according to IDA the criteria, elements, or pillars of the practice of 'governance' are— 1. Flexible structural reforms. 2. Qualitative budgeting and Public territory expenditure procedure. 3. Productivity and impartiality of income Collection. 5. Logicality and fairness of common expenditure. 6. Public service accountability and transparency.

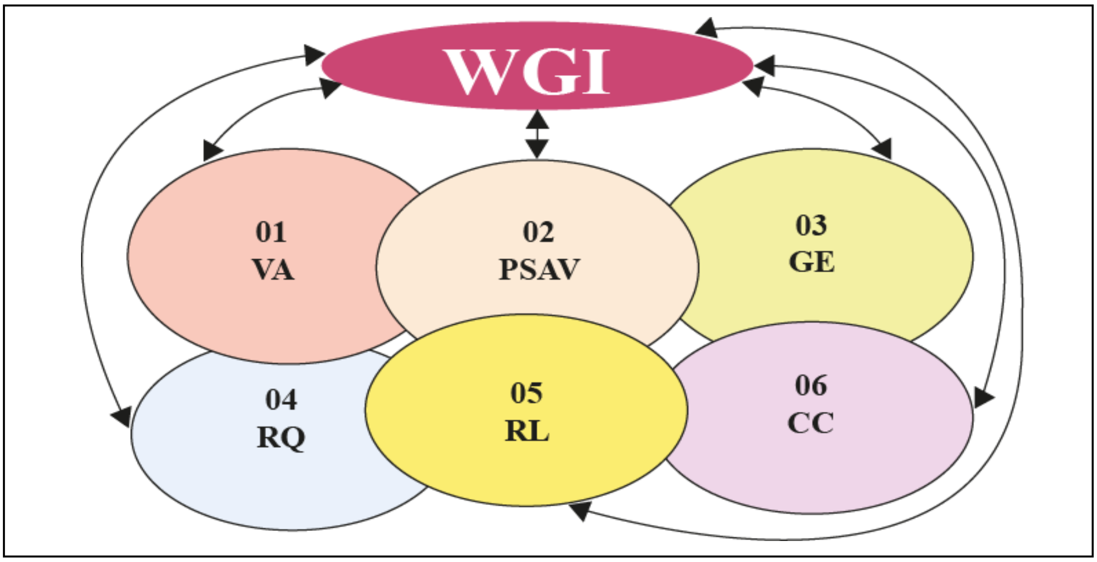


Figure 2.2. The Worldwide Governance Indicator
Source: Dr. Hassanuzzaman Choudhury [11]

2.4. Necessity of Governance in The Financial Sector in Bangladesh

Money is necessary for life. `A country's financial sector is at the heart of driving a healthy economy.' The saying is more applicable to a developing country like Bangladesh than any other country. Although the financial sector of Bangladesh is still in relatively good condition. Since the independence of Bangladesh, Bangladesh Bank has kept the wheels of

[11] Comprehensive Dynamics of Statecraft and Governance. Page.10. Author Professor Dr. Hassanuzzaman Choudhury. Former Chairman, Department of Political Science, University of Dhaka.

the economy moving in this sector. As the authority controlling the supply of money in Bangladesh or the authority controlling all financial institutions affiliated with the money market, the Central Bank has led toward growth and expansion of Bangladesh's economy in the earlier five decades. Bangladesh has progressed so far because of the various policies given to the central bank governors and the successful implementation of the policies. Frauds in the financial sector, financial crimes, setting policies to protect the interests of customers, dealing with COVID-19, and tightening monetary policy are all closely monitored and supervised by Bangladesh Bank.

During the time of 2009 to 2016, the then Bangladesh Bank governor Dr. Atiur Rahman took the digitalization path in the financial sector to take the country forward on the path of inclusive development. New and secure digital financial services were launched at the same time. Bangladesh Bank started getting all the information from CIB. Bangladesh Electronic Fund Transfer Network BFTN, Automated Clearing House, and National Payment Switch etc., were unique milestones of Bangladesh's digital financial sector. Guidelines on Information Technology were introduced and the Central Bank launched the Customer Interest Protection Centre. At this time, work on microcredit and agricultural credit also started. The continuity of which Bangladesh Bank is still moving towards innovative development in front of the upcoming industrial revolution. So many economists say that Bangladesh will be the next 'Asian Tiger' from the financial point of view. Another surprise is hidden behind this enviable economic progress of Bangladesh. The crisis of 'governance' practices in the financial sector, bribery and corruption, and various political and environmental disasters. And here lies the surprise of financial sector researchers. Because of these two aspects of Bangladesh, some people call the country 'surprise' or wonder, some say 'mystery' or puzzle, and many say 'paradox' or apparent contradiction. What is the secret of Bangladesh's success in the midst of a major crisis in the practice of 'governance', lack of rule of law, and growing corruption? This has now become a million-dollar question for eager researchers.

The main responsibility of central banks in all countries of the world is to implement monetary policy. Generally, others do not interfere with their work. It is well known that the Central Bank of Bangladesh has been legally given full independence. As an independent financial institution in Bangladesh, corporate governance is practiced there. Corporate governance plays a major role in the financial sector. Bangladesh Bank being a fully independent financial corporate body and financial sector regulatory body has several special responsibilities. But unfortunately, it is true, currently, Bangladesh Bank is not able to play a proper role in implementing the existing regulations of the financial sector of Bangladesh.

Whereas the quality of governance practices affects the indicators of financial soundness. Such as asset quality, capital adequacy ratio, liquidity, NPL, earning capacity, and many more. Its challenges with NPLs include the inadequacy of the legal process for nonperforming loans and the practice of prolonging those loans. Access to capital is crucial among other factors; Entrepreneurial activities and job creation by ordinary citizens.

It is essential to develop the country's financial sector by improving agricultural production and digital technology used by farmers, increasing agricultural income, building capital in the financial sector, investing in new ventures, developing trade and industry, and encouraging savings and agricultural development. It is expected that Bangladesh Bank has also implemented some coordinated actions to reduce fraudulent transactions to improve its dominance of the financial sector. As a result of these reforms, global monetary standards were adopted. However, Bangladesh Bank still has a lot to do in the future. Because it is clear that any sign of disruption in the financial sector will adversely affect the economy of Bangladesh. The financial sector is an important sector in Bangladesh. Smart digital governance practices are particularly important from now on to accelerate Bangladesh's financial development journey.

2.4.1. Overview of Corporate Governance in The Financial Sector

Financial sector governance is different from other corporate governance in terms of board practices, ownership control and internal control (Becht *et al*., Marco Becht 2011). In corporate governance from scholars' side, directors' behavior is not only driven by financial gain but also need maximize shareholders wealth. Stewardship theory identifies that the board of directors is motivated by a common goal instead of individual goals. It seeks for insiders-dominated optimum board size (Muth and Donaldson, 1998). An effective corporate governance practice is regarded as a key factor in all emerging economies (Dharwardkar *et al*., 2000; Azmi *et al*., 2021). The boards follow the given institutional, governance, and strategic roles (Goodstein *et al*., 1994, Fama and Jensen, 1983.) and they need subjective expertise and professional knowledge (Mclntyre *et al*., 2007). Kang and Shivdasani (1995) and Payne *et al*., (2009) have also showed that the board attributes really influence the firms' financial performances. Nonetheless, the full board capacity includes independent directors who have independent roles in the boards. But question arise, do the regular (independent) directors mitigate their self-serving (independent) behaviors and contribute to the financial firms' overall organizational objectives? So, these have augmented the Basel III and corporate governance principle for financial sectors' guidelines in the financial sector governance (Saidat *et al*., 2019). Nonetheless, the new regulatory environment of Basel-III has decisive dynamic impacts on financial sector. (See Appendix-5. Bangladesh Bank Corporate governance Guideline).

2.4.2. Corporate Governance Crucial Problems in Bangladesh

Building a truly transparent financial institution and ensuring international standards of transparency is a very difficult and challenging task. It is not possible to compete with others in a free market without providing the best convenience to customers in their daily lives. Helping and satisfying the needs of customers is very important. That is why the organization has to have its own ethics, values, or 'governance'. e.g. facilitating service, keeping promises, motivating, respecting, etc. The aim of a profitable financial institution is not only to establish business relationships but also to develop relationships based on trust among all members of society including customers, business partners, employees, and shareholders. If business opportunities are created, the nation can be taken forward in addition to focusing on its own business.

Bangladesh's financial sector has been plagued by various problems for a long time. The first problem is the lack of governance practices. The second problem is that policies and laws made for this sector, company laws, are equal to the standards of international policies but are not properly followed. Lack of transparency and accountability regarding public-private responsibilities in financial sector management has become a cause for concern. The International Monetary Fund (IMF) defines transparency as the creation of an environment in which all information related to currency and monetary policy is communicated to the public in an understandable manner. Transparency in government operations is a prerequisite for sustainable governance in the macroeconomy and the establishment of discipline in the overall financial sector. Accountability is the provision of maximum service at affordable cost by any public or private agent within a specified period of time through appropriate use of existing resources based on mutual agreement.

The main groups participating in financial sector markets are lenders—borrowers, banks—insurance institutions, investors, national authorities, international financial institutions, etc. Transparency is needed to ensure accountability for all. In recent times, bad management of the financial sector has increased unethical practices in the industry. The recent Hallmark, Bismillah, and Basic Bank scams in Bangladesh's economic sector are clear examples of deficit clarity. There, the borrowers and officials bleeding huge sums of money through secret understanding.

It is still not possible to give the result of proper administrative and legal action against those who were accused in that incident. Through this, they got 'incentives', and the honest officers who work in the same bank and elsewhere are neglected and pushed back. It is as if bad money drives out good money. Due to this many case of failure of the financial sector have occurred. The banking system of developed countries is now considered ideal. So, the question may arise, banking scams do not happen in those countries? Of course, and the world's biggest scandals have occurred in developed countries. But the point is, every incident has been caught and those responsible have been brought to justice.

This problem is most evident in the recent state-owned financial sector of Bangladesh. The state-owned financial sectors are being used as a tool for the distribution of political privileges, which is one of the causes of defaulted loans. The private financial sector is no exception. The condition of non-banking financial institutions is gradually becoming worse gradually. According to the Bangladesh Bank (March 2023), "Non-banking institutions had defaulted loans of Tk 17,855 crore. It was Tk 14,232 crore in the same period of the previous year. Far East Finance has Tk 886 crore, Infrastructure Development Company Limited Tk 848 crore, First Finance Tk 835 crore, Aviva Finance

Tk 798 crore and Bangladesh Industrial Finance Company Tk 755 crore. Almost a quarter of total loans are defaulted loans."

The rules of corporate governance are that the board of directors will give overall direction for the operation of the financial sector, make decisions on policy matters and the people engaged in the management of the financial sector will implement the policy. The scope of work of the board of directors and financial sector management is prescribed by law. However, there are often complaints that the Board of Directors is interfering in the management of the economic sector. Concerning the result, opportunities for economic sector managers to act independently are diminishing. This does not augur well for the financial sector at all. However, financial sector management is not always efficient.

Many times, problems also arise due to inefficiency and errors in management. Due to these reasons, corruption is occurring in the financial sector, lack of accountability is observed. There is also a tendency to blame each other between the directorate and governance. As a result, the point at issue accountability becomes secondary. Also, monitoring and supervision in the financial sector are very weak. Those who become chairman of the board directors have their own business. They also pressured the management to facilitate the business of relatives. They influence the management authorities to give loans or jobs to their people. One of the reasons for the failure of the financial sector in the last three decades is unethical practices and lack of governance. Opposition from vested interests and influential groups is perhaps the biggest obstacle to financial sector reform. Those who are supposed to establish governance in the country, and stop these lawlessness-irregularity-corruption-trafficking, are failing to do so. In many cases, these works are being done with their cooperation. If those who work to stop and rescue money laundering are themselves accomplices, then how will that work? If the government is above accountability and fails to establish the rule of law, then this crisis will not end soon. However, from the responsibility of our conscience, from the love for the country, the researcher can give an opinion that the government will immediately take effective measures against these injustices, corruption, looting, and smuggling in the financial sector. Because the practice of governance and ethics is very important in sensitive and life-related matters like the financial sector. The interests of all stakeholders are protected if proper governance practices are in place in the financial industry. Especially the interests of customers are protected. Even the interests of owners in the financial industry are protected.

2.5. Conceptual Framework of Digital Governance

The concept of `digital governance’ is directly related to digital technology adaptation. Now is the time to develop the toolbox of new modern governance practices through this digital technology. With the need of time, digital governance has now emerged as a new interesting research topic in social sciences. Although the concept of digital governance emerged in Bangladesh a decade ago, today it has been strongly adopted and mastered by individuals of all arenas due to the impact of new digital technologies e.g. digital transformation of product service processes.

A term that has been widely used in recent times is 'digital governance'. 'Digital Governance' is a state-of-the-art initiative to harness the creative power of government technology and interact with citizens. A citizen in a 'Digital Governance' system at a low cost, hassle-free seven days a week; and gets government services 24 hours a day. 'Digital Governance' brings transparency, and accountability and reduces corruption. The concept of 'digital governance' in Bangladesh has evolved in recent years. This 'Digital Governance' is the most modern method of delivering government services to all people of the society using digital communication technology. The features of 'Digital Governance' are observed in most of the developed and underdeveloped countries of the present world. Aftereffects from the spread of digital communication gadgets, their impact is being noticed in all areas of social life. Now if you want, you can send communication and information to any part of the world in a moment.

As defined by the World Bank, 'digital governance' is "the use of information technology by various government agencies to redefine relationships with citizens, the business sector, and other institutions." On the other hand, scholar (Warschauer, M.) states, "The concept of digital governance was initially coined in 2003 and was discussed in the academic literature around the year." The purpose of the welfare state is to fulfill the needs of the common people by making the services of the state transparent, affordable, and easily accessible to the common people. Scholar Saskia Sassen emphasizes the use of digital media and focuses on three issues “social democracy, organizational systems, and digital technological change occur in digital smooth communication systems.” Scholar Zhi, Y. F. 2002 strongly believes that “digital governance theory ensures the smooth flow of digital democracy. However, in this regard, there is a special need to strengthen cooperation and digital legal activities among the various organs of the state." On the other hand, scholar Jeffrey Ray said in the discussion about digital governance - "cross-sectoral governance and organizational culture and people's organizational culture and practical changes between the state organizational system and digital technology.

The role is relevant." The researcher (Choi I- 2006–2010) puts special emphasis on researching the future of digital transformation." Patrick Dunleavy, in the context of digital governance, emphasizes " Big data and digital technology to facilitate and strengthen interconnections. Need to introduce cloud computing technology. Digital governance will enrich the "toolbox" of the state's financial sector." According to scholars (Xu Xiaolin and Zhou Lixin), "digital governance is an essential modern system for managing the state." Scholars and researchers generally agree, "State, civil society, financial facilitate sector trust, fairness, accountability, transparency and interoperability of internal government functions."

According to the researchers of the current digital era, “Digital governance will bring a great change in social life in the future. A large number of people will use smartphone applications on digital gadgets to communicate with each other. A large number of people will use the Internet with new devices including GPS and data tracking. This will have implications for the products business models and supply chains of the global financial sector. Product production no longer has to be geographically dependent. "The interaction between citizens and government is secured by practicing digital governance with the benefit of technology. It is possible to provide welfare and better services to citizens by implementing state decisions. Due to these diverse advantageous features, renowned researchers and scholars (Hartani et al., 2020; Nam, 2018) said “Digital governance is the perfect weapon against financial and social mismanagement and inconsistencies.” On the other hand, researchers (e.g., Basyal et al., 2018; Pathak et al., 2008); and (Das et al., 2017), in one of his studies, expressed apprehension and skepticism about the claim that corruption can be reduced through digital governance. ``It is easy to manage the daily necessities of the common people and the happiness and sorrows of the rural people. Thus, it is possible to improve the level of democratization due to digital governance." (Meijer AJ, Gil-Garcia JR, Bolivar MPR).

"In today's digital Bangladesh, the Internet has become an important infrastructure for the digital governance sector. Digital governance in the financial sector has paved the way for personal transactions. However, in the early stages of the digital era," (Liou K T.). Apart from the capital city, many 'digital governance' initiatives can be observed at the union level in Bangladesh today. Villages too have a secure and stable digital infrastructure these days. Providing government services digitally. Two thousand government services have been digitized under the national master plan for building digital Bangladesh. Mobile internet usage has increased 6 times in the last decade. Internet connectivity has been established up to the Union under the Info Sarkar scheme. Technology orientation of citizens has been emphasized through mega projects like Union Digital Center and Multimedia Project.

Also due to the financial investment-friendly policy, global brands such as Nokia, Samsung, Oracle, One, Oppo, and Huawei have started manufacturing and exporting digital gadgets abroad. Through 'startup' investments, a solid foundation of an entrepreneur-friendly business environment has been created in Bangladesh. Digital governance has gained importance in the formulation of the grand plan of Smart Bangladesh in 2041. National ID, Telecom and Internet Infrastructure, Cyber Security, Artificial Intelligence, Industry 4.0, Digital Financial Inclusion, etc. have widened the scope. In the current year 2023, digital development work such as fashionable gadget entrance, automated combination Platforms, Smart Bangla, well-turned-out health protection, tariff, technology-mediated instruction, etc. is progressing at a fast pace. In the meantime, activities such as digital skills enhancement, cyber-safety, business compensation, state acquisition, digital merchandise, automated career marketplace, paperless administration, startup business, universal internet access, government cloud, and data center, etc. have been started.

Universal Digital ID is also being developed. Payment of various types of service bills through this digital card will make all financial transactions easier in a digital system. This card can be used for various purposes of taking state citizen services. Digital ID adoption by citizens has been targeted at more than 30 percent by 2025. 80 percent in 2031 and 100 percent in 2041. By 2041, Bangladesh will gain the identity of a developed country. Where citizens will have a per capita income of more than $12,500 and will be able to keep pace with the digital world. Poverty will be eradicated in Sonar Bengal.

2.6. Conceptual Framework of Digital Governance in the Financial Sector

The new generation of Bangladesh is using digital payments through smartphones. Apart from buying call time, Flexi load, MB, GB data purchase, credit purchase, etc. are also using digital online gaming. Regular credit is being used to make purchases through app-mediated systems. This is the current reality and the new generation is moving in the right direction. The new generation is no longer using formal channels to open financial accounts as before. The new generation does not have to queue at traditional office counters in the financial sector. Chakraborty and Pal (2013), stated that, “The practice of digital governance in the financial sector has become a subject of recent research by policymakers and researchers in both developed and developing countries.” In this regard, many scholars have interpreted digital governance in the financial sector in their own way. For example, according to scholar Ramji (2009), “Most citizens of the state are more or less connected to digital financial services and can access all types of financial services, including taking loans. For example – savings, bill payments, pensions, insurance, etc.” According to the United Nations, “The entire population of the country affects empowerment by adopting digital financial sector services.” Sarma and Pais (2010), say – “All members of the financial sector digital governance ensure availability and use of digital access".

The researchers broadly explained – “Due to the penetration of digital governance in the financial sector, poverty has decreased due to the increase in the level of financial services of rural citizens, poor families, and various organizations.” A notable example of the practice of digital governance in the financial sector is Singapore, the neighboring country of Bangladesh. There, technologically efficient infrastructure has been developed to keep the digital financial sector running. A recent study by the ILO [12] shows, "In developed countries, the labor market is advancing as older citizens engage with the digital financial sector." So, seniors can now invest time and talent in the digital financial sector labor market by developing their skills. For this, senior citizen needs to be upgraded through proper training. On the other hand, researchers (Shankar and Rishi, 2020.) stated, “Adoption of digital devices, a new generation enticed by technology, improving consumer mobility and rapid availability of apps on Android have all contributed to the rapid growth and adoption of digital finance, which offers huge business potential to

[12] ILO, International Labor Organization. Skills policies and systems for a future workforce, Global Commission on the Future of Work, Issue Brief No. 8, 2018.

companies in the financial sector paved the way. That is because customers are able to be satisfied more conveniently." According to researchers Jebrajkirti and Shankar, (2021), “Consumer behavior is heavily influenced by digital technological advancements. The specific characteristics of the use of convenience that drive the use and adoption of digital financial services are noteworthy. More importantly, these digital financial services influence how the client perceives his financial/purchasing needs, gets information, analyzes prospects, initiates product usage, and becomes a brand champion".

All citizens benefit from accessing the digital financial sector as there is no rich-poor disparity in the digital financial industry. And this is the main objective of the digital financial sector. Due to the digital financial sector services, the work momentum of sectoral skilled workers has been transmitted during the COVID-19 pandemic in Bangladesh. In this regard, a recent study by the World Economic Forum revealed – “30% upskilling and reskilling activities in the digital financial sectors have intensified during the Covid-19 pandemic.” According to the World Trade Organization (WTO), “the digital financial sector is causing free movement of capital., the liberal momentum of international capital flows has been transmitted. As a result, the larger financial markets of the whole world have become a balanced competition. Development has also been accelerated as the economy has been accelerated by the digital financial sector." The digital financial sector has eased offshoring, e.g. virtual businesses, by reducing operational costs. Not only that "the digital financial sector in Europe and America has increased the share market value" (Deloitte, 2019) researchers (Hannelt, Bonsack, Marge, and Antunes Marante, 2021; Verhoef et al., 2021; Vial, 2019), stated in one sentence and admits that, “The digital financial sector has greatly expanded the financial landscape as knowledge exchange is facilitated. But it is also true that the digital financial sector is currently facing some new challenges."

The modern digital paradigm that we observe around us today has had a huge impact on every part of our social life. Android technology, Wi-Fi innovation, and advancements in the financial sector have given consumers new options that match people's lives. In particular, there has been a revolution in financial transactions. Not only that, “digital money transactions are more accepted in underdeveloped countries than in industrialized countries” (Khan & Hossain, 2021). But the reverse reaction is also being observed, i.e., consumers of digital financial services in the US are now skeptical about the benefits of digital financial services. Because Americans fear hackers, they are now deeply concerned about the security and sensitivity of accessing their financial records through digital devices. So here comes the million-dollar question, in the future, how will the impact of digital robotic artificial intelligence (AI), cyber security risks, cross-border digital platforms, and digital currencies be dealt with? This question has become particularly acute in the digital financial sector. The question has now become central to the thinking of national and international policymakers.

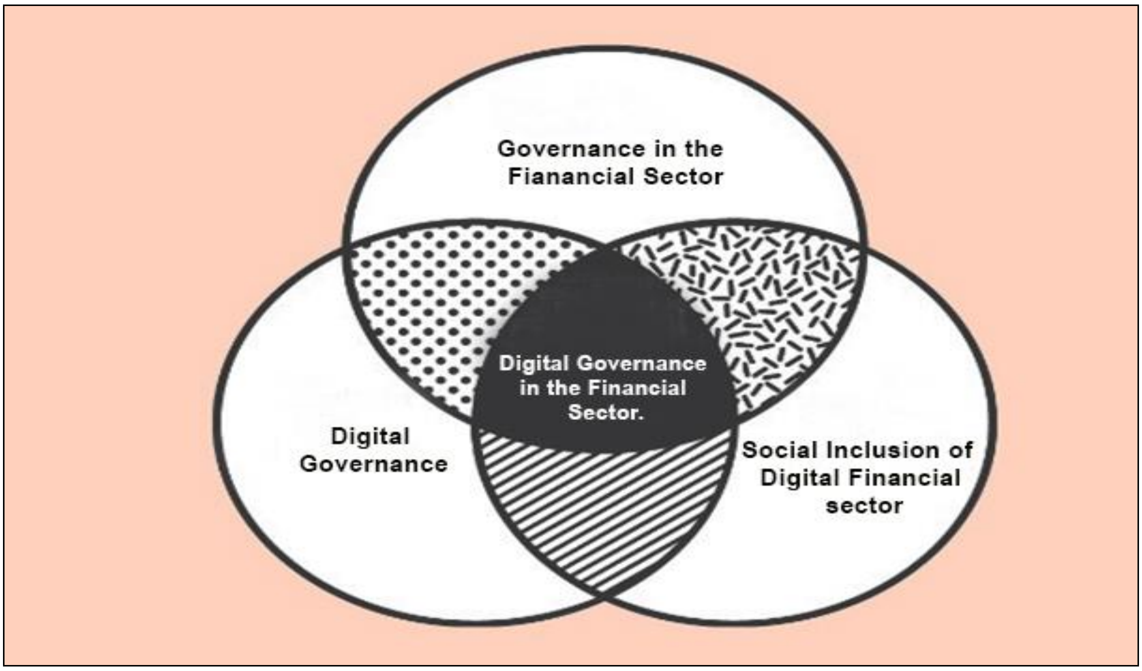


Figure 2.3: Conceptual Framework of Digital Governance in the Financial Sector

Source: Study

2.7. Importance of Digital Governance in the Financial Sector

The key benefits of digital Bangladesh transformation are found in the digital financial sector. As before, there is no need to go anywhere for financial transactions. Access to the digital financial industry has also become much easier for citizens as the availability of smartphones, and the internet is much easier than before. As a result, the market of digital financial products has accumulated. If you have a smartphone, you can use the app to make transactions and buy and sell things from anywhere at any time. Also, money can be withdrawn and deposited using digital credit and debit cards with the help of the ATM booth machine next to the house. Digital financial transactions have become more popular than ever. Customers are using these machines to transfer money. No more going to old-style office branches and standing in long queues for financial transactions. All branch needs are fulfilled at home without the hassle of going to the branch. There is no need for a passbook like the old system of financial transactions. Deposit money into a financial sector account using a card or mobile number, and know balance, and transaction statement all available at home.

"All kinds of financial services are available with high transparency by clicking on the button of the mobile phone in the hand, so this digital system is the only reliance for transactions, insurance, investment, loans." which has easily integrated all citizens into the country's economy." (Jeffrey Y. Zhang). This favorable economic climate and trade liberalization have led to the digital convergence of fintech. Facilitated access to venture capital for various enterprises. Between 2017 and 2018, fintech funding grew by 82%

globally. (Sean Ross). Although the application of digital technology in economic part activities is previously owned worldwide, the velocity of the digital implementation of new technologies has been unprecedented in the past several years. (Dong He et al.) “In recent times, the world has undergone a significant shift towards digitalization. The digital transformation of the financial sector in various countries has led to the introduction of new digital payment systems such as digital wallets. As a result, the economy gained stronger momentum. Access to cash has become easier for the common man and the market for digital device entrepreneurs and spare parts suppliers has expanded." (He et al.).

According to researchers (leapfrogging, Stijn Claessens et al., and Ozili (2018), “Developing countries have been more serious in adopting the digital financial sector than developed countries. In Asia, nearly one billion people transact in the digital financial sector. 49 percent of people in the United States access digital financial services through smartphones. The total assets of the digital financial sector worldwide are $100 trillion. So far, the financial sector—individuals and politicians alike—has sought to insulate the financial sector from technological change. But today, due to technology, financial transactions have become cost and time-efficient, and due to transparency and openness, governance can be practiced through it.

Observers have established a positive correlation between digital governance in the financial sector and poverty reduction. Sharma and Kukreja (2013) state, 'Digital financial systems are a powerful tool to address broader economic recessionary issues such as "poverty". It is helping to reduce scarcity e.g. boost economic prosperity through counting prevented populations. "Digital economic services possess beneficence in financial sectors and other sectors like education, health, etc. As digital financial services also help to effectively allocate productive resources, lower capital costs, and reduce the use of informal exploitative credit, this leads to massive economic and social development.' At the same time, digital financial services are growing in some countries as demand for the financial sector increases." (ILO). [13]

Analysis of digital financial services and poverty has shown that digital financial services help reduce poverty and reduce income inequality. So, it can be said in one sentence that the digital financial sector is indeed very important for the financial sector like Bangladesh.

2.8. Terminologies of Digital Financial Sector in Bangladesh

Economic growth has been rapid in those countries which are advanced in the invention and application of digital technology. The best example of this is developing Bangladesh. Currently, Bangladesh's financial sector is in its fifteenth (15th) year of digital transformation. Due to the teenage in the digital financial sector, therefore, the literary practice of the research of this subject is also going short. In this short time, some new words, phrases, and terms related to digital finance have been added to the Bengali language for Bengali speakers. The languages which have already gained great popularity

[13] ILO, Skills shortages and labor migration, 10.

among the citizens of all levels of Bangladesh. New terms related to the digital financial sector and digital business models are included in this study. So that the readers, researchers, and writers do not have linguistic confusion, so that there is no problem in understanding, here some definitions and literature are mentioned in the short form of the terms related to the digital financial sector used in the research. However, a detailed definition of the digital financial sector has been added in Appendix 8 of this study. (Digital financial services basic terminology. See Appendix 8.).

In conformity with Bangladesh Bank (MFS Regulations, 2022. See Appendix-6.), digital financial services refer to goods and services that are exchanged by the public or customers through digital devices (such as feature phones, Android smartphone gadgets, etc.). Due to digital governance in the financial sector, the common masses get access at a low cost regardless. According to Bangladesh Bank data, currently, 28 institutions have digital financial services licenses in Bangladesh. It may be clearly mentioned here that bKash (বিকাশ) and Dutch-Bangla Bank Limited (DBBL) are the pioneers of digital financial services in Bangladesh. Dutch-Bangla Bank Limited started its digital financial journey in 2012. However, till the completion of this study, numerous other institutions are awaiting approval from Bangladesh Bank to provide digital financial sector services.

2.8.1. Mobile Money

According to Bangladesh Bank (Bangladesh Mobile Financial Services Regulations, 2022. (See Appendix-6.), a mobile phone-based alternative to cash account that can be infiltrated customer's or digital financial account user's mobile phone is called mobile money. In Bangladesh, mobile money is generally handled through the networks of mobile operators e.g. Tele talk, Grameenphone, Robi, Banglalink, etc. Therefore, separate phone account users can manage their separate accounts. Even fifteen years ago in developing countries like Bangladesh, a large portion of the unbanked population traditionally had no financial account. They are now linked to this digital account called Mobile Money. Currently, this mobile money has gained great popularity among the common people of Bangladesh.

2.8.2. Mobile Banking

On the authority of Bangladesh Bank (See Appendix-6.), reference, mobile banking is the widely used banking account transaction through digital devices or mobile phones. With this new approach of doing all banking transactions through mobile, financial transaction functions such as account information, and financial reports are instantly available. Almost all conventional banks in developing countries like Bangladesh support this digital transaction. Mobile banking requires a smartphone app to make all types of transactions as secure as possible. According to Bangladesh Bank, 15 institutions including bKash, Cash, Rocket, and Mcash are now providing mobile banking services. In the fiscal year 2021-22, transactions of Tk 9.90 lakh crore were done through mobile banking.

2.8.3. Family Household

As indicated by Bangladesh Bank (See Appendix.), The people of Bangladesh have moral values. Which is not like other countries. Family is the primary organization of social structure in Bangladesh. Family is the primary institution of society. The first stage of group life is the family. People of Bangladesh still invest and spend money owned by joint families, eat food cooked in one stove, and live together. It is a terminology of mobile banking of Bangladesh Bank.

2.8.4. Mobile Payments

According to Bangladesh Bank (Bangladesh Mobile Financial Services Regulations, 2022. (See Appendix-6.), mobile payment is currently the ultimate attractive financial service accessed and delivered through digital channels. These are recognized as time-saving digital banking transactions. In this digital system, payments for services and products can be made through mobile as a transaction terminal. Payments are made through traditional or mobile money accounts. Which has become widespread in Bangladesh as a simple system of current digital financial transactions.

2.8.5. Small and Medium Enterprises (SMEs)

SME is the combination of three English letters SME. Here `S' stands for Small, `M' means Medium, and `E' means Enterprise e.g. industry. Therefore, small and medium enterprises (SMEs) are tiny and medium-sized firms. Led by Bangladesh Bank, the country's financial sectors have been majoring in massive lending to the small and medium sectors for the past three decades. More than half a hundred financial sector and non-bank economic sectors in Bangladesh are providing unsecured loans via the SME sector. By providing loans on easy terms, entrepreneurship is being created as well as employment opportunities for those involved in loan disbursement and collection. SME initiative has become a means of family-oriented financial earning in the whole of Bangladesh. Behind the country's financial growth, this SME product revolutionized the financial sector.

2.8.6. Cash In

From the point of view of Bangladesh Bank (See Appendix-6.), the cash-in process can be initiated by visiting the office of the Digital Financial Service Agent. For this, the agent has to inform about his desire to cash in with a certain amount of money as per his requirement. After notifying the agent, the customer enters his specific financial account identification and currency into representative work. After registering the money and number, the customer gives the money to the representative. The representative instantly deposits financial account identification through a digital process. That's why mobile operators make the transaction more secure by sending instant SMS to both the agent and the customer.

2.8.7. Cash-Out

According to Bangladesh Bank (Bangladesh Mobile Financial Services Regulations, 2022. See Appendix-6.), Withdrawals in the digital financial sector are commonly referred to as cash outs. We can withdraw money by cashing out. To cash out you have to go to the agent. After visiting the agent's shop tell the agent that you want to withdraw money and they will understand that you want to cash out. Tell the amount of money you want to cash out. You give the account number to the agent pay the amount to the agent and write down the cash-out-related details like pin code, transaction amount, agent number, etc. in the register. After this process, both the agent and you will get an instant confirmation message on your mobile phone from the operators. After that, the agent will pay you the required amount. At present, all the educated and uneducated common people of the villages of Bangladesh have been widely involved in this digital process of withdrawing money.

2.8.8. Money Transfer

In keeping with the Bangladesh bank, (See Appendix-6.), Technology has brought financial services to people's fingertips. Constantly this service has made financial transactions easier and faster. Sending money, withdrawing money from the financial sector, mobile recharge, remittance, bill payment, government allowance, salary-scholarship payment, etc. In the digital financial sector, a citizen does not need to go to an agent in the market to transfer money. Hard cash may be transferred from whoever one's bank account to any other financial statement at home. For this, you have to dial a specific number. Then useful identification information is requested. After telling that, the amount of money, the phone number of the person to whom it is to be sent, and the secret password are written in the correct order and the money goes away. In this case, both parties receive small messages on their mobile phones to send money. Then the recipient can go to any digital banking agent shop and show the number and code received on his mobile phone and cash out the money or bring cash.

A customer can withdraw a maximum of Tk 30,000 per day from any one of his personal mobile banking account numbers and send person to person. The maximum transaction amount per month is TK 2 lakh. However, there is no binding rule of transaction in the case of agent number. The latest information from the Central Bank says, "In July 2023 (latest) mobile banking services, including money deposits - withdrawals, transfers, bill payments, were 89 thousand crores, compared to 94 thousand 293 crores in the previous month. Registered customers in this sector are 11 crore 8 lakh 93 thousand 330. Among them 6 crore 41 lakh 76 thousand men and 4 crore 63 lakh 63 thousand 248 women. The number of mobile banking agents in the country is 11 lakh 77 thousand 152."

2.8.9. Shopping

This digital financial process is similar to normal cash purchases. But in this case, it is not necessary to exchange notes in cash paper. In this process digital secret number code is used for payment, and money transfer. In this way, customers using digital financial facilities can pay easily and immediately to the mobile bank accounts of merchants.

2.8.10. Agent Banking an Innovative Model of Digital Financing

What is agent banking? Chang (2009), a famous scholar and researcher in this regard, said that "any mediator who works on the side of the financial sector to distribute directly window-shopper is called an agent." Bangladesh Bank has brought convenience to public life by providing 24-hour banking services through this new digital capability of advanced technology. Agent banking is an important step in the financial sector of Bangladesh to provide smart banking services to the underprivileged population. Currently, agent banking is a new innovative model of financial services accessed and delivered through digital channels in developing countries like Bangladesh.

Through agent banking, the amount of services and transactions of marginalized people is constantly increasing. Agent banking is becoming popular day by day. Where private banks, including state-owned banks, are struggling to provide services to their branches, the growth and success of agent banking is worth seeing. Because banks do not have much cost in agent banking and in that case, the bank agent has to bear all the costs. Agents get only bank-fixed commission. That's why agent banking is getting huge popularity among marginalized people. As of September 30, 2022, 31 Scheduled Banks have been authorized to carry out agent banking activities. Agent banking has the greatest impact on rural life. It is a golden platform for financial inclusion and a big foundation for building a digital Bangladesh. Many banks still do not have branches in all remote areas of the country. People in these areas remain out of reach of banking services. People are being brought under banking services by opening bank outlets in those areas. According to the report of Bangladesh Bank, "In November 2022, the number of agents stood at 15 thousand 56, against which 20 thousand 621 outlets were used. And 2 thousand 843 city outlets were used. Moreover, the number of customers of this service increased by 1 crore 72 lakh 51 crore in November 2022. 1000. November 2021—The number of regular subscribers was 1 crore 35 lakh 7 thousand 37 people.

And in March 2020, the number of customers was 64 lakh 85 thousand. That is, after the start of COVID-19, 1 lakh 8 thousand customers have increased. That means it got more subscribers in the last three years than it got between 2014 and 2019. In November 2022, deposits in agent banking increased to Tk 29,658 crore, which was Tk 7,543 crore in December 2019. Deposits in agent banking services increased by more than 300 percent in three years. However, the bank's agent banking has lagged behind in disbursing loans as opposed to collecting deposits. In October 2022, a total of Tk 674 crore was disbursed, which is Tk 11 crore less than the previous month. The amount of loan disbursement in September was Tk 685 crore. Out of disbursed loans, Tk 433 crore was disbursed in rural areas and Tk 240 crore in urban areas." BB.

Agent banking has also revolutionized remittance collection in the country and the amount of expatriate income through agent banking has crossed the milestone of Tk 1 lakh crore. Until September 2022, remittances through this new style of banking were 1 lakh 6 thousand 628 crores and about 96 percent of them came only through the agents of five banks. Analyzing the data of Bangladesh Bank, it can be seen that in the last three years, most remittances have come through agents. At the end of 2019, the total amount of remittances through agents was only Tk 15,534 crore, at the end of September last year, it exceeded Tk 1,66,628 crore.

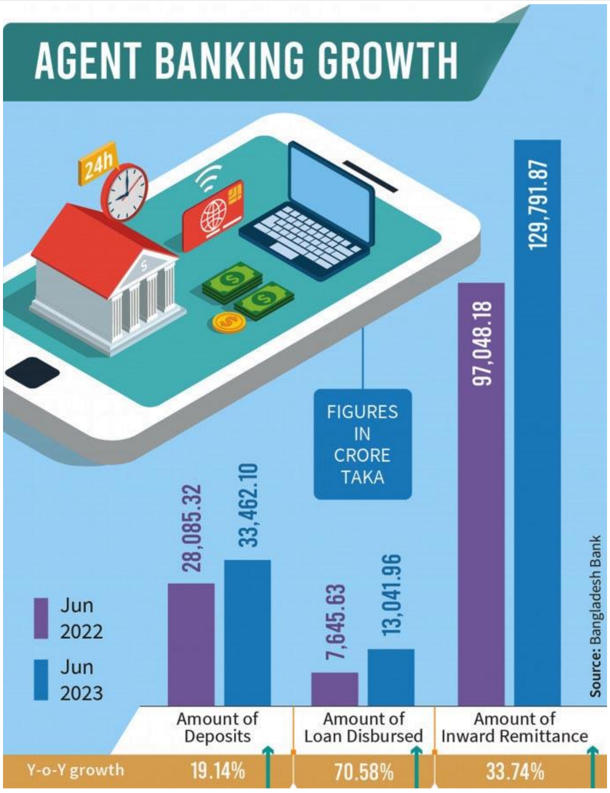


Figure 2.4. Agent Banking an Innovative Model of Digital Financing

Source: Bangladesh Bank

2.8.11. Digital Banking in Bangladesh

Just fifteen years ago, mass participation in the financial sector was only 10 percent of the total population. Currently, it has increased to about 50 percent. The entry of digital technology into the financial territory has taken a leading role in on huge success referring to the financial sector of Bangladesh. In this continuation, Bangladesh Bank has taken the initiative of creating a very commendable and timely 'Digital Bank'.

Most users think that digital banking and online banking are the same things. The debate of digital banking vs online banking has been going on for a long time. Digital banking is a solution where all the aspects of financial-related services are done through digital channels instead of visiting a physical bank. On the other hand, online banking offers only the core features of banking through an app or a website. Digital banking represents all the activities that can be done through a physical branch, and it offers even more features.

It is known that there will be no branches, sub-branches, ATM booths, or physical transaction systems of fully technology-dependent digital banking. In conventional banks, some services like money transactions, and checking accounts can be done using digital technology. All work in the digital bank will be technology-dependent. Digital banking can only be done using mobile, computer, and the internet. All operations from taking deposits, to giving loans will be digital. Customers can transact in this bank using a mobile app. The customer does not have to physically visit any branch of the bank. Moreover, the bank will not have its own branch or sub-branch, ATM card, CDM, agent banking, etc. However, there may be a head office. Digital banking may include virtual cards, QR codes, or other technology-based services. Anyone can open an account by uploading their own information including National Identity Card. Similarly, anyone can apply for a loan by uploading the necessary documents for taking a loan. Those who receive salary - allowance or business money, can take their account online. Money can also be deposited using agent banking of other banks.

2.8.12. Mobile Network Operator

Mobile network operator (MNO), is an independent cellular company providing wireless communications services. Also known as mobile network carrier. A mobile network operator is a wireless communications service provider that provides wireless voice and data communications by selling radio spectrum services to end users. Notable mobile network operators in Bangladesh are Grameenphone, Banglalink, Robi, Airtel, and Tele talk.

2.8.13. Other Services

Due to digital financial services, mobile phone customers in Bangladesh can buy Talk time or Flexi load, and buy digital data online, in addition to the above services in the financial sector. Also, utility bill payments bus, and train ticket purchases, bridge tool payments, BRTA vehicle fitness licenses, etc. are possible through digital financial services.

2.8.14. Bank and Non-Bank-Based Digital Finance

The financial sector of Bangladesh has a term called bank-based economic sector. Such financial institutions do not receive complete money dealing authorization or are controlled by any universal banking governing body. They collect term deposits and provide loan or investment services for various tenures. Banks cannot collect deposits on demand and return deposits to borrowers on demand. 61 scheduled banks and 35 bank-based economic sectors in Bangladesh are being managed under the supervision of Bangladesh Bank. According to scholar Chang (2009), “banks have an agreement with non-bank financial institutions for digital financial services. They are licensed by the central bank to provide limited financial services.” According to scholar Sultana (2014), "In the digital financial sector, non-bank financial institutions are the primary drivers of digital financial services directly—playing performance of pioneers through automated economic sector through activities such as marketing, branding, etc. does Non-bank financial institutions contribute directly to national development."

There are several differences between banks and bank-based economic sectors in product services. Bank-based economic sectors are largely dependent on banks. It is known that there are 34 non-bank financial institutions (NBFIs) in the country. Among them, 6 Bank-based economic sectors are plagued with problems including irregularities, corruption, and defaulters. According to the latest monetary data of Bangladesh, the entire proportions of banks, along with non-bank customers inside the digital economic sector stood at 19.68 crore at the end of February 2023. Out of this, the intensity of male patrons stands at 11.37 crores and the number of female subscribers stands at 8.26 crores. Also, 4.68 lakh institutional and other accounts in Bangladesh have been opened for digital financial services. As a result, customers have increased by 2.05 crores in the last year 2022. It is important to mention here that 55.64% percent or 10.79 crores of digital financial sector customers are in rural areas. The remaining 44.36% percent of customers are from different urban areas of Bangladesh. It is known that the amount of money deposited in the accounts of the digital financial sector crossed Tk 10,000 crore in February 2023. Whereas earlier in June 2022, the amount deposited in the digital account was Tk 10,870 crore.

Organisations		Product
bKash city bank	The City Bank-bKash Digital Nano Loan	• Country's first collateral free digital nano lending scheme that enables access to 24/7 formal financing through mobile wallet at a relatively low interest rate from a scheduled commercial bank • The loans are collateral free and repayments are automatically deducted over 3 EMIs from the bKash account.
IPDC FINANCE	IPDC Orjon	• Country's first blockchain based, collateral-free, low-cost credit through Supply Chain Financing. • Furthermore, it includes a Distributed Ledger Technology platform which tracks pension records of primary school teachers. • The platform is aimed to support more than 25,000 small enterprises and businesses and help generate 2 million new jobs.
Prime Bank	PrimeAgrim	• An end-to-end digital product that assesses customers' credit eligibility and completes disbursement digitally, negating the hassles of document submission • The product uses artificial intelligence, machine learning and alternative credit for nano-loans
IDLC Finance Limited financing happiness	IDLC-Bkash Digital Saving Scheme	• Introduced the country's first MFS-based digital savings scheme which enables customers to enjoy term-deposit services through their bKash accounts. • The scheme has achieved 120,000 accounts in 5 months and a deposit base of USD 2 Mn.

Figure 2.5. Banks and Non-Bank Financial Institutions

Source: Light Castle Analytics

2.9. Overview of Digital Financial Sectors in Bangladesh

According to Scholar Kibria (2019), "Digital technology is the nucleus of Bangladesh's financial sector. Due to this, the daily life of the citizens of Bangladesh has continuously become easier and easier. With the passage of time, the financial sector has undergone great innovative changes. The digital financial sector has been the driving force behind Bangladesh's recent financial growth. Not only that, one of the successful initiatives of Digital Bangladesh, the range of digital financial services is currently expanding at a geometric rate.”

In the election of 2009, the current ruling party "Bangladesh Awami League" (বাংলাদেশ আওয়ামী লীগ) dreamed of building a digital Bangladesh. Bangabandhu's daughter Hon'ble Prime Minister Sheikh Hasina announced an election manifesto to build a digitally developed, prosperous, hunger and poverty-free Bangladesh in 2021. Today we are living in the digital Bangladesh of the dream of the Hon'ble Prime Minister and enjoying the simple benefits of the digital sector. The wind of digitalization is blowing all around today. Starting from the financial sector, all sectors including education, telecom, agriculture, apparel industry, pharmaceuticals, power, etc. are in a wave of digital technology.

Which is to engage in an important role in achieving our Sustainable Development Goals SDGs and helping us reach from developing to developed countries. Digital financial sector business has increased in Bangladesh, digital agents scattered all over the country are busy in money transactions in exchange for commission. As a business, it is a profitable business. This is eliminating the unemployment of people in rural towns. Nowadays, the digital financial sector has gained more popularity due to the availability of Android smartphones and the advent of digital apps. The rural economy has been boosted by the digital financial sector. The digital financial sector is playing a major role in bringing remittances sent by expatriates directly to their village relatives. Digital technology in the financial sector is now a tool for political and economic development in Bangladesh. Massive economic development is being achieved as the digital financial sector expands.

As a result of the availability of the internet in the digital era, most of people are using their own digital gadgets to receive various digital transaction services through certain apps. Bangladesh Bank in 2010 technology-friendly then governor Dr. Atiur Rahman's tenure paved the way for the digital financial sector under his leadership. On March 31, 2011, the private sector Dutch-Bangla Bank started the journey of digital financial services by launching digital financial services for the first time in the country. Also, since then, this service has been continued with the help of small agents and networks of mobile operators Banglalink and Citycell. It can be seen that within one year (2011-2012) 10 banks joined digital financial services. It can be observed that in June 2015 there were 548 thousand digital financial sector agents, currently, it has increased to about 12 lakhs. The daily average transaction is more than 2000 crore rupees including cash. The then Governor of Bangladesh Bank. Atiur Rahman inaugurated digital financing by depositing Tk 2000 and withdrawing Tk 1500. Currently in Bangladesh companies like bKash, Cash, and Rocket hold the majority of the digital financial sector market. Already, only the 'Nagad' has registered 6 crore 25 lakh customers in just three years. According to the data of Bangladesh Bank, at the end of March 2022, the number of customers registered in the digital financial sector was 10 crore 91 lakh 30 thousand 405 people.

Now, not only transactions are done through the digital financial sector, but many innovative new services have been added. Through which loans or investments, bill payments, data recharge, remittance, salary allowance, and various government honorariums can be done easily. Bangladesh Bank has increased the deposit limit from digital financial sector accounts to commercial banks. According to a Bangladesh Bank circular issued on July 5, 2022, customers can send Tk 50,000 daily, which was Tk 30,000 earlier, and can transact a maximum of Tk 3 lakh per month. Now it is not just sending money through the digital financial sector. It is used in all types of small transactions. Especially service bill payments, school fees, shopping, government allowances, ticket purchases, insurance premium payments, phone recharge, shopping, etc. Not only that, there is no need to go to an agent to deposit money in the digital financial sector in Bangladesh. Transactions are being done easily from digital cards. Those who were used to hand-to-hand money transactions earlier have also become accustomed to digital transactions through the digital financial sector. From cash in, cash out, send money, bill pay, etc. are enjoying various benefits. No one has to spend time filling out financial sector forms by hand with pen ink on printed paper. There is no need to go to the office of the financial sector at the cost of travel. Again, there is no need to carry cash notes in our pockets.

Common citizens of Bangladesh have been saved from spending cash. People are able to meet their daily needs more seamlessly and confidently than ever before. These people, who were once outside of financial inclusion, have been included in the service of the digital financial sector for the economic liberation of Bangladesh. It also increased the state income growth. Due to the digital financial sector, today the country is moving at a rapid pace in economic progress. People's economic liberation is coming. The digital financial sector has been able to bring people from the city to the fringes in no more than a short stretch of time. The daily life activity of the people has become easier since the services of the financial sector in this country have become rural, and the economic progress has also increased. Which has a direct influence on supporting the main financial system of the country and provides through overall growth of Bangladesh. The wheels of the economy are turning. Per capita income is increasing. Now people can transact money through the digital financial sector anytime from anywhere. From cities to remote areas, money is reaching people's homes or required places instantly from anywhere.

The prevalence of digital money has increased among the people of Bangladesh. And that is exactly why the demand for the digital financial sector in the country is increasing day by day. "Bangladesh Bank" has facilitated the way. It can be said that the use of currency in Bangladesh will decrease in the future. Digital currencies will occupy that space. People will not walk around with money in their pockets anymore. Digital money will occupy that space in all types of purchases. Bangladesh and 'Bangladesh Bank' are walking on the same path as the developed countries of the world. The digital financial sector in Bangladesh is now not only a promising sector but also a beacon of light in the country's economic progress. The more backward people are included in the digital financial sector, the more the wheels of the country's economy will turn. Opportunities will be created for new innovative possibilities. Money will be saved with time. The suffering of the citizens will be reduced. Besides, unemployed youth will get employment, which will help Bangladesh to reach a developed country from a developing country.

Table 2.1. Index of Digital Financial Facility Firms in Bangladesh

Index Number	Brand of Digital Financial Facility Firms	Name of the Financial Organization
1	বিকাশ (bKash)	BRAC Bank Limited.
2	Rocket	Dutch Bangla Bank Limited.
3	উপায় (Upay)	UCB Fintech Company Limited.
4	Islami Bank mCash	Islami Bank Bangladesh Limited.
5	Trust Axiata pay: tap	Trust Axiata Digital Limited.
6	FSIBL FirstPay SureCash	First Security Islami Bank Limited.
7	MYCash	Mercantile Bank Limited.
8	OK Wallet	One Bank Limited.
9	Rupali Bank SureCash	Rupali Bank Limited.
10	TeleCash	Southeast Bank Limited.
11	Islamic Wallet	Al-Arafah Islami Bank Limited.
12	Meghna Bank Tap `n Pay	Meghna Bank Limited.
13	নগদ Nagad	Bangladesh Post Office.

Source: Bangladesh Bank

2.10. Important Function of bKash in the Digital Monetary Sector in Bangladesh

Bangladesh's government has a positive influence on developing the digital monetary sector. Implementation of the digital financial sector was an uphill battle for the government for a truly digital Bangladesh until bKash Innovations. Despite the positive relentless efforts of the government, digital financial services have gained wide recognition in Bangladesh by way of advancement concerning the digital commercial sector. Many digital financial services firms are currently working in Bangladesh to increase benefits as regards the digital monetary sector among financially disadvantaged people. Who is constantly striving to contribute strongly toward the overall economic boosting of Bangladesh. Nowadays, by virtue of the invention of bKash digital financing, rural people, poor people, women, and adults are getting the opportunity to transact freely through bKash at minimum charges. "bKash is currently a modern digital financial service provider in Bangladesh. bKash is one of the oldest leading pioneers in the digital monetary sector in Bangladesh. The bKash is determined by BRAC Bank Limited in collaboration with Dutch Bangla Bank's Rocket is also a new digital financial service. These two private financial institutions combined have nearly 500,000 new digital financial accounts. In addition, more than 9,000 new agents are contributing to digital financial services across the country." (Greg Chen 2020).

Currently, bKash is engaged in various financial activities to achieve maximum profit. Current activities of development are the distribution, sale, and creation of digital financial products. bKash also has a multifaceted digital investment program. Like investment in the enterprise zone. A digital funding program is also under development. For example, dividends, etc. are regularly paid to the shareholders of the company. It is true that in recent years, bKash has encompassed a greater part of the population from the underfunded sector than some conventional banks. Reasons at the back of greater accessibility of agents compared to outgrowth, less literacy prerequisite for transactions, less complexity in account management, etc. However, it becomes clear that Bangladesh makes a big contribute to developing every digital economic sector. Daily transactions regarding digital financial services like bKash and DBBLs Rocket have grown by twenty-four percent (24%) in the last year (2022). According to Bangladesh Bank data, "the average daily digital transaction in February 2023 (this year) stood at Tk 3,475 crore. Which is an increase of Tk 2,805 crore compared to the former. At the end of the month, the total transaction was 97 thousand 308 crores." (Light Castle Analytics).

In April 2022, an average of Tk 3,582 crore was transacted per day. This is the highest daily transaction since the launch of bKash's digital financial service. Accordingly, the second-highest daily transaction was recorded in February 2023. Recently, bKash Digital has been offering Nano Loans. Customers of digital financial services can take credit up to Tk 20,000 without an interruption, instead of going the traditional old-fashioned financial sector. For this, the service recipient does not have to go to any formal bank. It is available by clicking on the bKash app at home. Data for the month of February 2023 shows that users of bKash's digital financial services cashed in Tk 29,228 crore, cashed out Tk 28,136 crore, and transferred person-to-person balances of Tk 27,522 crore. Apart from this, the transactions are increasing year by year in all areas including salary distribution, and bill payment. A total of 45.09 crore transactions were made through digital financial services in February 2023, which was 8.23 crore more than the same month a year ago. It is the third-highest in terms of total digital transactions. A peak of 46.30 crore digital transactions was recorded in January 2023.

The chronological process of using the digital financial service bKash is – First download the bKash apps from the Google Play Store on Android and then the customer has to install it on the smartphone, or Android smart device. Then tap on the register or login button. Then select the operator of the digital device and enter the verification code sent through SMS within the specified time. The quantity registered automated business service customers of bKash concerning the proportion of the total number of digital financial service users in Bangladesh is shown below:

Table 2.2. Usage of bKash Financial Services Indicators

Period	Total Users of bKash (In Million)	Total Digital Financial Service Users of Bangladesh (In Million)	% of bKash to Total
2016	26	41	63.41%
2017	29	59	49.15%
2018	31	68	45.59%
2019	38	80	47.50%
2020	50	99	50.51%

Source: Study

2.11. An Overview of Digital Platform Finance in Bangladesh

In today's digital Bangladesh, there is a huge rise in digital platform finance enterprises, and entrepreneurs are fully using digital technology for their digital platform business. At the same time, they have also changed the operating models of digital financial service providers. Namely – insurance initiatives, data use cases, and new types of insurance coverage areas. Also, different ride-sharing drivers in Dhaka and outside Dhaka have different insurances. Are the ridesharing drivers, workers, or entrepreneurs doing the right thing, waiting for ride passengers or are they using the vehicle for their personal purposes? All these are being controlled and monitored with digital technology. In this way, drivers or workers are able to quickly access their salary, allowances, and remuneration through other digital technology applications. (Workstream) [14]

The notion of ' Platform Finance in the automated economic sector is contemporary in Bangladesh, so there is no universally accepted and defined definition. Although this digital platform has been around since mid-2009, nowadays the digital platform-freelancing sector has gained manifold momentum due to smartphones, digital gadgets, and high-speed Wi-Fi internet. An essential new form of this 'digital platform economy' can be observed in modern digital Bangladesh. Bangladesh's new financial sector, the 'Digital Platform Economy', is increasing. “Home building, ride-sharing, and digital freelancing are accelerating as the digital platform economy develops.

As per a study separately World Economic Forum (2020), “More than 70 million freelancing workers worldwide are serving the digital platform economy from registered to remote work in a digital way.” (Kamal & Ahsan, 2018). “In today's digital Bangladesh, the country has amassed huge economic wealth through the growth of ride-sharing services like Uber, Pathao, and Sohoz. 6 million ride-sharing a month generates $260 million in revenue, fueling the 'digital platform economy'. In the capital alone, the annual income from ride-sharing is about 22 billion takas.

[14] Workstream, “Employers Turning to Apps Allowing Them to Pay Hourly Workers Daily”, blog.

Regarding digital platforms, Spagnoletti, Resca & Lee, (2015) described, “The digital match between buyer and seller preferences over the internet, controlled by algorithms, is based on what the customer has searched for online before, so it can track his activities and recommend products for him. In this way, any product and service market can be developed" Xu et al. According to its description, “Small and micro buyers and sellers can easily compete with large sellers by accessing large digital markets of goods at low cost through technology. These digital technology services need to be embraced and developed.” As described by Koh and Fichman, (2014) “Common features of the financial sector are found in digital platforms such as the 'ride-sharing economy', 'e-commerce', `food delivery’, 'Digital platforms are part of the economy.” According to scholar Fradkin, (2018) “Digital financial platforms are short-term contractual, short-term customer services that allow direct exchange of money between buyers and sellers.” World Economic Forum, (2019). [15] according to its study — "Bangladesh has become one of the world's leading (IT) freelancing or outsourcing exporters in the 'digital platform economy' due to less time and less effort."

It is necessary to mention here that in various organizations around the world, there are some tasks that are done with the help of an outside organization or person, instead of doing it themselves, it is called outsourcing or freelancing. This work can be part of a project or the entire project. Companies usually outsource to reduce production costs. Sometimes outsourcing is done due to a lack of sufficient time, labor, or technology. When a person does not work for a specific organization in the world but works for various organizations or individuals on a contract basis, he is called a freelancer. The freelancing profession has become quite popular in Bangladesh in the last three to four years. Freelancing requires digital skills. A large part of the citizens of Bangladesh is the digitally savvy young generation. Citizens aged 18 to 35 now outnumber the total population, accounting for about 32 percent of the population. It will increase to 40 percent by 2015-2016. These young people can change the course of Bangladesh's economy. According to sociologists, “When the number of young people in a country is proportionally highest, it is called demographic dividend. This condition is also called windows of opportunity. Through this, the door to the possibility of financial development of a country can be opened. And if they are not properly utilized at the right time, it can be a burden and a serious threat to any country.”

Freelancing markets across the globe include clerical work such as data entry, sales and marketing support in social media, multimedia graphical work, and software development. etc. The youth of Bangladesh have gained a reputation in the world. Due to the demand of other countries of the world, the number of digital platform workers in Bangladesh is increasing day by day. According to a study by the Oxford Internet Institute, (2020), [16] Bangladesh now ranks second in the world in the list of countries earning money from

[15] World Economic Forum, 2020. https://www.academia.edu/download/65438780/ECON_7305_PROJECT_PAPER_GROUP_4.pdf
[16] Oxford Internet Institute, 2020.https://demtech.oii.ox.ac.uk/research/posts/industrialized-disinformation/

labor in the global 'digital platform economy'. 16 percent of Bangladesh's digital workforce in earnings through digital platforms. The number one neighboring country is India with 24% digital workforce value.” Among the countries in the world that are involved in financial transactions through labor investment on digital platforms are India, Bangladesh, Russia, China, Ukraine, Brazil, Argentina, the Philippines, Egypt, Romania, Indonesia, Panama, and Nepal are notable. According to CPD,[17] “Innumerable new generation citizens of Bangladesh are making a living by earning money on digital platforms.” According to an (E-CAB, 2020), statistic, “there are 50,000 entrepreneurs on 2,000 digital platforms in country.

During the widespread COVID-19 in 2019, vast career opportunities connected with the new generation of Bangladesh in this creative work of the digital platform economy. Digital deposits in Bangladesh get larger from Tk 1.68 multitude in 2016 to Tk 19.78 multitude in 2019. Besides, next year there may be employment opportunities for 500,000 new people on digital platforms." As digital freelancing is a free and independent profession, freelancing work can be done anytime, anywhere. As a result, the popularity of the freelancing profession in Bangladesh is increasing very fast. The new generation of Bangladesh Plays a significant role in the growth of the country's digital platform economy by joining the activities of the digital virtual world.

There is a need to make Bangladesh's educated and capable young generation eligible for freelancing or outsourcing work. But unfortunately, it is true that the products and services are not yet available to people as per the need for digital platforms. In a survey, it was revealed that “about 13 crore people in the country are directly involved in financial activities, but still, about 65 crore people could not be connected with proper financial services." Small-scale manufacturers and suppliers supplying various products to large corporate organizations usually receive late bills. In this, business capital is trapped for a certain period but does not get the benefit of financing from the financial sector. Due to lack of money, subsequent work is often stopped. Therefore, through proper communication between customers and institutions, networking, and easy service, customers including entrepreneurs can be connected on time. With the necessary financial services, organizations find the right customers for their products.

Bridging the distance between customers and institutions can create a timely environment in the country's digital financial sector through easy communication and connectivity. As a result, the country will not be deprived of a huge amount of financial transactions. Due to not being able to receive the right service at the right time, startups, entrepreneurs of various sectors of the country including the SME sector, and people of various professions including businessmen, back number recognize various obstacles in our financial progress. Recently it was reported in the newspaper that 'Bangladesh Bank' is developing a digital

[17] CPD. Centre for Policy Dialogue (CPD). https://cpd.org.bd/digital-platform-economy-and-bangladesh/. This study is part of the "Future of Work in Bangladesh" project supported by Friedrich Ebert Stiftung (FES), Bangladesh. Dr Fahmida Khatun is Executive Director, Syed Yusuf Saadat is Senior Research Associate, CPD and Md Jahurul Islam is former Programme Associate, CPD.

platform. In such a context, to make financial services easy for everyone on digital platforms in Bangladesh, currently, there is such a platform for customers of IPDC Finance, but only they finance there. However, there is an opportunity to join multiple financial institutions in this new digital platform. In this way, small suppliers can get money quickly and easily against trade receivables. This will make their business operations easier. Again, the investor will benefit from receiving the full value from the buyer firm on maturity of the trade receivable. Bills can be bought and sold on a discounting basis between financial institutions, corporate institutions, and small suppliers connected to the digital platform. The process will be such that a small supplier may get billed after 60 days as opposed to supplying goods to large corporations. Recently, Bangladesh Bank's circular also said, "Micro, small and medium enterprises are important sectors for poverty alleviation, employment generation and economic growth."

Nationally there are various loan assistance in these sectors. But the process of getting financial support as per their requirement was not easy due to various obstacles. ‘Currently due to changes in government policies, the 'digital platform economy' has given a boost. It may be noted that by approving online payment services of the Central Bank in 2009, transactions in new sectors such as 'digital financial platforms' have been made convenient and easy. In addition, Bangladesh has enabled digital payment services for a large number of institutions and unbanked citizens through the creation of the Electronic Funds Transfer Mechanism.

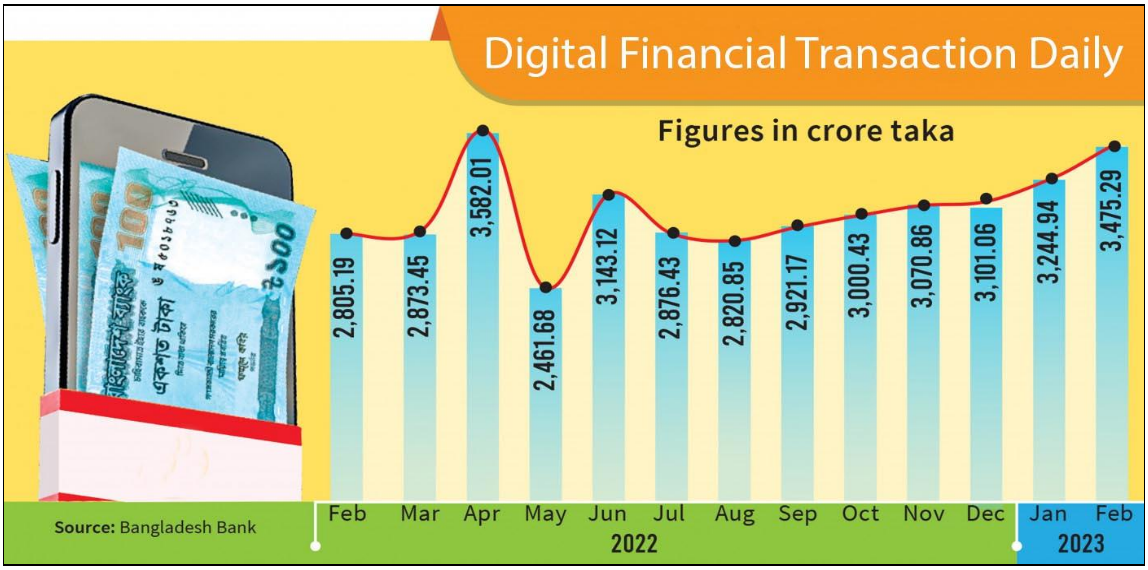


Figure 2.6. Daily Digital Financial Transaction in Bangladesh

Source: Bangladesh Bank

2.12. An Overview of Digital Technology Using in Digital Finance in Bangladesh

Bangladesh's financial sector has invested heavily in technology infrastructure, solutions, and skilled manpower to build Digital Bangladesh. The digital financial sector in Bangladesh aims to build a technology-based cashless society. It is an important part of the social system of the digital age. It can be observed that the countries that are advanced in digital technology have developed a cashless society. In other words, it can be said that there is no use of cash in financial transactions including salaries and allowances, purchase and sale of products. Bangladesh is also implementing various initiatives to build a cashless society by introducing a large amount of technology in the financial sector.

Electronic Fund Transfer EFT in Bangladesh is such a modern digital technology. This digital technology is making a big contribution to increasing people's participation in financial services. In March 2012, Bangladesh started paying salaries through the EFT system. "Bangladesh Bank", the regulator of the financial sector of Bangladesh, has played a leading role in introducing this system. In 2019, almost all government officials and employees have been paid through the EFT system. In 2021, money and scholarships will be provided to government officials, poor and marginalized people, and students through this technology system. Also, payments made through the Government e-Transaction Processing Hub (eTransaction Processing Hub) platform increased by 159 percent in 2021 compared to 2020, amounting to Tk 92,139 crore. This technology was launched in October 2019. Then 2 crore 67 lakh taka assistance of 16 social security programs was provided digitally.

Currently, not only salary but also pension is being paid through the EFT system with the help of this technology. It is known that the number of Bangladesh government officials and employees is 14 lakhs. Retire a portion of it every year. A pension scheme is open for them. Since its inception, their pension was paid manually. One had to attend the financial sector or accounting office every month to withdraw the pension amount. It was a huge hardship for the pensioners. In 2012, when the payment of salaries through EFT began, it was decided to pay pensions using the same method to reduce the suffering and harassment of pensioners. In light of this decision, pensioners through EFT are no longer required to attend the financial sector or accounting office as before. Pension money is being transferred electronically to pensioners as digital money or mobile.

In the early stages, pensions were paid through EFT to some government office retirees on a limited basis, but as of June 2019, 27,000 pensioners have been remitted through EFT to their digital accounts. All pensioners are supposed to be included in this scheme gradually. In the future, the system of pension payment in Bangladesh will be automated for the benefit of the greater number of citizens of the country. Not only that, recently the government of Bangladesh has taken the initiative to bring a large number of elderly people under the pension scheme like the developed countries of the world. It is known that only 5 percent of the total population of Bangladesh are government employees, who come under pension when they retire. Also, another component of Bangladesh Automated

Clearing House, Bangladesh Electronic Funds Transfer Network BEFTN, started its operations on February 28, 2011. Participating financial institutions execute EFT transactions based on instructions received from their customers. All financial sector customers who have CBS as their core banking system and who are providing internet or online banking services to customers can transfer money through BEFTN as customers of other financial sectors from home or office. Transactions in this manner are convenient and cost-effective, secure, and faster than those made through cheques. Its popularity is gradually increasing due to its convenient method. Also, corporate customers of some banks have started using EFT systems for their daily transactions. Even the government of Bangladesh is carrying out transactions using EFTN. After the introduction of the BEFTN system in February 2011, it was initially limited to disbursements of foreign remittances, dividend payments of various companies including the financial sector, and local remittances. As transactions through BFTN are fast, secure, and cost-effective, they gradually became very popular and expanded rapidly. At present, transactions of Tk 100 crore are being completed through the EFT system with about 12 thousand entries per day.

EFT is a very popular transaction method in developed countries of the world. In many European countries including Japan, the use of checks is currently non-existent. Payment of salary allowances, foreign or domestic remittances, dividends to shareholders, refunds to IPO applicants, and payment of utility bills can be done through EFT. Bangladesh Bank is asking all concerned to use the EFT method instead of checking in daily transactions. Bangladesh Automated Clearing House BACAH, is one of the programs that the central bank has conducted online so far. EXP Online Monitoring System, Web-based Stationery Articles Information System, Online Travel and Miscellaneous Forms Management System (OTMFMS) Bangladesh Bank Intranet, Bangladesh Electronic Fund Transfer Network or BEFTN, etc.

The synergy between finance and technology is the fundamental infrastructure of financial services in the digital age. New technology needs to be used to improve financial processes. Because of the quality of service, customer satisfaction is not possible if the financial sector is not able to stay ahead of the growing digital technology competition. Therefore, the use of fintech has increased in this regard. The private financial sector is far ahead of the public financial sector in using fintech in Bangladesh. Examples of using digital technology in the financial sector are- ATMs, credit cards, internet banking, mobile banking, etc. The use of digital technology in the rural and urban branches and head offices of the Government Bank of Bangladesh has increased to a larger extent than before. Where online transactions are available from one branch to another. Besides, debit/credit card and ATM (Automated Teller Machine) services are available in various banks, even POS (Point of Sale) facilities are available, SMS (Short Message Service) services are available on mobile phones, and recently dual currency visa credit card services have been introduced on a limited basis.

In today's technology era, bank operations are done through a smartphone app called 'Mobile Apps Based Banking' in the digital financial sector. Basically, it is a version of fintech. A customer needs to install the bank's smartphone apps on his own smartphone, gadget computer, tab, etc. After that, through the internet connection, the customer is connected with the respective bank through the app and receives various banking services included in the app. Also, apply for RTGS transactions (transfer money as another bank), apply EFTN transactions (transfer money as another bank), receive OTP (one-time password) alert (receive SMS alert), pay a utility bill, mobile top-up/recharge, apply for checkbook, School-College-University and other institutions admission fee and tuition fee deposit, request/instruction for various banking services, various inquiries, complaints, card-related operations, loan-related operations, stop check payment, ticketing, shopping, etc. is easily possible. Currently, the use of smartphones is very popular in Bangladesh, due to which the demand for 'Mobile Apps Based Banking' services is also increasing at a large rate. Money transfer, account transaction statements, bill payment, checkbook issues, account transaction status monitoring, bill payment, checkbook issues, KYC form filling, etc. services can be accepted through this app. Basically, digital banking services are provided through the bank's sophisticated and secure website. As a result, all banks are emphasizing to expand and improve the quality of this service. In order to keep the economy of the country running with the safety provisions of the people in the changed situation due to COVID-19, the government has given instructions to implement digital financial sector services as soon as possible from the state level as well. As a result, various digital banking facilities such as opening an account at home, receiving remittance on a Visa card, or cashless transactions through Bangla QR code come to hand.

Besides, anyone can avail of online banking facilities using an electronic (e-KYC) technology system. As part of digitization at the central bank last June, every bank has also been directed to introduce an e-KYC system by December (2023) year. It is known that if a person transacts one lakh taka or less every month, he can open an account and transact at home through e-KYC without going to the bank personally. However, in case of transactions of more than one lakh taka, one must go to the bank. According to the statistics of the Central Bank, in the first quarter (January-March) of this year (2023), credit card transactions were 3 thousand 710 crores. In the second quarter (April-June) it decreased to Tk 2 thousand 135 crore. The third quarter has two months (July-August), and the second quarter is almost the same. In the two months of July and August, credit card transactions were Tk 2,804 crores. Meanwhile, debit card withdrawals and purchases decreased in the second quarter compared to the first quarter of the year. The third quarter saw roughly the same volume of transactions as the second quarter during the July-August period. The turnover in the first quarter was Tk 45 thousand 182 crore, and in the second quarter, it was Tk 32 thousand 658 crore. 31 thousand 325 crores were traded in July-August in the third quarter. In the first quarter of the year, the amount of transactions through Internet banking was 19 thousand 556 crores. In the second quarter, it decreased to 17 thousand 617 crores. 1 thousand 355 crores were traded in the third quarter of July-August.

Also, another digital technology service introduced during Covid-19 is the QR code. This code just needs to be scanned with a digital device to make easy payment. Eastern Bank was the first to launch this service. Later City Bank and Mutual Trust Bank (MTB) also introduced the service. According to central bank sources, the most successful mobile banking service during the COVID-19 period. In the first quarter of 2021, the amount of transactions in mobile banking was 1 lakh 23 thousand 221 crores. In the second quarter, it slightly decreased to Tk 1,121,235 crore and in the third quarter, it increased by Tk 32,300 crore to Tk 1,53,524 crore. During the COVID-19 period, City Bank introduced the facility of opening accounts at home through an app. Through which the facility of opening an account instantly by downloading the bank's apps and submitting a photo of a national identity card and necessary documents has been introduced. Several other banks including Eastern Bank Limited (EBL) have given the same facility. In this way, modern digital technology is being introduced on a large scale in the digital financial sector of Bangladesh for the welfare of citizens. According to the researchers, the reason behind the rapid financial growth of Bangladesh is the availability of time and money-saving financial services through digital devices, smart Android gadgets, and feature phones. According to BTRC [18] about 172 million people in Bangladesh use digital devices.

Despite all these achievements, a huge agent network has been developed in the financial sector with the help of this type of digital technology. As a result, commercial networks of various companies in this network are contributing more than ever to increasing access to digital financial services. Today, rural peasant, female, inexperienced, and small-scale entrepreneurs in Bangladesh release accounts with the help of digital Android gadgets in their hands. Only with the help of digital Android, the vast number of citizens of the country can access the financial sector services basic part of Bangladesh. This is a very necessary idea as long as the current development infrastructure of an economically developing nation e.g. Bangladesh. Therefore, it has existence the function of digital equipment in the development of Bangladesh is immense. Modern digital financial sector services have made access to finance and transactions easier, especially for farmers in Bangladesh.

Digital Financial Services overcomes the barriers of cost, distance, and transparency and provides financial services tailored to people's needs. This has created unprecedented opportunities for the ordinary civilian. Digital technologies are enabling approaches to financing tools comparable to micro-credit, savings, insurance, and payments. Financial services with digital technology are enabling citizens to invest in their business farms, purchase inputs, and manage risk. Which in turn leads to productivity, higher income, and better livelihood for the citizens in the country. Now is the time to develop a strong digital innovation policy and digital governance framework for the future welfare of automated

[18] BTRC. Bangladesh Telecommunication Regulatory Commission

technology in the area of finance in Bangladesh. Through the proper use of automated financial services, including smart efficient, productive, and sustainable practices, great progress can be made in building a smart Bangladesh in the future.

Organisations		Product
iFarmer	iFarmer	• Aggregates funds from investors to develop funding schemes for farmers • The iFarmer website allows sponsors to choose the type of farm they want to sponsor • The credit is used to increase farmers' capacity and productivity
pathao	Pathao	• Pathao is a technology-based logistical service provider providing services such as food delivery, courier services, etc • Pathao has launched a Buy Now Pay Later scheme, Pathao Pay Later, where consumers can use BNPL to pay for its other existing services
ShopUp	ShopUp	• ShopUp connects small retailers to source goods from large distributors through its main platform, Mokam • The other product-Baki provides embedded credit services to the retailers for maintaining and purchasing their inventories
shebaplatform	Sheba Platform	• SManager provides credit scoring for Micro, Small and Medium Enterprises (MSMEs) and connects them to Sheba's banking partners • MSMEs can avail credit for their working capital, and it provides enterprise resource planning solution for 1 Mn+ MSMEs to manage their cash flow and inventory, and receive digital payment
SHADHIN YOUR GROWTH IN YOUR HANDS	Shadhin Fintech	• Country's first P2P Lending and Open Funding platform with digital credit scoring, funding, and payment facilities • Other Services include Shadhin savings schemes, microfinance services, savings for investors
dana	Dana Fintech	• An Embedded lending platform which is involved in credit assessment through a digital credit scoring engine • The platform further provides Buy Now Pay Later services for its users.
wagely	Wagely	• Allows employees of different organisations to access their wages when they need it most which increases their financial wellbeing while providing a costless and hassle-free solution to burdensome cash advances

Figure 2.7. Digital Startup Financial Platform in Bangladesh.

Source: Light Castle Analytics

2.13. An Overview of Digital Governance in the Financial Sector in Bangladesh

Automated financial proceedings service impeccable financial transaction structure where transactions can be made without requiring money. Digital transactions require digital governance. It involves the ever-evolving way in which new tech for financial activities (fintech) enterprises cooperate with technology from different territories of finance to contact the more sophisticated needs of the technology-friendly user. (Investopedia). "Digital governance in the financial markets has made nearly 30 million people unbanked by a significant margin." (World Bank Group).

Digital governance in the financial sector means transparency in the distribution of money with the help of digital technology, accountability, efficiency in the state's welfare activities, rule of law, reduction of corruption, etc. In Bangladesh, automated financial territory is considered a policy priority and a pressing need of the present-day citizens. Although the topic of digital governance has been discussed since 2019, digital governance is reflected in Bangladesh's National Financial Inclusion Strategy 2020-2024. Digital governance can further strengthen the regulatory measures of Bangladesh Bank. The strategy of digital governance in the financial services sector aims to: 1. Increasing current financial depth. 2. Making payment systems and service delivery stronger than ever. 3. Establishing a robust data and measurement framework. 4. Strengthen social media campaigns on spending money wisely and public mandate. 5. Strengthen involvement in the digital financial sector for children, women, disadvantaged nation-stimulated atmospheric impact, and other underprivileged communities. 6. Expanding prosperous financial services accessed and delivered through digital channels e.g. fintech services. 7. Strengthening the existing digital governance framework of legislation. 8. The effort to make financial products and services available and affordable to all individuals and businesses will make enterprise risk management stronger than ever before. 9. Accelerating digital insurance services currently in place. 10. Making digital capital market services more robust. 11. Strengthening the digital microfinance of various financial institutions in a more comprehensive manner. 12. Strengthening the technology strategy skills applied by semi-regulated digital financial service providers including PKSF.

It is true that digital financial services in Bangladesh have grown tremendously compared to the past. Today's new generation is devoted fans and friends of digital technology and already relies on digital services to facilitate daily tasks. Moreover, during the last decade, the payment landscape of the financial industry in Bangladesh has undergone a structural change. The digital payments landscape in Bangladesh now shows promise for future development as well. As technology continues to change as consumer behavior changes, the landscape is becoming digital towards contactless and cashless transactions.

In a word, there has been a huge improvement in electronic direct democracy in Bangladesh. More businesses exist migrating digitally at a rapid pace and digital governance is serving the digitalization and diversification of payment systems. For example, digital financial purchases were boosted by 7% in the final phase of FY 2019-20. At the beginning of 2022, Wi-Fi internet penetration was 31.5%. On the other hand, digital payments have gotten bigger at a significant charge in the last couple of years. The broadening in digital financing transactions between FY2020 and FY2021 is clearly eye-catching. In the past two years, digital financial transactions have grown by over 46% percent. Meanwhile, the value of transactions in the digital financial sector has increased by 59%. At the same time, digital credit card payments grew by 53% and debit card transactions by 175%.

2.14. An Overview of Transparency in Government Deal via the Digital Financial Sector to Combat Corruption

Digital governance in the financial sector in digital Bangladesh means transparency in the distribution of money with the help of digital technology, accountability, security of citizens' deposits, increasing the capacity of all in the welfare activities of the state, rule of law, reducing corruption, etc. Father of the Nation Bangabandhu Sheikh Mujibur Rahman, the visionary of the state of Bangladesh, has always made many efforts to practice governance in the organs of the state including the financial sector through financial solvency of people, employment, transparency of state activities, accountability and elimination of corruption.

A visionary leader who evolved a sovereign state called Bangladesh, the father of the nation Bangabandhu Sheikh Mujibur Rahman, the main driving force of Bangladesh's economy, advanced with great plans to free the citizens of Bangladesh from these deprivations, to provide essential rights to the citizens, and to improve the fortunes of the rural poor and the backward people of the society. Because he knew and thought about the deprivation of the rights of the common citizens, the poor farmers of the village, he included in the state constitution the necessity of practicing ethics and governance to ensure the equality of the rights of the citizens for the welfare of the citizens. For the practice of governance in the state, a detailed explanation of public welfare activities has been included in the state policy and strategy. In the Constitution of the Father of the Nation Bangabandhu in 1972 (Article 15-d) it is said in the context of social security of citizens for the purpose of governance in the financial sector, "One of the basic responsibilities of the state will be to gradually increase the production power and the people's living standards through planned economic development. Achieving strong improvement in material and cultural standards."

When Bangabandhu was assassinated on August 15, 1975, the implementation of his plan stopped for a long time. Fortunately, his daughter Sheikh Hasina came to power in 1996 and has been implementing this social security issue on a large scale and in a modern digital way. He introduced Social Security Allowance. Expanded social security programs aimed at the upliftment of backward citizens and achievement of Sustainable Development Goals (SDGs). The poor people of marginalized communities have been given homes. The backward citizens are being motivated to stand on their own feet with small financial assistance. which is developing as a social safety net at the rural level and helping to reduce the poverty rate among citizens and achieve financial 'equity', an essential criterion of governance.

Apart from the fair and transparent distribution of financial sector Corporate Social Responsibility (CSR) funds among the citizens, the current government has expanded the social security program to such an extent that in the financial year 2020-2021, as many as 123 social security programs including distress allowances in exchange for work have been launched in the country under various ministries. In this, the budget has been allocated about 95 thousand 574 crores, which is more than two and a half percent of the gross domestic product (GDP).

It is to be noted that a significant achievement of the current government is the provision of digital financial services and the provision of social security allowances under the social security scheme using a single ID based on national identity through the 'Government to Person' G2P system. Efforts have been made to bring all cash transfers under the 'Government to Person' G2P system. Already primary school stipends are being provided through the digital financial sector. This platform has included more than 1.5 lakh underprivileged talented people to receive services through 'Government to Person' G2P. Some of the private development organizations under the supervision of the government are now implementing some of their social security programs through the channels of the digital financial sector.

With this digital governance practice in the financial sector, the scope of corruption in the NGO sector has also been reduced these days. The government can also monitor the financial transactions of NGOs. Bangladeshi NGOs are able to deliver services to the beneficiaries faster by using digital payment methods. Digital modernization of this financial sector has ensured transparency and accountability through digital governance practices in the delivery of citizen protection components and financial services. In the past, these allowances were paid manually, through printed cardboard cards. In the payment of these allowances, various problems were heard before, including the allegation of the "corrupt chairman, members who sell the cards of the poor". Now it is closed. Modernization of the state-laden has largely eliminated these problems and ensured transparency.

Apart from the expansion of financial and social welfare programs aimed at governance practices, the current government's initiative that deserves appreciation is the adoption of the digital financial sector for the disbursement of large sums of money for these programs. Ensuring transparency and accountability in the disbursement of state funds is essential to bring transparency to state expenditure. That is why the current government is emphasizing the use of digital technology in the financial sector to make financial distribution smooth, transparent, and time-saving in a digital way. It should be noted that in 2015, the current government formulated the National Social Security Strategy with a timely initiative. It has given instructions on how to do a 'money transfer' digitally. Also, from October 2020, it was decided to digitalize the accounts of 7.6 lakh beneficiaries through digital financial services in 495 upazilas through the 'Government to Person' G2P system. Emphasis is placed on 'Government to Person' or (G2P) electronic payment systems to achieve the effectiveness of a holistic approach to digital governance practices.

It is being hailed globally as a generous welfare-oriented system of providing financial or other assistance to the poor and underprivileged population by the state primarily under the social safety net. Earlier this system was done manually and it was 'corruption'. In the earlier days, in the villages, the money was given through cards in the name of poor beneficiaries. Allegations were made that these cards were stolen by the chairman and members or sold for money. The common citizen got nothing. In this, the poor and helpless people of the village had to remain helpless forever.

The digital financial sector in Bangladesh has really changed the day. The current government has taken a simple approach to the digital financial sector to 'eradicate corruption'. A database of state financial allowance beneficiaries has been developed using Management Information System (MIS) software. Accounts in the digital financial sector are opened after verification of the National Identity Card NID number at all times across the country through mobile money transaction service providers. According to the data of the Department of Social Services, ``the total population of beneficiaries of old age allowance, widow and widower allowance, disabled allowance, and disabled education stipend is 88 lakh 50 thousand. By July 2021, the work of creating digital accounts for 7.6 lakh beneficiaries has been completed. Another 20 lakh is expected to be added by the end of the year. 12 lakh 50 thousand state financial allowance beneficiaries of 77 upazilas of 21 districts started to receive allowance for 2017-2018 through agent banking."

A management information system (MIS) has been established to improve the efficiency and effectiveness of these programs as part of the government's governance efforts. Through this, the right beneficiary nomination has been facilitated through transparency by automatically verifying the name and address of the house from the national identity card server. As a result, there is no opportunity for fraud of the village chairman, member's distressed allowance card, or state financial assistance corruption like in the previous days. It can be confirmed that digital governance is currently being practiced in the financial sector as a means of establishing transparency, accountability, and justice among citizens at least in the distribution of government financial benefits. Also, for modernization and transparency in the management of the purchase and sale of savings bonds in the financial sector, a system for obtaining real-time information on sales, profits, encashment, etc. of National Savings Schemes is being implemented. Now automatic payment is possible through the recipient's profit and original EFT. Through this, the management and orderliness of the financial sector of the government is ensured and various 'service costs' in these sectors will gradually decrease in the future.

To ensure the practice of 'digital governance in the financial sector', the government has already created a digital platform and launched an interoperable digital transaction platform IDTP 'Binimoy' to achieve distance and coordination in inter-transactions. Earlier, like gas bills or university fees, government transport fees had to be paid in ROCKET or bKash. As always, Bangladesh Bank has come forward in the role of pioneer to free the citizens and digital financial sector service users from suffering due to the irony of specifying channels in financial transactions, created a digital app named 'Binimay'. Customers can easily transact money in any financial sector through this app. Therefore, there is no need to open any other financial sector accounts separately. It has bridged the digital divide, ending civil disenfranchisement. Citizens get relief in the inter-transaction of digital financial sector service companies. Digital transaction costs have also come down. The special advantage of this 'Binimay' platform is that fraud or cheating in transactions will be reduced and citizens will enjoy and realize the benefits and benefits of digital governance practices in the financial sector. As a result, the need for governance practices in the digital financial sector will create more confidence in the minds of the masses.

2.15. Challenges of Digital Governance in The Financial Sector in Bangladesh

Digital governance has now become an everyday issue in financial institutions. Internet services have grown over the years. All financial transaction services are being done faster using digital devices. All financial sectors of the state and private, commercial financial institutions have become partners in digital governance. But it is true, that digital services have a limit and scope. Contemporary scholarly research on this topic suggests that the United Kingdom is pioneering the linkages between digital governance and social and financial sector inclusion.

It has been found to combine people's income, disability, age, race, culture, location, gender, and education level. Various studies on the digital divide have, however, argued that despite the provision of digital technologies such as digital computers, Android digital devices, and Wi-Fi, there is still a gap in the ability to use them effectively. On the other hand, according to the theory of wealth and distribution, (Dijk, J.A.V, 2019), argues that "digital governance in the financial sector leads to unequal distribution of wealth due to class inequality in society. At one point, wealth inequality led to unequal access to digital technology. As a result, such unequal use and unequal distribution of resources leads to extreme inequality due to unequal participation in society." Again, famous scholars and researchers (Livingstone and Helsper) claim that "Digital governance in the financial sector increases social inequality, however, the nature of its use and quality depends on access." That is why digital governance mechanisms and public preferences need to be intimately familiar. A simple and thorough understanding of the intricacies of financial automation is crucial to meet the demands of the digital age of tomorrow.

Every function of the financial sector is more important and deeper than any other sector. Digital tools in the financial sector encourage and expand citizen-centric digital governance. In short, digital governance in the financial sector has an important role to play in enhancing citizen services. The participation of the digital financial sector, visual media, etc. in everyone's life cannot be avoided in present-day Bangladesh. This is why there is no substitute for automated convergence for ever-increasing consumer expectations. Various scholars and researchers believe, "Electronic direct democracy in the financial sector has revolutionized the way customers make payments, and automated governance in the financial sector continues to help businesses meet growing customer demands."

Meanwhile, there is a strong belief in the minds of the citizens of Bangladesh that "increasing accountability in the public and private financial sectors as well as adopting automatic governance systems in the economic sector as a system of transparent financial behavior is very important." Governance has further transformed the financial sector. Digital governance allows ordinary citizens to interact with automated technologies in many ways and provide input at the decision-making level of digital governance. Happily, the present government of Bangladesh has announced the introduction of an automated currency system in the financial sector as an upward trend, and realizing the importance of digitization, on the eve of the 4th Industrial Revolution Bangladesh is moving towards the Smart Bangladesh.

Meanwhile, it can be observed that mobile phone penetration has increased significantly in recent digital Bangladesh. Among the top four countries that are rapidly moving towards a digital economy, Bangladesh is at the forefront. There is also a lot of potential to expand the digital financial sector in Bangladesh in the coming days; As the 4th Industrial Revolution 4IR is imminent, it will bring impressive economic growth through more transparent, accountable connectivity and the use of cutting-edge technology. It will reduce poverty with huge strategic opportunities in Bangladesh. The digital financial sector is expanding rapidly under the auspices of the present Bangladesh government. And the trend of digital governance in the financial sector is booming at an increasing rate. A statistic shows that "in 2022, 407 million new clients joined the digital financial sector and transacted Tk 121 billion." (a2i). As Eurasia Review (2022) describes “Digital governance practices in the financial sector include people, economies and social structures as well as the natural environment under governance.”

According to (Khan et al, 2015), “The digital technology sector in Bangladesh has achieved great success in the last decade. Along with digital gadgets and Android smartphones, the use of the internet is increasing. Digital gadgets, Android smartphones, and computers in the financial sector almost literally allow us to automatically determine which items will be sold in stores and which items will not. The digital financial sector has become so advanced and innovative that digital functions that were previously handled by humans will surely be automated in the future. It is also evidently true that digital finance also has some advantages." According to the opinion of the World Bank, (2014.), “Until now about 50% of the citizens of emerging countries have mobile phones. Financial services continue to be controlled through digital platforms in the hands of citizens.” According to the United Nations, (2016). “The main objective of citizen engagement platforms in the business-commercial sector is to contribute to poverty reduction among citizens, mainly in emerging economies, citizens in the digital financial sector. Contributing to Inclusion".

Digital technology in today's era has added a new level of invisible complexity to monitor accountability for procurement performance in each region, particularly the Economic Zone (GDPR). Yet it is true that “the use of digital technology helps the financial sector to function transparently and responsibly. For example, risk can be continuously monitored and audited through blockchain technology or artificial intelligence (AI). Therefore, robo advisors and additional practices should not at the same time draw attention in a specific way directed towards the insecure digital financial sector. Generally, the risk in this case is due to irresponsible practices. It relies heavily on algorithms to track, but these actions can be balanced if done with personal responsibility. Yet some progress has already been made in human society to accommodate the professional behavior responsible for the rise of automation." (OECD, 2022).

According to experts in the financial sector, digital governance in the financial sector has yet to escape the buzz of harsh criticism. Therefore, it is feared that the inclusion of automation in the economic arena may have a negative impact. Because, “as it is an automated digital financial sector, it often evolves in a complex regulatory environment. It is therefore challenging to provide an appropriate level of accessibility to senior citizens, disabled citizens, and rural citizens with limited education." (Asian Journal of Social Science, 2020). According to an analysis by the Economist Intelligence Unit (EIU), digital financial transactions grew gradually between 2018 and 2020. Although this growth has improved substantially, data privacy and cybercrime protection frameworks have not yet improved." Meanwhile, digital social networks have created "social echo chambers". It is also leading to a stream of misinformation and negative, hateful comments about the digital financial sector. Recently in the case of digital currency in Bangladesh, the adoption of cryptocurrency has further opened the bubble of criticism of the current automated currency sector. According to the Asia-Pacific Digital Transformation Report (2022) – “Cybercrime in the financial sector has grown alarmingly in the current era with the development of automated technologies. So now, it has become very easy to share confidential details on digital devices, which needs to be countered, it is time to think urgently about automation, especially in the business sector."

On the other hand, in a recent ESCAP report (2022), five key “digital divides” were identified. These divisions are related to age, gender, education, disability, and geography. “Typically, those most comfortable with innovative uses of digital technology are young and well-educated modern people. It is a matter of great anxiety about those who grew up as `digital natives’ Older people are slower than younger people to acquire the necessary digital skills or trust. For example, the trend is higher in illiterate poor communities, especially in rural areas. Therefore, the most vulnerable in the digital financial sector are rural residents. Also, they cannot use a continuous power supply Wi-Fi net, or digital connection continuously. Hence, even if they have the necessary infrastructure and Wi-Fi connectivity, they are somewhat lacking in relevant digital skills."

Bangladesh has a strong track record of growth and development. In spite of this success, a lack of digital governance remains in state organs. According to a recent survey by BIGD, “Consumers in Bangladesh's digital financial sector market are using digital finance at risk. The people of Bangladesh are still not aware enough of the risks and dangers of digital governance practices in the financial sector. This is why the recent fraud in the financial sector is a prime example of lack of digital literacy." Another contemporary study found the challenges – “More than sixty percent (60%) of digital financial sector users are unable to manage their digital accounts themselves. They have to rely on other people to manage their accounts. This results in disruption of guaranteed data privacy and breach of security." (World Employment and Social Outlook (2021.). The ongoing study finds that “Digital technology application tools in the financial sector provide financial services to new and emerging customers, creating a complex landscape.” The study also identifies some laws—laws, ordinance reforms, and reforms—as challenges to the digital infrastructure in the financial sector. The mechanical factor is being considered as a challenge. Such as— a) Challenges of Electrification; (b) Challenges of Digital Gadgets; of (c) Challenge of Slow Internet; (d) Digital Financial Literacy

Challenges; (e) Challenges of Skilled Manpower; (f) Challenges of Operations Management; and ((g) Cyber threat Challenges etc.

The study identified some more complex issues as challenges for the digital financial sector. For example – "Digital financial transactions result in large amounts of digital database, that today develop into necessary visual, digital wealth. Protecting the privacy of these resources requires ethical and responsible use of data. Therefore, the regulatory framework of the digital financial sector needs to be strengthened. While digital knowledge—with contemporary fintech platforms—is now trying to control the traditional financial sector through close monitoring. However, recent discussions on a framework to govern the automated financial sector require the creation of creative new digitalized financial business models to ensure financial stability and mitigate cyber security risks. (ESCAP, 2022.) As per the following: "Additional security and precautions are more necessary to consider data privacy issues. Also, security is an important issue for all workers in the digital financial sector. Because this area of regulation is essential to ensure the security of employee information in addition to customers' personal information." According to IT experts in Bangladesh's financial sector, 53% percent of Bangladesh's digital financial sector is still vulnerable to security risks.

Note that in 2016, there was a cyber hacking incident in the digital financial sector of Bangladesh Bank. Since that tragic experience, the financial sector's fear of hacking has not abated. In such a situation, if someone unknowingly clicks the "share" button on a digital app or any other app related to the digital financial sector, if ever leaves a password or a piece of opinion without thinking twice, it is instantly exposed to a vast array of global digital information. And that's where the challenge comes in. It is in such a context that the question of insecurity about the digital financial sector only arises, which is very worrying. These are considered to be the biggest negatives of automation in finance. Human species 'Homosapiens' like other problems faced, problems are solved by humans. Similarly, the digital financial sector also has problems. All those problems should be solved.

However, the digital financial sector—specific OECD due diligence guidelines must be embraced, so that digital financial sector impression prevention and guidance can be used. All the countries of the world have to work together to overcome the problems of governance practices in the financial sector the problems of electronic direct democracy or the problems of the digital financial sector. Only then will proper governance be practiced in this digital financial sector known to be a boon to mankind and digital technology governance can benefit all citizens.

2.16. Focus of The Research

Social science research is a long process. Research requires data collection as well as an in-depth study of relevant literature. So, what is being done in research to avoid confusion in attention? Why is it being done? Who is this research dealing with? This constant thought must be contained. It is generally believed that proper implementation of digital governance in Bangladesh's financial sector will increase transparency through ease of access to financial sector services. Digital platforms can make financial sector processes and decisions more visible to the public. Transactions and interactions can be tracked and recorded thereby reducing the potential for corruption or misconduct. This can reduce bureaucratic inefficiencies and improve service delivery.

This study therefore focuses on the negative as well as positive aspects of governance practices in the digital financial sector. The focus of the study is only on the digital financial sector of Bangladesh. Not towards any other sector. Because in today's digital Bangladesh, there are many areas of digital financial sector services that need to be thoroughly explored for governance.

Also, this study does not discuss any profit, cost, loss, or other administrative, or legal aspects of the current financial sector in Bangladesh, as these are irrelevant to this study. This research has been an attempt to find out the challenges of automated monetary service sectors in 'Bangladesh', a growing developing country in South Asia with rich and immense potential in terms of finance. The study spotlights automation appropriate to the financial services area for every future growth of the digital business. Along with this, the study also includes suggestions on how to improve the digital financial sector in the future by solving the shortcomings of the existing digital financial sector as best as possible.

2.17. The Broad Goal of The Research

The intent to accomplish any study is to answer complex questions simply; For example, why will the research be conducted? What will be the benefit of research? What is the future of research? Most studies investigate the rationally analyzed productivity and effectiveness of recent innovation trends or unique social problems. However, the research work in the digital financial sector is the most in-depth and complex. Digital technology plays an important role in encouraging and improving citizen-centric financial services. Digital governance is revolutionized by the logical disclosure of active information on public and private financial issues. Today almost everyone in Bangladesh has digital innovative Android technology devices such as cell phones, tabs, smart watches, smart LED projectors, Wi-Fi surveillance cameras, etc. These digital technologies have emerged as very necessary and relevant tools for the common citizens of Bangladesh. These digital technology machines are currently the new additions of intelligence digital governance and these technologies are the key to innovative governance in the future. As everyone knows, digital governance provides inputs to the common citizens to make decisions on governance at various levels with digital technology in all services and financial sectors of the state. In this case, the truth is that these are now considered essential means for governance along with increasing accountability in the financial sector. The theory of digital control in finance has now emerged as a process to increase accountability as well as transparency within the government and financial institutions of Bangladesh.

Like the developed countries of the world, a new journey of branchless financing of digital financial services has started in Bangladesh. Digital control through the economic sector is now a rapidly changing topic. Digital financial transactions have become the most popular and indispensable medium for the vast population of Bangladesh who are currently deprived of financial services. The socio-economic importance of including a large population like Bangladesh in the digital financial service net is high. Therefore, considering the financial and social impact of digital governance on this population of Bangladesh, this study shows how digital technology has affected digital control in the economic sector in Bangladesh. The design of the study is to find out various positive and negative aspects of digital control in finance in Bangladesh. However, it can be seen automated governance in finance is still being nurtured in Bangladesh. However, this automated governance in finance has the potential to improve. Everything is rapidly changing to digital in the wake of concerning upcoming 4IR. Digital influence is also widespread in the financial sector. However, it is very necessary to clearly set an enabling environment for the advancement of automated digital control in finance to address shortcomings of digital governance. Therefore, before attempting to fully digitalize the financial sector of Bangladesh, the prerequisites of automated governance need to be assessed.

The purpose of the discussion survey is to measure and monitor the consequences of digital technique adoption in the area of finance in Bangladesh. However, Bangladesh's financial sector is stronger and more important than any other country's national economy. So, it can be said for sure that any change in the economic sector in Bangladesh will have a straight-through effect on economic improvement. In this regard, researchers have expressed a unanimous opinion that there is a direct lack of strategy in the development and expansion of digital governance in Bangladesh. Due to this, digital governance in Bangladesh has become a major challenge from political, financial, social, and technological aspects. Challenges to digital governance in Bangladesh include the inadequate and weak legal framework of the government to guide the implementation of digital governance, budgetary constraints, the high cost of the internet, the high cost of Android technology, the digital divide, and above all technical incompetence.

The purpose of the investigation is to know ahead of time what kind of impact digital innovation can have on the financial sector in the future as a result of the digital revolution. Along with that, to establish the hypothesis about how the future financial structure can be due to digital governance in the current financial sector of Bangladesh. To know what kind of work the citizens of Digital Bangladesh are mainly using digital technology for, to know why households and business organizations have adopted digital financial services. Also, to get a proper understanding of what are the practical methods of robotic financial sector services in Bangladesh. Not only that, but to properly monitor the influence of robotic financial sector services on family circles, and businesses in cities, ports, and villages of Bangladesh. To check how pleased customers on the privilege charges of the automated finance branch. To assess the threat dominated by individuals or businesses in the area of digital finance in Bangladesh. Assessing the interdependent relationships between causes of current digital governance failures and detection of fault-finding points into and out of visual hierarchy representation.

In this research from 2009 to 2023, a total of 346 research papers and books have been studied and reviewed including various newspapers, magazines, acceptable and detailed internet information, various books, PDF books, international journals, and reference books from the year 2009 to 2023. A brief analysis of all necessary documents, tables, figures, graphs papers related to each section has been done. Through which digital governance implementation methods, practical applications, and important outcomes of digital governance are indicated. The research topic is a relatively new concept for Bangladesh. This research idea, although intellectually interesting, is purely speculative. Digital technology and digital governance are made without reference to the scant literature. In contemporary thinking about digital governance, much of the literature is driven by the digital normative model, but the digital governance model was presented only a decade ago. The researcher presents empirical evidence from a survey of digital governance challenges in Bangladesh's financial sector. In order to get an idea, how accurate or useful are the models for understanding the actual development of digital governance? Likewise, it is also true that these research models do not necessarily reflect accurate descriptions or predictions of the evolution of electronic direct democracy in financial sector services, at least in Bangladesh.

Investigator offers grounded observations about digital governance, which can be useful for scholars, researchers, and practitioners alike. Despite numerous recent initiatives and academic and practitioner conferences on digital governance at various levels of the state, the experiences of digital governance initiatives are described in the literature as chaotic and unregulated. The study also found several defiance automated financial sector services; which are presented at the end of this study. To help think about electronic direct democracy in financial sector services, this study describes the various stages of electronic direct democracy in financial sector services development. Through which a step-by-step model for enhancing fully functional digital governance in the financial sector has been proposed. Various government websites, digital publications, and actual initiatives on the subject from Bangladesh Bank and various financial sectors have helped to underpin and explain this model. Currently, these phases of the financial sector outline a multi-pronged transformation in state infrastructure and functions and digital governance transitions at each stage. Therefore, the digital technical and organizational challenges for each stage are described in this study. The study also describes how digital governance in the financial sector is integrated with Bangladesh's traditional financial sector infrastructure.

2.18. Specific Objectives of The Study

Modern digital finance has a variety of new wheels that have turned the fortunes of the contemporary era 180 degrees. Technology is undoubtedly a big enabler in the digital financial sector. New and cashless financing is evolving based on these digital financial devices. This study examines the impact of adopting digital technologies, and tools—digital governance—as a mechanism for increasing liability furthermore crystal-clear behavior in the public and commercial sectors of Bangladesh.

The study also investigated potential automated governance sensible of the current situation of the financial sector. Particular target investigations are as follows: a) Discuss conceptual issues regarding the global scenario of digital governance and its application in the financial sector. b) To show the status of the adoption of electronic direct democracy in financial sector services in Bangladesh and the challenges related to it. c) Gauge the current state of automated infrastructure in the commercial sector and its potential in government systems for the development of digital governance. d) Evaluate citizens' expectations about the electronic direct democracy in financial sector services and their suggestion consideration. e) Widespread appreciation issues on the desire to take swift, enhance digital AI enthusiasm in Bangladesh. f) To identify and review the digital financial sector backlogs and issues and practical issues in the advancement of the overall automated economic sector, that are hampering the readiness of digital governance, and suggest solutions and recommendations to remove service barriers and improve the readiness of digital governance. Also, some solutions are suggested to solve the problems. g) Contemporary technologies used in the financial sector have been identified in the 4IR era respecting present automated Bangladesh. h) Smart AI depicts a realistic picture of the shape of the future financial sector after digital transformation. i) The survival strategy of the financial sector is also demonstrated. j) Qualitative features of digital financial services strategies for financial sector growth are analyzed. k) The study emphasizes building synergies and networks in the financial sector and public infrastructure to strengthen public sector capacity. Because the digital governance policy needs to be consistent and relevant to the daily life of the citizens of the state. As everyone knows, the digital financial sector empowers users and increases efficiency. The study will help provide inputs to policy-makers at various levels of the state and on digital governance. This research has created a new field to develop a conceptual basis for digital governance.

2.19. Conflicting Interests

We declare at this point in the research that the researcher's own personal opinion regarding the construct validity of the research discussed is reflected. It does not involve any interest in the professional, family, social, or financial sector. The researcher has framed the research in his own way with his own thoughts and words from a pragmatic perspective and some important quotes have been taken from the recent literature on digital governance in the financial sector framework. We address three interrelated components of digital sector inclusion; (a) Accessibility, (b). Affordability and (c). Digital Capabilities/Skills. (d)Access to digital devices is determined by affordability, (such as financial sector and technology) (e) Cost of adoption or use) or financial capacity that connects digital capabilities (such as adoption of digital technology and increasing the efficiency and motivation of digital activities). Those who do not own a digital device or cannot afford to purchase digital technology are less likely to feel motivated to use it. This leads to a digital access gap. Social inclusion of the digital sector in relation to digital financial sector use and adaptation in financial services, some socio-cultural reasons are highlighted. Those are often overlooked in research. A digital social network typically includes resolving social stakeholders (in particular persons, and associations) and a set of bilateral and interactive relationships (Putnam, R.D.,). in Digital Governance in the Financial Sector. The research agenda is often linked to discussions of social fundamental presumptions that explore the participation of individuals in building relationships and interrelation within and beyond their own communities to share resources and information. (Portes, A,).

2.20. Literature Gap

Using "Challenges of digital governance in the financial sector in Bangladesh" as a search keyword, no results were found in Google's online window, nothing could be found except a primary literature article written by the researcher himself in the literary pages of the daily Asian Age. As Bangladesh-specific perspective topic is also not much researched. However, there are links to a large number of digital governance documents, financial sector information, other international digital sector documents, and digital books. However, few articles are found relevant to management and governance. These research articles, books, blogs, and journals mention the intro, key points, historical evolution, and general operation of automated governance theory of the financial sector. Literature on electronic direct democracy in financial sector services and the impact of financial technology platforms on it, however, is not so vast. Compared to other countries, there has been little research on digital governance in Bangladesh. Since digital financing in Bangladesh gained prominence in 2011, there has been little research on digital financing performance in Bangladesh.

This study defines digital control enunciated in the financial sector. The governance literature has been advanced by surrounding sovereign apparatus and course of action automated age. Thus, the study builds the triangle's foremost theoretical work. initial, explicitness is provided on the impression of electronic direct democracy in financial sector services. Digital governance is a well-defined framework that possesses and creates a new field of study and a theoretical foundation for it. Second, it extends antecedent governance study by uncovering judicious resolution - capability variable and back-and-forth inherent in electronic direct democracy in financial sector services.

This study defines pertinent jurisdiction techniques related to automated exchanges. which are important in the deliberation of sophisticated system designs such as AI, cryptocurrency, and blockchain. Third, this research improves broader argumentation on data-driven transformation that achieved distinction in social science studies.

2.21. Conclusion

In various literature reviews, we observed that new researchers often ignore past research and re-investigate the same issues. The informational role of digital social interaction may be influenced by other information channels, which has been largely overlooked in previous studies. However, it is true that digital technology is changing the flow of information and has brought about some changes in our current social structure. Citizens accustomed to the digital financial sector transactions of Bangladesh have become heavily influenced by digital governance practices. Currently, the public and private sectors are transacting money through the digital financial sector. Digital finance has now gained acceptance as an alternative payment channel. Due to the digital financial sector policies, the need for innovative and simple services like various digital consultations, digital applications, and petitions by the state and private organizations has been promoted in the digital network, and the citizens of Bangladesh have been motivated to become more digitally literate.

That is why Bangladesh has already positioned strongly in the digital development index. The digital economy sector has built a solid foundation as it is cost-effective, secure, and accessible to the low-income population of various professions, especially factory workers working in downtown. In addition, 60% of the grassroots community living in villages, which are not served by the main financial sector of the country, have come under digital financial services. Even citizens enjoying the benefits of digital technology in the financial sector are now enjoying various online platforms, opinions, and political dialogue disseminated through social media. In this, the opportunities for knowledge management and skills of citizens have become more open. Citizens are becoming more aware by getting this virtual education of digital governance practices. From the inspiration of digital governance practices in the financial sector, digital social media is currently playing a revolutionary role as an arena for free and virtual politics and liberal democracy. The innovative liberal democratic opportunities of digital technologies may be further expanded in the coming days by citizens adapting to the rapid digital transformation of a welfare state like Bangladesh. In the future, Bangladesh will become not only a digital knowledge donor, but also a financial donor to other countries of the world. But everything depends on the digital development of the next generation. Lastly remember, our greatest asset is our talent.

Chapter-3

Research Methodology

3.1. Introduction

A combining scientifically designed tools, techniques, and methods is considered as research methodology. Research methodology consist of in-depth discussion research representation, study precondition, data processing and data interpretation. Generally, the whole process used for making deep and accurate decisions and gathering data or information is very important is called research method or research technique. According to Business Dictionary (2015), research methods include publications, research, interviews, survey questionnaires, and current, political, social, historical, and even most recent data. Dutch political scientist Gijsbert Kuypers addressed and recognized the foundations of this approach as a tool for policy development in the social sciences. Considering the contextual approach to research, Islam, (2009) explains research methodology more simply—'Research methodology is an important process of studying various steps, including the rationale, hypothesis, and rationale behind the research. which is usually adopted by a researcher to study his research problems. There is no substitute for this scientific process of research method accumulate information with the intention of making decisions for any study and this method is being used in all studies.

3.2. Nature and Area of The Research

The nature of this research is both qualitative and quantitative mixed. The main driving force of the qualitative research method is to analyze and investigate the quantitative [19] properties characteristics of the research. The survey sampling frame in this study is designed to cover the majority area of the citizens of the eight administrative divisions of Bangladesh. The sampling frame is allocated to Districts and Upazilas in proportion to the number of concerned persons involved in the digital financial sector. The sample size distribution in terms of digital financial sector type, category, and background characteristics of respondents in this study is given in table— (3.4).

3.3.1. Design of The Research

A comprehensive plan brings together any theoretical study dilemma of pertinent realistic study labeled study design. Generally exploratory, descriptive, and causal, these three types of study blueprint scientific questions and factual. (Gouri and Gronhaug, 2005). However, this study is essentially a non-experimental and a new study with respect to Bangladesh. Analysis used both descriptive and exploratory research designs. Also, performance, skills, and practical techniques are investigated/evaluated based on responses to research survey questions. The discussion of the study is largely divided into the inside of two specific varieties, those brought up below.

[19] Quantitative data have been required in order to generate data base of the analysis.

3.3.2. Descriptive Research

Explanatory study exploration is used concurrently investigator looks around for explaining related to "why" "where" etc. This type of research is also called explanatory or advanced discourse analysis i.e. usually concentrates on resolving the inquiry similar to the "why" or "where" of the study. Again, this type of research can also be categorical even as an experimental study technique. Because the flexibility exercised these studies greatly influence the authentic study procedure during the research. An additional purpose of such research is referred to as observational research as it were the attributes of the adaptable seldom under the jurisdiction of the investigator, so, the researcher is able to describe the relevant subject as desired. The present study is most suitable for such a situation, as these research problems are still in their early stages. The current research is based on discussions and actual events on digital financial governance that persist in Bangladesh. The report of the survey results of this study is descriptive in nature, in this case, data collection and statistical mathematical analysis have been attempted.

3.3.3. Exploratory Research

Although the study was conducted based on various secondary and primary sources of data, exploratory research delineation was designed to meet the needs of the approximate data collection method of this investigation. Exploratory research is somewhat difficult to categorize properly, but this type of research is usually used in research conducted primarily to solve or investigate a problem. Also, this type of exploratory research is accustomed to obtaining a deeper transparent clear appreciation of any type of undetermined complication. However, the weakness of the investigative study is it these studies cannot come up with definitive outcomes. Usually, the researcher starts the research work by formulating the basic concept of his research. This type of research is established as a foundation for any future research. Therefore, the exploratory research design is used as one of the means of this type of research and study to identify and identify any problem.

3.4.1. Data Collection and Sources

Data are always defined as variables, quantitative and qualitative. Data can be any numbers, figures, images, words, etc. related to information or research ideas. Data collection is the basic tool of research. This is a very important and compelling task of research. After data collection, the proper analysis provides essential meaningful information. All types of research therefore require data collection. With the intention of successfully succeeding focus on the objective of the research. The survey collected data from both primary and secondary sources. In the current digital age, social science research has grown to a wider range of digitally collected data. Recent Significant advances in Digital Bangladesh, Digital capability, and digital governance, the clear advantage of using digital technology everywhere is to use digital systems to collect primary data. During and after the COVID-19 pandemic, social science research has used a generation of digital smartphone and tablet computer-based primary data collection processes. The use of cloud-based storage for digital Android devices, gadgets, computers, Wi-Fi trends, and availability can automatically record template forms. Which tends to be stored directly on the researcher's own hard drive through Android smartphones, gadgets, and tablet computers.

In this study, data was collected by conducting an online survey of consumers in the mechanical area of finance in Bangladesh through a Google-generated form (Google Data Form Link: https://forms.gle/U33ZvU481jZwazCx8). In this research, the data collection method is accepted as easy and convenient in the recent COVID-19 pandemic. In this research smartphone, and social networking websites in particular Facebook, Messenger, zoom meetings, virtual interview methods, and online correspondence are used for data collection. Contextual data collection focuses on various topics such as ongoing and past research report studies, financial sector clients, citizen expectations, etc. used in context data collection. A citizen survey was conducted to find out citizens' views on the defiance of electronic direct democracy in the area of finance in Bangladesh. This research survey uses two (2) units namely (a) Survey of various digital financial sector employees including government and NGO officials in Bangladesh, as they are driving the country's digital financial sector. (See Table 3.4. List of Financial Sector Respondents). (b) Also, traders engaged in various professions and selected sectors such as sole proprietors of Small Businesses, Professional Labors, Vehicle Transporter (Driver, Rickshaw Pullers, Garage Workers, etc.), Garment Maker, Household Servants, Housewives and Others Professional and the general public. (See Table 3.5. List of Different Professional Respondents).

3.4.2. Primary Sources

A primary data collection tool in any social science research is the questionnaire designed for primary source surveys. A good quality initial question and answer usually goes a long way in solving any research problem. The defiance of electronic direct democracy in the area of finance in Bangladesh is a choice topic relevant to the masses in Bangladesh this time. Bangladesh has already performed well in the digital financial sector. Bangladesh's smart digital technology-using citizens, future students, and researchers have infinite curiosity about studying this topic. This study attempts to inform practitioners and academics about the effectiveness, utility, and barriers to defiance of electronic direct democracy in the area of finance in Bangladesh.

Survey questions of the digital governance study show—How involved is civil society accustomed to digital governance in the financial sector? What are the people's needs or expectations in terms of digital governance in the future? Such prospective-specific questions were used to collect information from the respondents. For this, the questions are developed from past and ongoing digital financial sector literature, reviews and analyses, studies on reports, and latent curiosity of the public, queries. The survey questionnaire was developed with a special focus on clients in automated financial territory. What are expectations concerning the citizens regarding the digital financial sector, in short, what is the public view on digital governance is specifically included study questionnaire.

Raw data has been self-possessed amongst citizens of different professions of Bangladesh by sending the primary questionnaire of the research online through a structured Google form. [20] Note that the survey questionnaire was designed using a total of 33 questions with a long comment. In the survey questionnaire, the respected honorable were requested to give their opinions, suggestions, and recommendations in writing.

The purpose of this question is to capture the real picture of recent Bangladesh's digital-financial sector progress, challenges, and practical development progress for the preparation of the 'Smart Bangladesh' vision from the experience of digital devices in financial sector users. Some sub-questions have also been added to the survey questionnaire.

The questionnaire of a research paper is divided into quarters. The initial part (1st) puts into words every personal context. For example, the gender, age, and professional information replier included. The second half (2nd) of the survey questions included questions about personal financial transactions in the automated financial territory. In the third section (3rd) with regard to the questionnaire, the demographic information of the digital financial sector, and in the fourth section (4th), what should be the future trends of the automated financial territory is included in the forward-looking context questionnaire.

In this case, it needs to be mentioned more clearly, a 07-point Likert metric chart consisting of six (6) questions has been prepared from question number- twenty-seven (27, see figure-3.1) to question number- thirty-two (32). In which the question values are divided into categories ranging from one star (01*) to a total of seven stars (07*). For example, as a measurement scale for each question in the questionnaire, one star (01*) indicates 'strongly agree' and seven stars (07*) indicate 'strongly disagree'. The third and final question number thirty-three (33) is designed to capture respondents' written brief comments on issues and suggestions in the digital financial sector. It should be noted that although the long and numerous comments received in response to this survey question were duly filled in, only a total of thirty-five (35) selected statements, opinions, and important comments related to the purpose of this study have been attached to this study. (See Chapter 4.7.33.2. Summary of respondents' views See significant comments and suggestions of respondents in the study.).

Every help of an expert was taken to verify the questions before finalizing the questionnaire for this study. It would be important to mention here, that this researcher is professionally working as an Evaluation and Documentation Officer at BIBM, Mirpur, and Dhaka, Bangladesh. To make sure of the authenticity of the questionnaire, the investigator himself personally submitted it to BIBM's renowned academic experts, schooler (as a virtual research co-supervisor of this research) my heartiest respected sir, Ashraf Al

[20] Digital copy of questionnaire available in digital link: https://forms.gle/3XXRDvDViG3tXd1o8

Mamun, Ph.D. (Management, Australia) for necessary corrections and validate questionnaire appropriateness. Sir, made necessary corrections to some questions and provided comments and suggestions as an expert. Which this researcher has adopted and implemented in this research work.

Finally, the final printed draft question paper was submitted to this researcher's respected teacher and research supervisor, Prof. Dr. Presented to Dil Rowshan Jinnat Ara Nazneen (Ma'am), Department of Political Science, University of Dhaka, for final revision and suggestion of the question paper. After that, the presented questionnaire was properly revised and finalized by the research supervisor (Ma'am). This M.Phil. This study covers a period of one year, commencing on 15 October 2022 with an expected completion time of after one year. The Digital Survey Questionnaire of the study (See Appendix -2), was provided from 02 February 2023 to 15 July 2023. Finally, in this study, links to 800 digital survey questionnaires were provided to valued respondents via email and various digital social media. A digital QR labeling system code has also been implemented. (see Fig. 3.2).

Printed codes of QR labeling systems have been distributed among respondents in government and private organizations, general traders, shopping malls, various marketplaces, and educational institutions. Easy arbitrary specimen strategy recycled to reach question to a particular 300 general respondents. It includes urban and rural workers, small entrepreneurs, rural small factories, garments, car drivers, rickshaw pullers, and even random pedestrians walking on city roads as respondents to this research survey. A list of reserve respondents is also randomly selected for potential replacement of respondent numbers. If a target respondent could not be interviewed in the survey for some reason, a respondent from a reserve respondent was substituted.

After verifying the answers to the questions, a total of 500 digital financial service customer respondents answered the complete unbiased questionnaire. Incorrect answer sheets are rejected. Also, some digital interviews are adopted in this study. Because of recent COVID-19 lockdowns and isolation around the world, innovative digital video-conferencing and interviewing apps have proliferated. Today, the digital visual zoom interview has become a popular sophisticated, and frequently used method in the primary data-collection process of social science research. As it is a reliable, modern, independent, time-consuming, and highly effective method for accurate data, the importance of this digital visual interview method is increasing day by day. Because information and knowledge exchange are possible on any deep and important subject through this digital visual medium. In this study, the researcher conducted several personal in-depth interviews (offline) with key informants using face-to-face and informal digital visual interview methods. A total of ten (10) different case studies were written by the researcher based on the interviews of the selected ten (10) individuals interviewed. (See Appendix-1. Case Studies).

27. How would you rate the following benefits of digital financial services? *

	One star	Two star	Three star	Four star	Five star	Six star	Seven Star
Ease of Use	☐	☐	☐	☐	☐	☐	☐
Cost Saving (Lower rates, transaction fees)	☐	☐	☐	☐	☐	☐	☐
Time Saving	☐	☐	☐	☐	☐	☐	☐
24/7 Access	☐	☐	☐	☐	☐	☐	☐
Physical security	☐	☐	☐	☐	☐	☐	☐
Safe Transaction due to digital SMS Alert.	☐	☐	☐	☐	☐	☐	☐
Wide Acceptance of Digital Money	☐	☐	☐	☐	☐	☐	☐

Figure: Sample of Research Questionnaire Design.

Table 3.1. Research Questionnaire Sample

Source: Survey

The participation or existence of citizens in the survey is monitored through public opinion polls. How experienced citizens are about digital automated governance of the financial sector among citizens who are accustomed to practicing and using digital governance in the financial sector. Or looking to improve this research design to get feedback on citizens' desires, needs, and expectations around the new generation's digital future.

In this study regarding the digital financial sector, a structured questionnaire was developed and then the research was conducted. The respondent's information from this structured questionnaire was used in data processing. A structured survey form was developed based on the literature review on digital governance. In this research literature, Bangladesh has been monitored as one of the countries in the world that has now gained a global reputation as an excellent performer in the digital financial sector.

Based on the study of past and ongoing digital financial sector reports, the questionnaire focuses on current digital financial sector clients. Such as citizens' expectations, the new generation's expectations, citizens' views on digital financial transactions, and how the people of the state have adopted the automated governance practices of the financial sector. In the primary data, survey data was collected from all Bangladeshi citizens, young and old, through a structured online questionnaire form. The survey questionnaire was designed using 33 statements with one (01) long comment related to the research objective. Suggestions and recommendations are sought from the respondents to know the level of improvement in preparation for the future 'Smart Bangladesh' vision of a digital-automated technology-driven financial sector in Bangladesh.

The following sub-questions are specially covered in this study. The public opinion poll is divided into four (4^{th}) component parts. The primary component includes personal and socio-economic factors. Here the respondent is asked about his own personal preferences, life span, etc. There are also questions regarding the professional information of the respondent. The questions in the next (2nd) section of this research questionnaire contain a serious inquiry about the current dealings with digital governance and include a sensitive area of the current digital financial situation that captures the respondents' statistics related to digital financial transactions and the third (3rd) section consists of digital governance and demographic information on the financial sector and the fourth (4th) section seek information on the future trends of digital governance in the area of finance in light of the current state of the digital economic part.

3.4.3. Secondary Sources

Secondary data is used to facilitate any research work. In the context of secondary data, (Heath Huff, 2016)., 'data that has been previously collected by another researcher and used in his own research. In a word, secondary data is obtained from other research sources.' For example, previously published other authors, research books of scholars, recently published literature, theses, scientific studies, articles, monthly, weekly, and daily newspapers, periodicals, online digital journals, and various periodicals. Survey data is collected through stock take exercise. Secondary data is usually associated with quantitative databases. So, researchers have to do extensive desk research to collect secondary data.

In this study, the secondary data sources used to show the prevailing situation regarding the trend of the digital financial industry in urban-port and rural areas of Bangladesh are the relevant websites of the financial sector in Bangladesh, financial situation reports published by research departments of various financial sector, selected research papers and the publications of the digital financial sector listed in this study. research paper Also some literature has been collected from international articles and literature. A detailed list of which is inserted in the footnote [21] below.

[21] International Monetary Fund latest surveys; Global Findex Database, Online public portals and publications by other authors. World Bank, World Bank Blogs latest surveys report. Journal of United Nations Development Program. Journal of World Trade Organization. EY Global Financial Services Institute Journal. European Institute for Gender Equality Journal. The Asia-Pacific Digital Transformation Report Journal. Online Latest journal of DFID, UNCTAD, OECD. Fintech. International Telecommunication Union (ITU). American Scientific Research Journal for Engineering, Technology, and Sciences ESCAP. Articles of renowned newspapers of Bangladesh e.g. The Daily Star, The Daily Independent, The Daily Asian Age, The Daily Observer, The Daily Prothom Alo, The Daily Somokal, The Business Standard, The Bangladesh Post, Eurasia Review 2022 Business Dictionary, Transparency International Bangladesh

Figure 3.2. QR code
Source: Survey data

3.5. Determination of Sample Size and Design

Sampling can be described as an important discrete step in the process of modern scientific research. It is essential for research work to adopt a superior sampling design to collect relatively more consistent and statistically valid up-to-date data. As described by Islam, (2009), 'Sampling design in research refers to a followable and consistent method or process of selecting a certain sample from a population.' Sampling statistics is an inference technique with calculation formulas. Cross section is usually a way of choose a subgroup originating at large citizen with the intention of accumulate data. In the sampling design of this research a convenient sampling method has been adopted. That is, the citizens of Bangladesh aged 18 to 60 years have been tried to be included in the sample design of this study. A non-probability sampling method was used for the digital financial sector in this research sample. The formula for sample size can be explained by three principles, namely: (a) every misestimation a particular investigation is inclined agree to receive; (b) True margin of error or alpha level when the researcher is willing to accept an acceptable level of risk, and (c) the effect of the design on stratified sampling.

This study decided to survey a total of 200 businesses associated with the digital financial sector and another 300 in the digital financial sector by using a stratified sampling design. The research data was collected from eight administrative divisions of Bangladesh separately. However, a higher proportion of digital financial sector users is considered in the greater Dhaka division. As a result, 50% of the sample of Dhaka division has a public-private financial sector, business institutions, etc. The continue to exist 50% representative have existence controlled deriving out of additional segment in Bangladesh. Make use of the identical mechanism, 40% of buying and selling organization coming from the capital of Bangladesh, 20% belonging to the Chattogram, and the remaining number of business establishments from other divisions were selected. (See Table- 3.5).

(TIB). Website of Bangladesh Bank, Annual reports of BRAC bank, bKash, City Bank and IDLC finance limited. Journal and periodical of Bangladesh Institute of Bank Management (BIBM). etc.

3.6. Samples from Financial Sector Professionals

With globalization, we have joined the global digital financial sector. Many private digital financial institutions have joined the digital age of Bangladesh. Influential pressure groups own the private digital financial sector. These private digital financial sectors protect the interests of their owners. However, public and private financial sector professionals can try to make Bangladesh's digital financial sector truly beneficial and good. Financial sector professionals are involved in the direct implementation of governance criteria at the root level in their daily work practices. These professionals have a responsibility towards the people. They are also aware of the vulnerabilities of financial institutions. So that the financial sector of Bangladesh does not become regressive in the coming days. These professionals acquainted with financial territory work to keep within regulatory framework so that governance is properly observed and practiced. This research was carried out to investigate in-depth knowledge of what is the current digital financial sector governance system in Bangladesh, the beginnings of the digital financial sector journey, their current functioning, future prospects, and challenges of the digital financial sector.

In this study, a survey sample was collected from twenty-one (21) digital financial sector professionals (See Appendix-4. List of Digital Financial Sectors Institution, which Responded to the Questionnaire) located in Bangladesh as a sample to reflect the opinion of the digital financial sector professional population by surveying it. On the other hand, some NGOs including BRAC are doing business with a reputation as independent distributors of the large digital financial sector of Bangladesh. Therefore, surveys and opinions of professionals from some NGOs and business organizations have been added to this study. The following financial sectors have been included in the survey in this study to accurately analyze the entire digital financial sector of Bangladesh.

• Digital financial sector, bank and business firms from villages.

• Digital financial sector, bank and business firms from Upazilla town.

• Digital financial sector, bank and business firms from District town.

• Digital financial sector, bank and business firms from Divisional town.

• Digital financial sector, bank and business firms from capital city, Dhaka.

To run the regression models, we used secondary data from 2000-2023 from twenty-one (21) commercial banks. The digital questionnaire link (See Questionnaire Appendix-2). A Google Form link [22] to the survey questionnaire for this study was emailed to managers and professionals in the financial services accessed and delivered through digital channels. Then a digital link with regard to question is requested to be distributed or shared among the officers, and employees of the financial sector, and the request is confirmed by calling the mobile phone.

[22] Digital copy of questionnaire available in digital link: https://forms.gle/3XXRDvDViG3tXd1o8

A digital questionnaire was sent by digital mail to the Executive Director ED (Ex-Cadre Publications). Governors secretariat, Bangladesh Bank. (See Appendix-3.). Out of 500 filled questionnaire a total 265 filled questionnaires received back from twenty-one (21) digital financial sectors institution (See Appendix-4. List of Digital Financial Sectors Institution, which Responded to the Questionnaire) sampled e.g. employee of State-Owned Commercial Banks and Private Banks (SOCBs). (See Table-3.3. List of Financial Sectors Respondents).

Table 3.3: List of Financial Sectors Respondents

Sample from Financial Sectors Professional	Sampled Financial Sector
Financial sector e.g. State-Owned Commercial Banks (SOCBs)	3
Financial sector e.g. Specialized Banks (SBs)	1
Financial sector e.g. Private Commercial Banks (PCBs)	14
Financial sector e.g. Foreign Commercial Banks (FCBs)	3
Total	21

Source: Survey data

3.7. Sample from Different Professional

The rest filled questionnaires were come from household and business firms. The result found that, ten percentage (10%) of respondents engaged in micro-business at Dhaka, another ten percentage (10%) of respondents also engaged in Micro-business at Chattogram and twenty percentage (20%) of the respondent from other divisions. Casual labor ten percentage (10%) respondents from Dhaka, another ten percentage (10%) of casual labor respondents from Chattogram and only twenty percentage (20%) of the casual labor respondents from other division. Driver or Rickshaw Pullers respondents twenty percentage (20%) from Dhaka, another twenty percentage (20%) of the Driver or Rickshaw pullers respondents from Chattogram. Twenty-five percentage (25%) of the respondent's garments workers at Dhaka and another twenty percentage (20%) of the garment's workers respondents from Chattogram. Ten percentage (10%) of the respondents from domestic workers at Dhaka, another ten percentage (10%) of the domestic worker from Chattogram and only five percentage (5%) of domestic workers respondents from other divisions. Ten percentage (10%) of the respondents are housewives at Dhaka and another ten percentage (10%) of the housewife respondents from Chattogram and twenty percentage of the housewife respondents from other divisions. Only five percentage (5%) of the `others' professional respondents from Dhaka and five percentage (5%) of the `others' professional respondents from Chattogram and five percentage (5%) of the `others' professional respondents from other divisions. (See Table-3.4).

Table 3.4: Sample from Different Professional

Categories	Dhaka Division	Chattogram Division	Additional Distribution
Mid-size enterprise	10%	10%	20%
Temporary employment	10%	10%	20%
Driver or two-wheeler	20%	20%	15%
Dressmaker	25%	25%	0%
Housemaid	10%	10%	5%
Housewives	10%	10%	20%
Others	5%	5%	5%
Aggregate	**100%**	**100%**	**100%**

Source: Survey data

3.8. Distribution of Samples Across the Country

About thirty-six percent (36%) of the survey respondents (total—of 177 people) were taken from capital of Bangladesh. Furthermore, another second-biggest number of respondent's seventeen percent (17%) (Total—83 people) are from Mymensingh Division. A significant percentage i.e. twelve percent (12%) of the respondents (Total—57 people) are drawn from Rajshahi Division. Ten percent (10%) of the respondents were drawn from Chattogram Division. Nine percent (9%) of the respondents are from Rangpur division. proportion 7% interviewee were drawn originating at Khulna Division. Remaining allotment 7% interviewee were drawn originating at Barisal division and the last allotment 7% interviewee were drawn originating at Sylhet division.

So, the people interviewee is livelihood at variance parts in Bangladesh. It is noted here that a maximum of forty percent (40%) of the respondents be in residence at district territory. comes afterwards 26 percent be in residence faraway village. About twenty percent (20%) of the respondents are living at the divisional headquarters, eight percent (8%) of the respondents are living in the upazila and six percent (6%) of the respondents are living at the union level. The sample consisted of twenty (20) respondents from public sector officials and two hundred and sixty-five (265) respondents from financial sector officials. A total of one hundred and ten (110) non-financial persons (financially excluded) or the control group of the digital financial sector, thirty (30) samples were collected from Non-Governmental Organization (NGO) members, ten (10) respondents employed as employees of autonomous organizations, and the remaining Sixty-five (65) respondents filled questionnaires taken from other business establishments such as traders engaged in various professions and selected sectors such as sole proprietor of Small Business, Professional Labors, Vehicle Transporter (Driver, Rickshaw Pullers, Garage Workers etc.), Garment Maker, Household Servants, Housewives and Others Professional and the general public. (See Table 3.5. List of Different Professional Respondents)

Table 3.5: Distribution of the Sample Across The Country

Division	Public Sector	Financial Sector	Non-financial Sector	NGO Members	Autonomous	Others	Total
Dhaka	5	125	26	7	2	12	177
Chattogram	2	23	10	4	1	8	48
Khulna	2	14	8	1	1	6	32
Rajshahi	4	20	13	4	1	15	57
Barisal	2	18	4	3	1	3	31
Sylhet	2	15	7	1	1	5	31
Mymensingh	2	38	25	5	1	12	83
Rangpur	1	12	17	5	2	4	41
Total	**20**	**265**	**110**	**30**	**10**	**65**	**500**

Source: Survey data

3.9. Reliability and Validity of Data

This study is mainly prepared based on secondary data from 2009 to 2023. Digital financial sector annual reports, publications, and journals are collected from all twenty-one digital financial sectors listed in table and Bangladesh Bank (See Appendix-4. List of Digital Financial Sectors Institution, which Responded to the Questionnaire).

However, the reliability and validity of the data may be questioned. Therefore, regarding the validity of the data, it is strongly declared here that the reliability and validity of the annual report of the digital financial sector mainly depend on the transparency of the reports towards authority as well as concerned digital areas of finance. This data has existence considered transparent as it is efficiently audited by the research wing of the concerned financial institution before publishing the annual reports in the financial institution to clarify the authenticity of digital governance. However, only secondary data has been adopted in this study after cross-checking the data as much as possible. Digital link of the primary data questionnaire, personally sent by the researcher to the respondents through the digitally appropriate method and collected by the researcher himself. Then for the results, the research data is generated in the software and transformed into images or figures with the help of professional research assistants skilled and trained in digital technology. So, there is no question about every credibility together with sustainability statistics comprised academic work.

3.10. Rationality of The Analysis

The world is changing in the digital age. The present age is the age of digital technology. Digital Bangladesh is moving forward in keeping with this dynamic trend of the digital world. With the aim of Smart Bangladesh, the type and quality of services have changed with the touch of digital technology in different parts of the state. The main reason for the development of digital technology is the benefits that can be gained by using it. In today's digital Bangladesh, the use of digital technology has grown unbridled everywhere. Digital technology has become a daily companion like a virtual friend of today's Bangladeshi nation. Digital technology-based services have reduced time and hassle. As the standard of living is increasing, employment is also increasing. Digital financial systems such as উপায় (Upay), Rocket, TeleCash, Bikash, Nagad, etc. (See Table 2.4), have become more popular among the general public than conventional banking systems for traditional financial transactions. Bangladesh is experiencing rapid digital financial transactions in recent times and 3A, 4A, and 5A have arrived. Its unique digital opportunities are much needed by citizens. Now is the time for the fourth industrial revolution (4oz). Digital internet banking and automated banking services have brought far-reaching changes to the digital financial sector in Bangladesh. In today's Bangladesh, people no longer go to traditional bank offices to withdraw and deposit cash. By using an ATM booth near their home. Not only this, cryptocurrency and blockchain technology have already started to be used in every economic sector within Bangladesh. Paperless, real-time, low-cost, fast and error-free cashless transparent digital transactions will significantly help Bangladesh in replacing paper currency financial transactions in the traditional financial sector. So, it can be said that cryptocurrency will be used for transactions related to cashless automated financial zones within Bangladesh in the future, no doubt. Through this research, the advantages - disadvantages, problems, and challenges of the current digital financial sector in Bangladesh and the future digital financial sector will feed the imagination and thoughts. Given the reality of the current digital financial sector, the discussion survey will shake the minds of policymakers of the financial sector in Bangladesh and further motivate social scientists and researchers to apply innovative energies to the digital financial sector.

3.11. Data Analysis Techniques

This study focuses on measuring governance practices sensible of the digital economic sector in the middle of Bangladesh. Every effort has been made to fulfill the objectives and goals of probing. Therefore, a digital survey form has been recycled in this study to accumulate materials from primary sources. After collecting the data, a preliminary analysis of the data was done. After checking the outliers or missing data in the collected data, 567 completed valid data were obtained from the respondents. However, in total (67) answer sheets, the answers were rejected due to lack of necessary information as the data information was not correct.

After clearing the data of the received answer sheets in this way, 500 answer sheets were found to be correct and appropriate. The data from these 500 digital answer sheets have been used in this study to analyze the results. The response rate of the respondents is 100%. or percentage of response (100%).

Quantitative data such as ratios and simple percentages are used in this study to investigate the governance practices concerning the digital area of finance. Various tables and figures are used to display the results. This includes the denote, SD, summary, and an unpaired sample `t-test has been done by the relevant software. following evaluation of the selected digital financial sector by an independent sample t-test. Also, after converting the data into MS Excel 2021 statistical files, the data was analyzed with the help of an expert user operator of the digital software. The data are then pooled and estimated by using EViews. At the end of the research, all outcome of the investigation is mentioned in the summary, discussion, and conclusion of this study.

3.12. Analyzing Tools and Procedures

In this study, digital technical analysis of stock trend issues is done on results by exploring every digital data of the financial sector of Bangladesh. Therefore, fundamental analysis without any hindrance, every applicable investigation, especially the current performance of Bangladesh Bank as a state bank, leading digital development in the financial sector, and current digital currency sector in Bangladesh is dissected in this study informed about digital governance practices. Along with that, digital governance practices are shown as a comparative example in the activities of 'bKash', a private digital financial sector that is widely known in the current digital financial sector in Bangladesh. The study captures the existence of digital breathing elements of the current financial sector depicted through various graphs and charts. The study has analyzed the all-inclusive issues of the digital economic sector in a thorough comprehensive manner. All findings related to this research are particularly important for studying digital governance practices in the financial sector of Bangladesh. (See Chapter 4).

3.13. Nonparametric Statistic

According to the following table, this study was designed using inconsistent alphabets to represent numbers, to meet the needs of the population as well as variables. The sample size is denoted separately by the lowercase (not capitalized) letter ‘n’ and also important population statistics are indicated separately by the uppercase letter ‘N’.

Table 3.6. Nonparametric Statistic

Characteristic	Sample Statistic	Population Parameter
Mean	x¯	µ
Standard Deviation	s	σ
Proportion	p^	p

3.14. Sample Statistical Formulas

Now let's look at each algorithm supportive of sample statistics of predictable error

$$\bar{x} = \frac{\sum_{i=1}^{n} x_i}{n}$$

3.15. Sample Mean Formula

Calculating the sample mean in a study is similar to calculating all citizens represented. After adding broad information usefulness, the sum total is divided into innumerable worth confines of the word processing file.

3.16. Sample Standard Error Formula

Each community standard deviation is approximate making use of procedure $\sqrt{(\sum(xi-\bar{x})2/n)}$ and is used to calculate the SD of a short sample. That miscalculates the citizen parameters. In this study, n is replaced by n – 1, in the denominator to obtain a neutral approximate of the citizen SD. Therefore, each one probable error = $\sqrt{(\sum(xi-\bar{x})2/n-1)}$.

3.17. Population Parameters in Sample Statistics

Each measure obtained from the survey regarding sample statistics in research has existence treated as a different sample statistic. All essential and important aspects of inferential statistics are done using sample statistics and trying to estimate population parameters. An unprejudiced representative means composed makes use of simple unsystematic practice that could be pre-owned in the act of statistician with regard to the community mean. This shows that the sample representative along with citizens is in the region of usual. particularly, on the assumption that specimen signify $\bar{x}$ is utilized even as a rough calculation towards citizen stand for μ, then $\bar{x}$ is said to be a point approximate calculation concerning society denote μ. Representative conveys $\bar{x}$ obsolete pre-owned for example increasingly credible regarding inhabitant convey, as opposed to the trial denote along with the representative system. The indicated owing to the fact that the process of numerous specimens amongst one and the same inhabitant is different lower than the arithmetic means middle value and approach of dissimilar specimen.

3.18. Estimation of Parameters and Variance

Research estimators need to be unbiased. That is, represent regarding approximate gathered starting with dissimilar specimens of the very same dimension must be uniform to the estimated framework. 2. Also the figure needs to be compatible. As the sample size in the study increases, the estimator approaches the parameter value. So, 3. The estimator must be skilled. Among different figures of a general occupier boundary, the proportionate systematic figure needs to possess a smaller variance.

3.19. Determinations

The ongoing study deals with issues and challenges in implementing and practicing digital governance in the automated area of finance in Bangladesh. There exist two sides to the practice of automated power in financial territory. One end subsists provider which is the state and the other end is the receiver which is the consumer or digital service user such as ordinary citizens and the respondents of investigation. Apprised of the discussed research, the analyst considered each research data and observations from the perspective of the users only. General: The details of the problems consumers are facing in the digital financial sector are seen from the citizen's perspective, not from the state's perspective.

3.20. Limitations of The Study

The researcher has to be hindered in various preliminary processes of this study. For example, no specific research information was found on the research topic in Google search windows. Hence the rich literature could not be displayed in this study. Also, some aspects of digital governance practice and implementation in the financial sector in Bangladesh could not be adequately covered such as no specific information on digital governance and strong cyber security strategies for the financial sector. This study also has population-related opportunities and limitations. Especially every financial sector has its own secrets which are not disclosed to outsiders. In this study, DBBL, IPDC, and bKash protected the institutional confidentiality of the digital financial sector. They were reluctant to answer the research questionnaire. For that reason, it was not possible to show those data in this study. In a word, due to the non-availability of data related to the overall digital financial sector in Bangladesh, it was not possible to make a specific comparison or review with other financial sectors of Bangladesh. On the other hand, one year of study for an M. Phil does not adequately cover all financial sector data listed in large. To make the research work transparent, comprehensive, and wide it was important to include more sample respondents to generalize the results. However, the researcher is suffering from a lack of financial funds for his research work. Without funding, the researcher could not have been able to collect the sample of respondents well. Even due to the official administration restrictions in the name of lockdown against the COVID-19 disease, the researcher could not physically conduct a formal Focus Group Discussion (FGD) with respondents from the financial sector. However, instead of a formal FGD, this study collected research-related opinions by conducting virtual digital interviews (Zoom, WhatsApp, Facebook Messenger Room, Google Duo, and Skype) using digital technologies such as Android, gadgets, laptops, and PCs. In short, due to the COVID-19 and post-pandemic situation and due to funding constraints and time constraints, the research analysis work was completed with 500 completed questionnaires. Therefore, the initial data collection calculation is 567 — 67 = 500.

Although the experimental length of the investigation was inadequate, if there had been better funding, the researcher could have found some remarkable results. In this research activity, the researcher had a plan to take the views of stakeholders and financial sector experts. It was not possible due to time constraints lack of funds moreover epidemic of the COVID-19. It may also be mentioned that the survey did not show the overall comparison of Bangladesh with many other countries. This is because documents pertaining to the all-embracing digital free economy in Bangladesh were not accessible and the findings of this study are limited to the Bangladeshi digital financial sector. This study is not applicable to other sectors of the country's economy. Despite these various limitations, no effort has been spared to make this research fruitful. It can be said that at least this study will serve as a harbinger of research for the automated area of finance in Bangladesh.

3.21. Conclusion

The study technique is discussed thoroughly in the discussion chapter. This study used an objective sample study of the digital financial sector's advantages, disadvantages, future trends, and challenges of the digital financial sector. Research design, survey data, sample collection, data analysis, and results are presented in a simple and clear manner. The data collected in this study, samples are explained in detail using various financial ratios such as statistics, graphics, table denotes, SD, and relative standard deviation. Finally, the study was validated by an independent unpaired sample 't'-test using the IBM SPSS statistical software package used in the study of social phenomena.

Chapter -4

Findings and Analysis

4.1. Introduction

The earlier part of the present thesis (See: Section 3) has elaborated on the methodology, organization of the thesis, etc., of this investigation. This research has been conducted by applying those methods and techniques. The important topic of the current chapter is – 'Finding and Analysis'. In a nutshell, this chapter presents the findings and analysis based on the research. This study focuses on intensive observation to measure the practices, efficiency, and effectiveness of digital governance informed about the area of finance in Bangladesh. An attempt commits to achieve the objective of this study through this analysis. The results presented in Section 4 are actually collected from the initial data. which is collected through personal interactions and the use of online Google digital survey forms. (Click here to view the digital form link:

http://bhadtsong.mshab/ravat1ngtiih1mch9887a).

After primary data collection, the data is properly sorted and cleaned. Irrelevant bits of information were discarded. Only clear and accurate data is organized into spreadsheets and other statistical digital tools, and then data modeling is done. All the information in this chapter is based on the results obtained after evaluating the digital financial sectors selected for this study. Interpretation of data results and associated evaluations are described using ordinal numbers according to the research questionnaire. From the participant's perspective, quantitative data of respondents' opinions on digital financial sector governance practices, digital practice trends and benefits in personal and social life, future expectations for digital financial sector services, etc. have been used to investigate the effectiveness of the digital financial sector with various ratios. Statistical tools are presented by analyzing the mean, standard deviation, coefficient of variation, etc. Every effort has been made to near the outcome of the examination in all forms of graphical visualizations such as tables, graphs, diagrams, curves, and 3D diagrams to make the results of the analysis more clear, simpler, and easier to understand and show.

The findings of this study carefully present the significant improvements in digital governance performance as compared to the overall digital financial sector of Bangladesh and a popular private digital financial sector in the market – 'bKash'. It may be reiterated here that; This study has tried its best to explore in depth some of the key areas of challenges and issues in digital governance practice in the financial sector.

In addition, the 35 respondents of this study wrote significant criticisms and counter-comments about the potential apprehensions and challenges against the many benefits of automated governance in the financial sector of Bangladesh. Many respondents also wrote some suggestions. They are mentioned at the end of this chapter as important documentation material for this study. (See 4.73.34. Summary of Respondents' Opinion). Summary of Respondents' Opinion). Through these important digital data, an attempt has been made to find out the actual impact of automated governance practices in the area of finance. In this investigation, the investigator conducted individual face-to-face interviews with only ten (10) selected respondents to gain a deeper understanding of the various views, regarding digital governance practices in the area of finance in Bangladesh. Based on selected parts of those interviews, the researcher himself wrote 10 short case studies. (See Appendix 1. Case Studies). Concepts, analysis, and interpretation are presented in detail in the research using simple measurement method percentages and expressing the results in the form of following tables and figures.

4.2. RQ.1. Distribution of Age

Considering the age of the respondents who are familiar with the digital financial sector in Bangladesh and who are using digital financial services, it can be seen that most respecting interviewees have gotten involved in the study. Among these, the number of new-generation citizens is not less. Research Document No. (4.2.RQ.1.), shows the age group of interviewees of the investigation. As observable in Figure (4.2. Fig. 1.), the age range of forty-five (45%) percent of the citizens who participated in the research survey is thirty-one to forty-five percent (31-45) years. Also ranked second among aged citizens; Thirty-seven percent (37%) are citizens aged forty-six to sixty (46-60). Only fourteen percent (14%) are between eighteen and thirty (18-30) years of age. Also, five percent (5%) of the citizens surveyed in this survey are over sixty (60+) years old. Overall, the average age of respondents using digital financial services is 25 years. (See Figure 4.2.1).

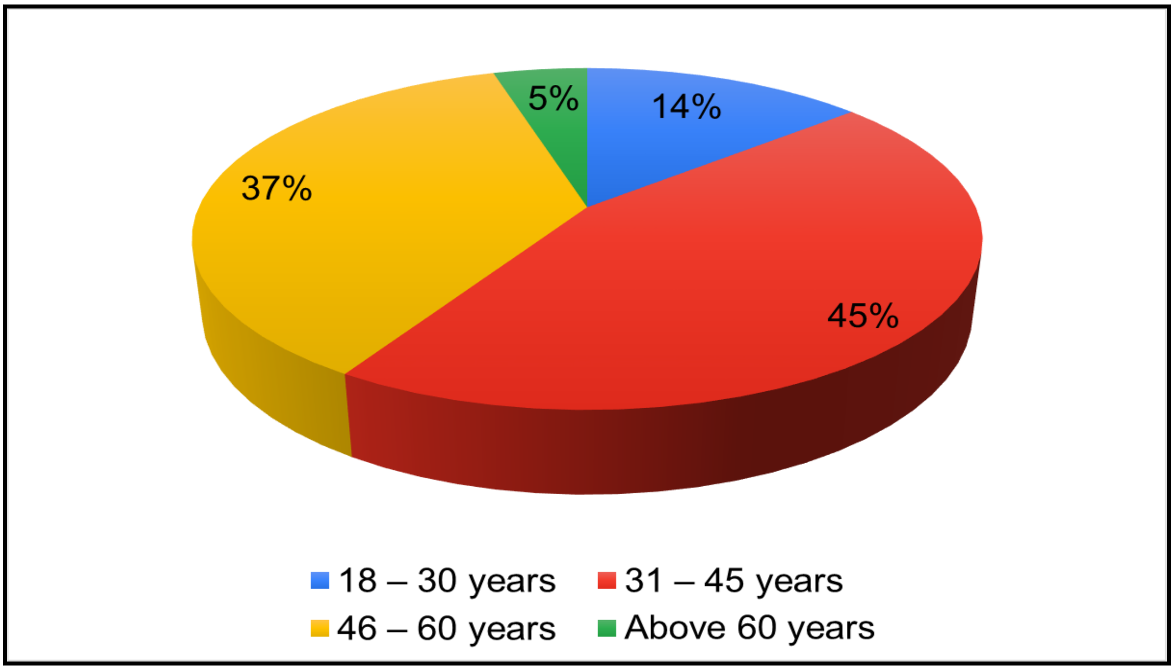


Figure-4.2. RQ.1. Distribution of Age

In summary, the prevalence of digital governance in the financial sector in the figure-(4.2.RQ.1.) regarding age findings show that young adults are significantly more likely to be involved in automated power in the area of finance in Bangladesh compared to the age between 46 to 60 years. It is found that digital governance in the financial sectors among the independent variables, only age was found to influence digital financial service respondents' consumers' likelihood of adopting automated jurisdiction in the area of finance.

4.3. RQ.2. Distribution of Gender

The study survey feedback shares of male and female respondents were sixty-two (62%) percent and thirty-eight (38%) percent respectively. (See figure 4.3.RQ.2). This thirty-eight (38%) percentage female respondents were engaging in NGO services, House wife, SME businesses, and various Service holders. According to findings gender was not a significant predictor for using automated governance in the area of finance in Bangladesh.

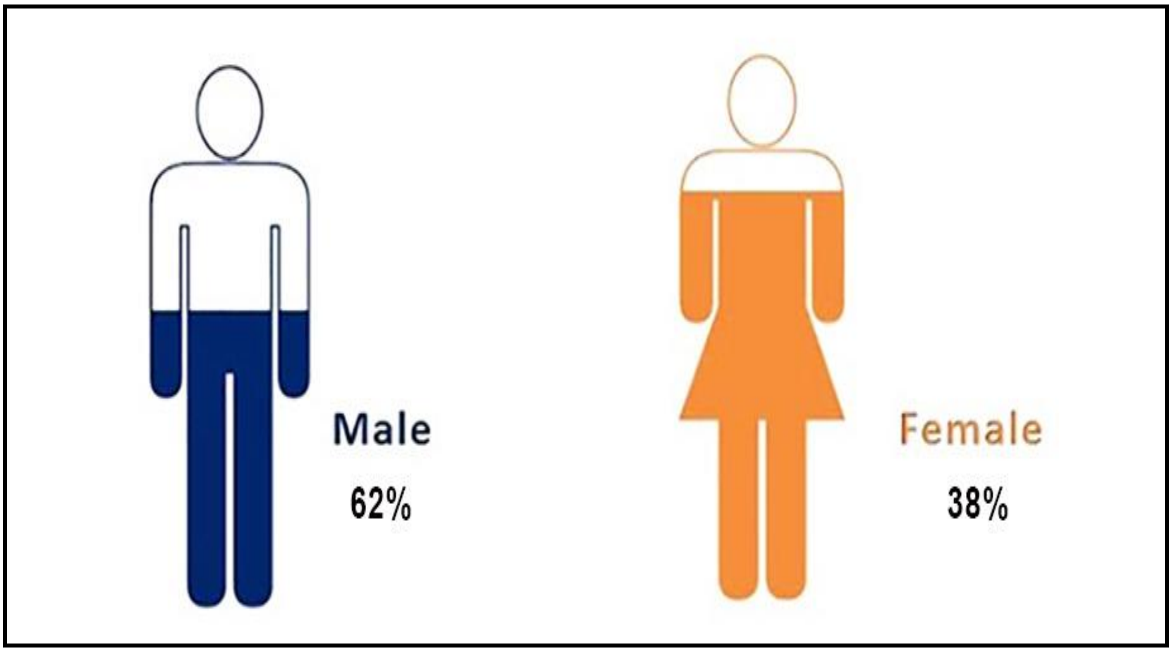


Figure- 4.3. RQ.2. Distribution of Gender

Sole proprietor of Small Business SMEs, Professional Labors, Vehicle transporters (Drivers, Rickshaw Pullers, Garage Workers, etc.), Garment makers, Household Servants, Housewives, Various service holders, and other professionals, and the general public. The gender of survey respondents is an essential and significant predictor for understanding and predicting the transformation and momentum of automated governance in the area of finance in Bangladesh.

4.4. RQ.3. Distribution of Educational Level

The educational qualification profile of respondents using digital financial services is shown below. Considered the highest education level cent percentage (100%) of respondents are postgraduate degrees, and the nearest below e.g. Graduate e.g. Bachelor's education accounting for ninety percent (90%). Forty-seven (47%) percent of respondents are Higher Secondary School Certificate (HSC) educated, forty-nine percent (49%) respondents are Secondary School Certificate (SSC) educated, and the remaining twenty-eight (28%) percentages respondents are Primary School Certificate (PSC) educated. (See Figure-4.4.RQ.3).

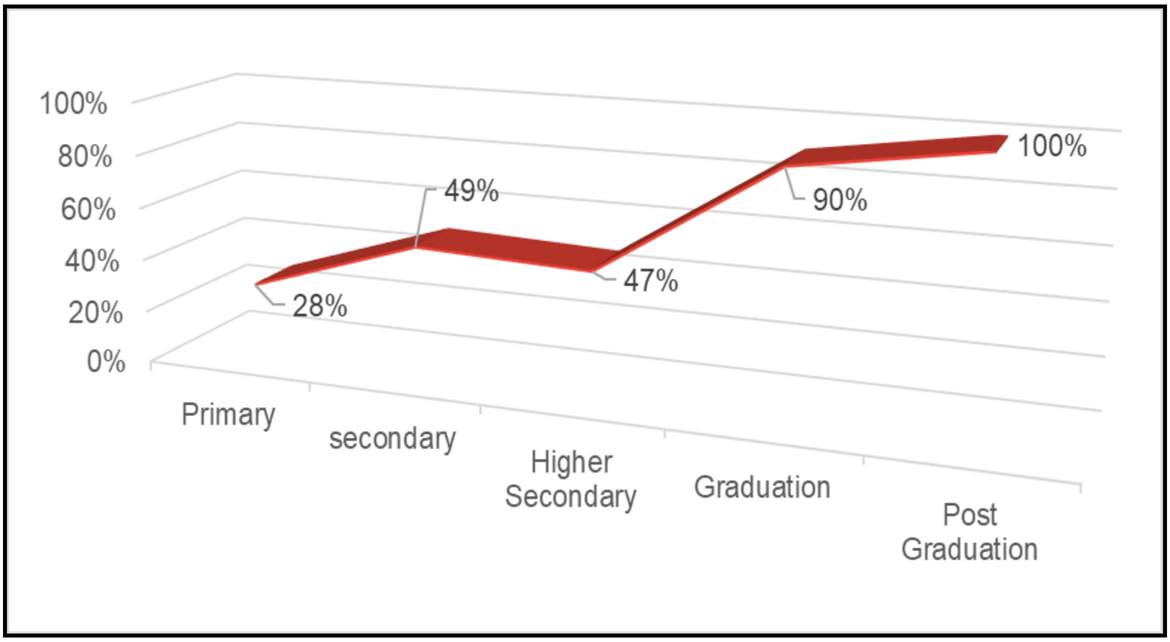


Figure-4.4. RQ.3. Distribution of Educational Level

It seems to us that the rising impression of cybertechnology-based digital governance in financial territory has introduced new thinking in the relationship between primary education to the postgraduate educational quality community of citizens.

4.5. RQ.4. Distribution of Occupational Levels

The statistical evidence produced in this study data, in figures- (4.5.RQ.4.), thirty-six percent (36%) occupation was private service sector e.g. private company, these were formally employed, engaged in the service of the private sector. Followed government officials e.g. public service employee respondents accounted for twenty-four percent (24%) and the rest of the seventeen percentage (17%) respondents were self-employed/Start-up Business/Entrepreneur and autonomous service sector respondents thirteen percentages (13%), only five percentages (5%) respondents were unemployed and rest three percentages (3%) respondents are students, and last only one percentage (1%) respondents are a student or job seeker accordingly. (See Figures-4.5.RQ.4). It seems to us that the more affluent respondents digital financial service consumers are, the more likely to adopt digital governance in the financial sector.

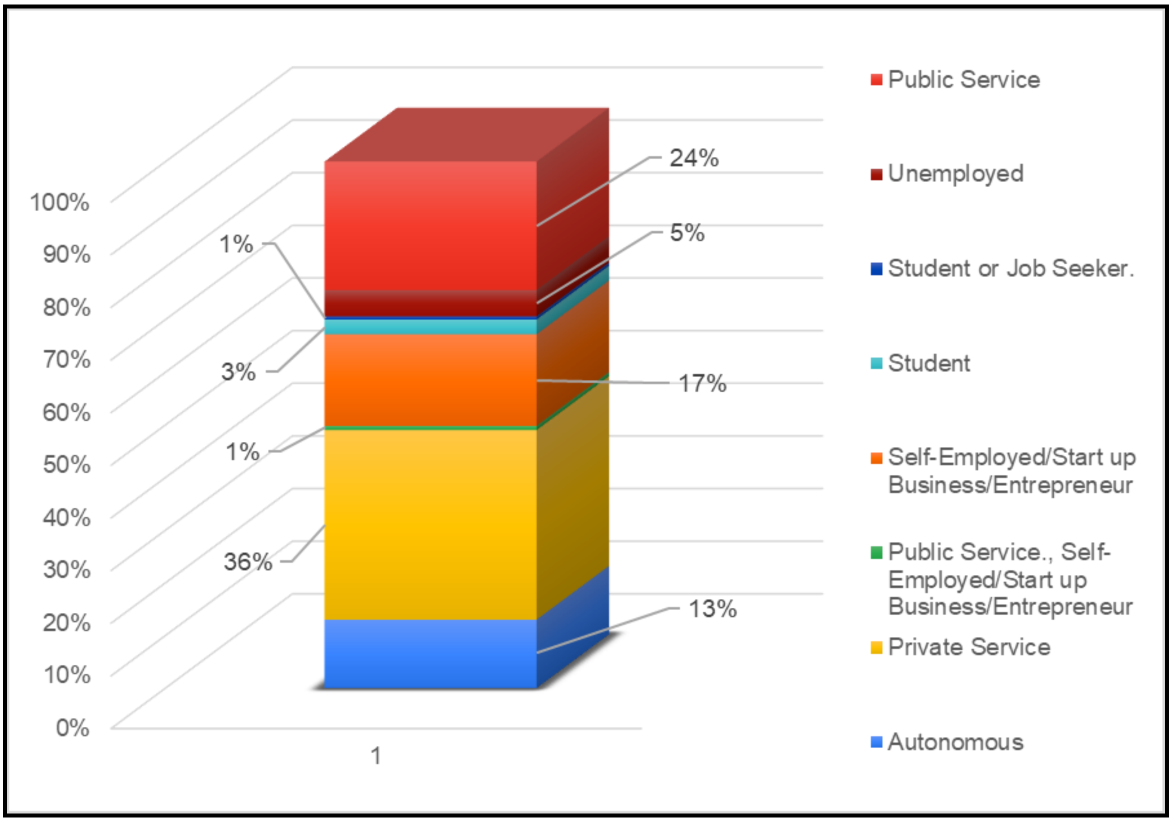


Figure-4.5. RQ.4. Distribution of Occupational Levels

4.6. RQ.5. Distribution of Financial and Others Occupation

From the data, in this study figures- four (4), found, fifty-three percent (53%) of respondents stated `Yes' in the Financial Service Sector, and rest forty-seven percentages (47%) of respondent's answer were stated `No', which indicates they engage in other professional involvement. This result interprets that occupational distributions between Financial and other occupational sectors differ substantially. The Financial Sector's respondent percentage is high. (See Figures-4.6.RQ.5).

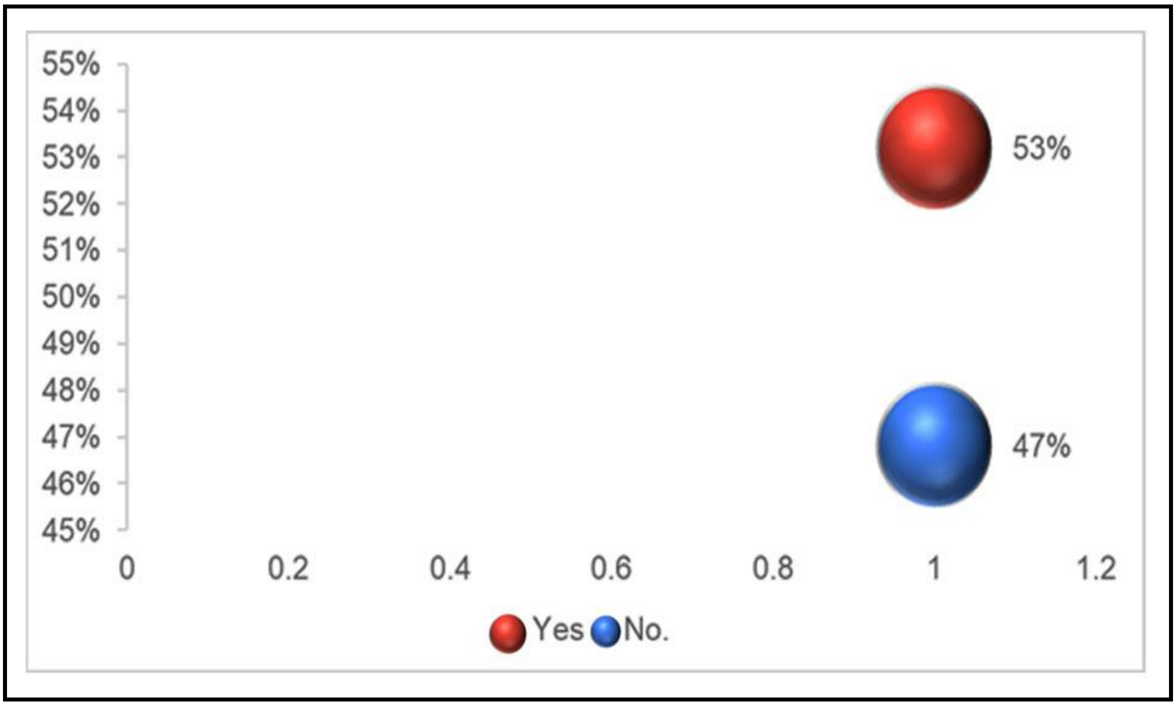


Figure-4.6. RQ.5. Distribution of Financial and Others Occupation

4.7. RQ.6. Distribution of Financial Sectors' Positions

The data found from Figure-(4.7.RQ.6), the respondents of fifty-three (53%) percent of this study are from the financial service sector. They doing their job as Mid-level Management. Twenty-two percent (22%) respondents are from the Senior Management level, thirteen percent (13%) respondents are from the Management Trainee Officer/Probationary Officer, and the rest twelve percent (12%) respondents are doing their jobs as Officer (non-cadre) respectably. (See Figure 4.7.RQ.6).

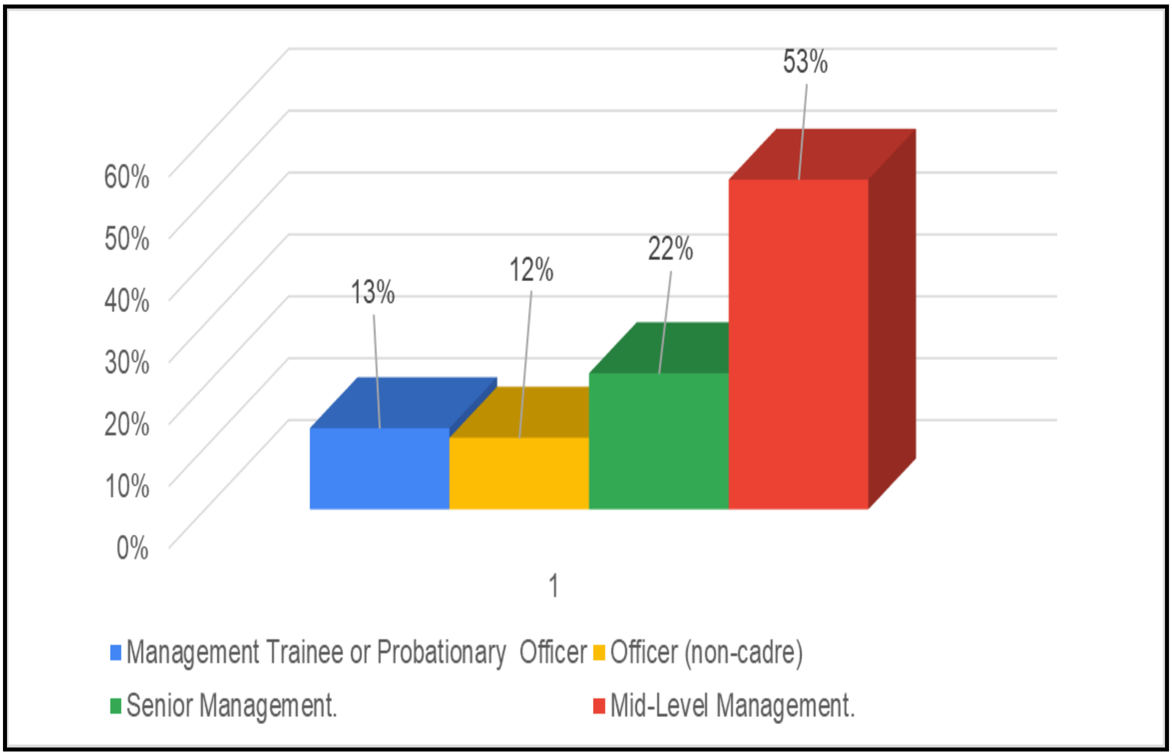


Figure-4.7. RQ.6. Distribution of Financial Sectors' Positions

Prior to another research at the end of 2019, found that the sum of all types of financial sector accounts stood at 24.918 crore, and 1, 91,360 digital financial sector employees were working in this sector. it's seen a certain majority of the automated economic sector employees (64%) are working for the private commercial financial sector followed by the state-owned commercial financial sector (27%). The rest of the 9% of the human resources is employed for the specialized and foreign financial sector.

4.8. RQ.7. Distribution of Working Experience

From the data, in figures- (4.8.RQ.7), working experience in financial and other sectors showed; that thirty-four percent (34%) of respondents are in service for more than 20 years, and thirty-four percent (34%) of respondents have 10 years of working experience.

These two figures showed an equally amazing equilibrium figure. The rest of the seventeen percent (17%) of participants possessed less than five years of age of training period and only fifteen percent (15%) of participants possessed above 5 five years of age of on-the-job learning. (See Figure 4.8.RQ.7).

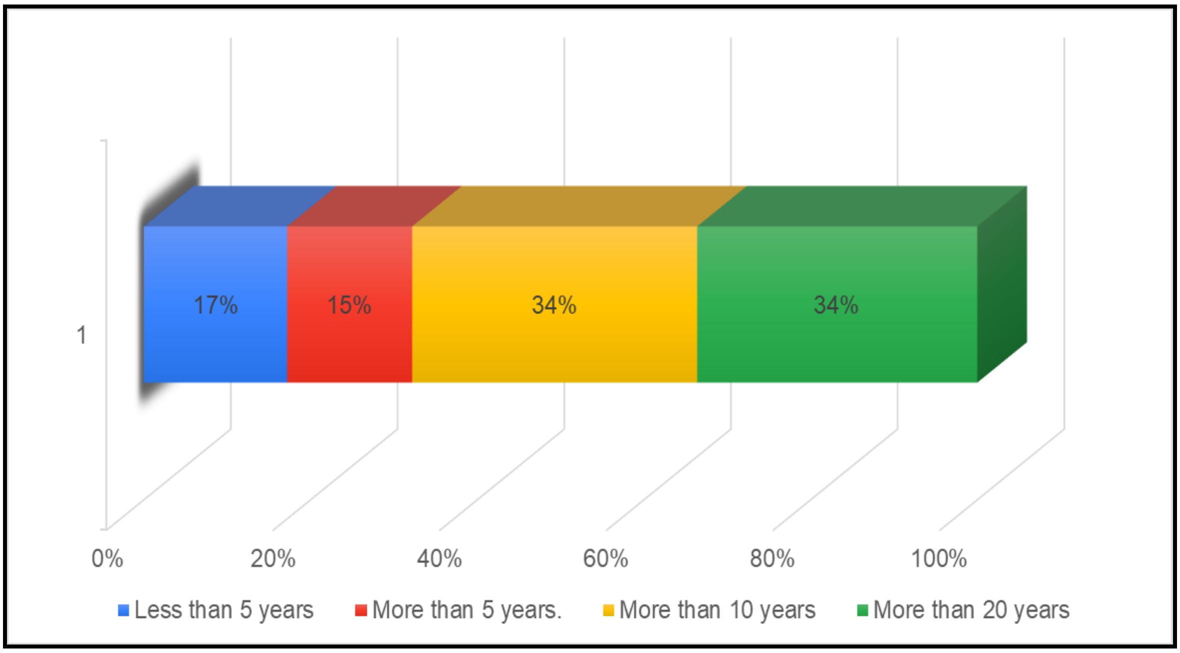


Figure-4.8.RQ.7. Distribution of Working Experience

4.9. RQ.8. Distribution of Average Monthly Income

In terms of average monthly income, from the data, figures- (4.9.RQ.8) showed that fifty-one percent (51%), of respondents' average monthly income is the highest. These respondents earned Tk. 50,100 to Tk. 150, 000, followed by those earning between Tk. 15,100 to Tk. 50,000 accounting for thirty-seventh percentages (37%).

And the rest of the six percentages (6%) respondent's income is Tk. 150,100 to Tk. 300,000. Data also showed that accounting for four percentages (4%), respondents' income is Tk. 300,100 to Tk. 500,000. And only one percentage (1%) income is Tk. 2000 only, another one percentage (1%) income is not fixed and the other one percentage (1%) has no income respectably. (See Figure- 4.9.RQ.8).

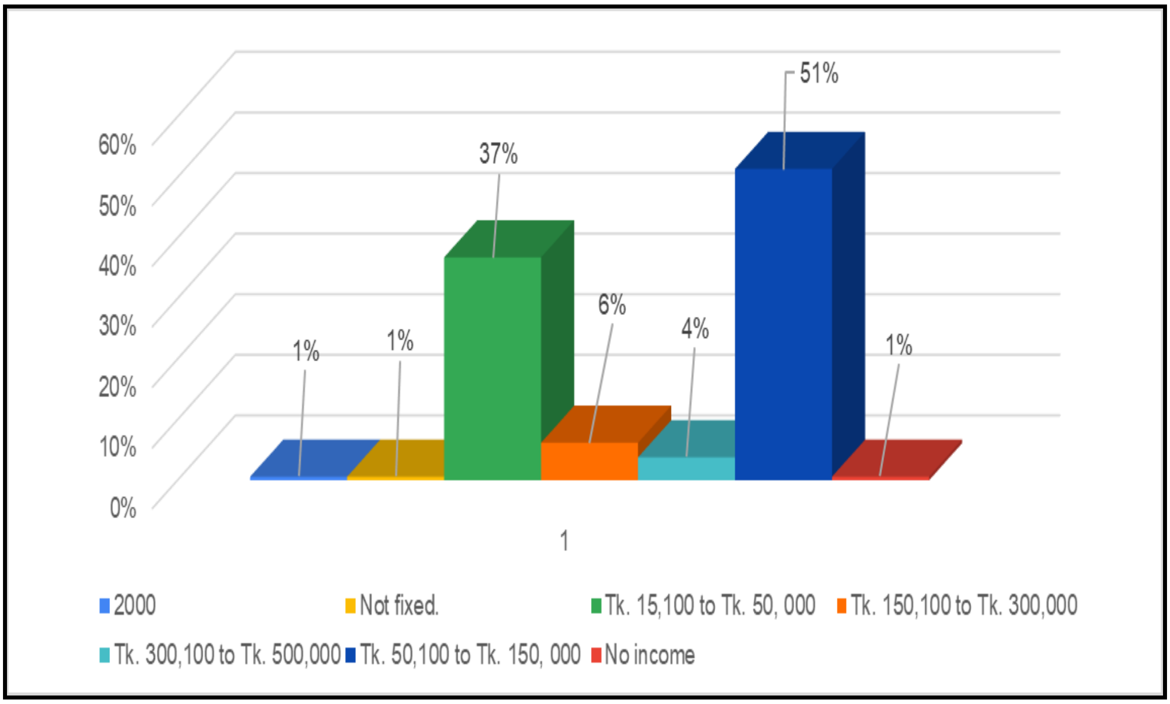


Figure-4.9. RQ.8. Distribution of Average Monthly Income

4.10. RQ.9. Distribution of Digital Devices User's

From the data, figures- (4.10.RQ.9) showed that 99 % percentage of the respondents of this study use digital devices e.g. Smartphones, gadgets, etc. Only 1% percentage didn't use Smartphones or gadgets.

This is the significant, amazing, and interesting insight in this research on automated governance in the financial sector industry. (See Figure4.10.RQ.9).

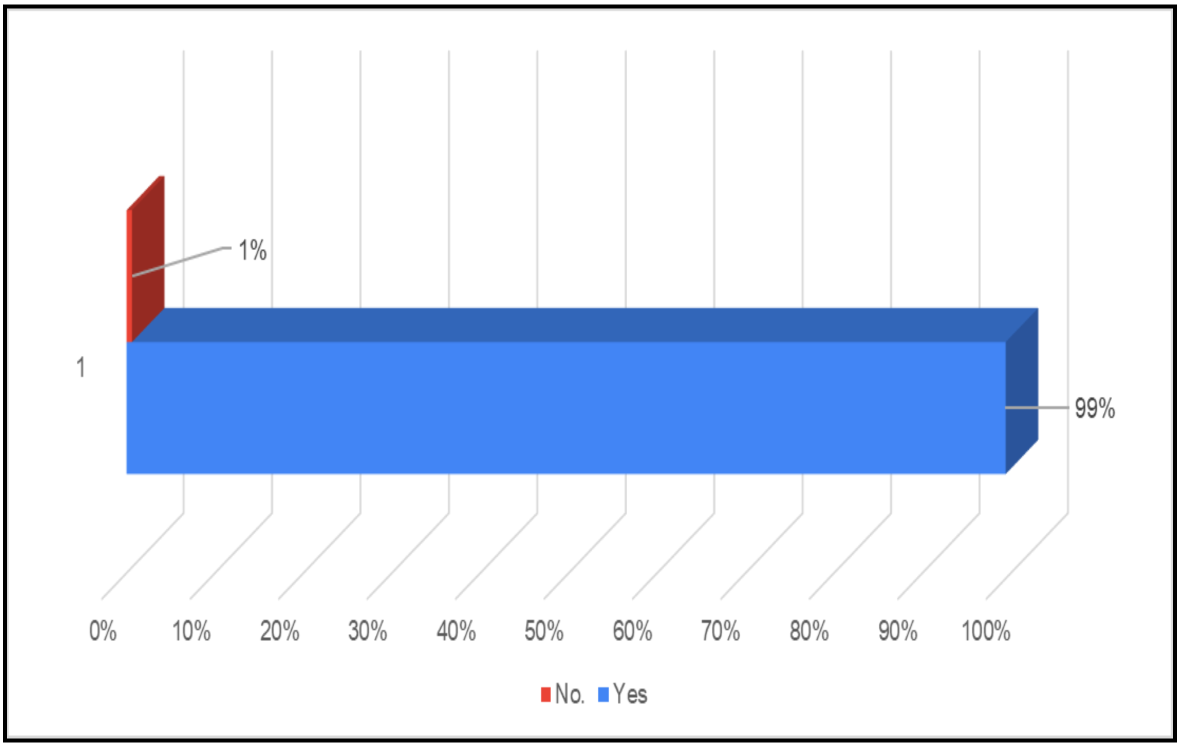


Figure-4.10. RQ.9. Distribution of Digital Devices User's

4.11. RQ.10. Distribution of Household Digital Devices User's

According to the data, figures- (4.11.RQ.10 showed that sixty-one (61%) percent of the respondents (as mentioned in the questionnaire group of `c') 6 to 10 members in a family used digital devices Smartphones and gadgets. Thirty percent (30%) of the respondents are (as mentioned in the questionnaire group of `b'), 3 to 5 members of a family who use digital devices Smartphones, and gadgets. Only six percent (6%) of the respondents are (as mentioned in the questionnaire group of `d') above 10 members in a family using digital devices Smartphones, or gadgets. Only one percentage (1%) of the respondents (as mentioned in the questionnaire group of `a') 1 to 2 members of a family use digital devices Smartphones, and gadgets. (See Figure 4.11.RQ.10).

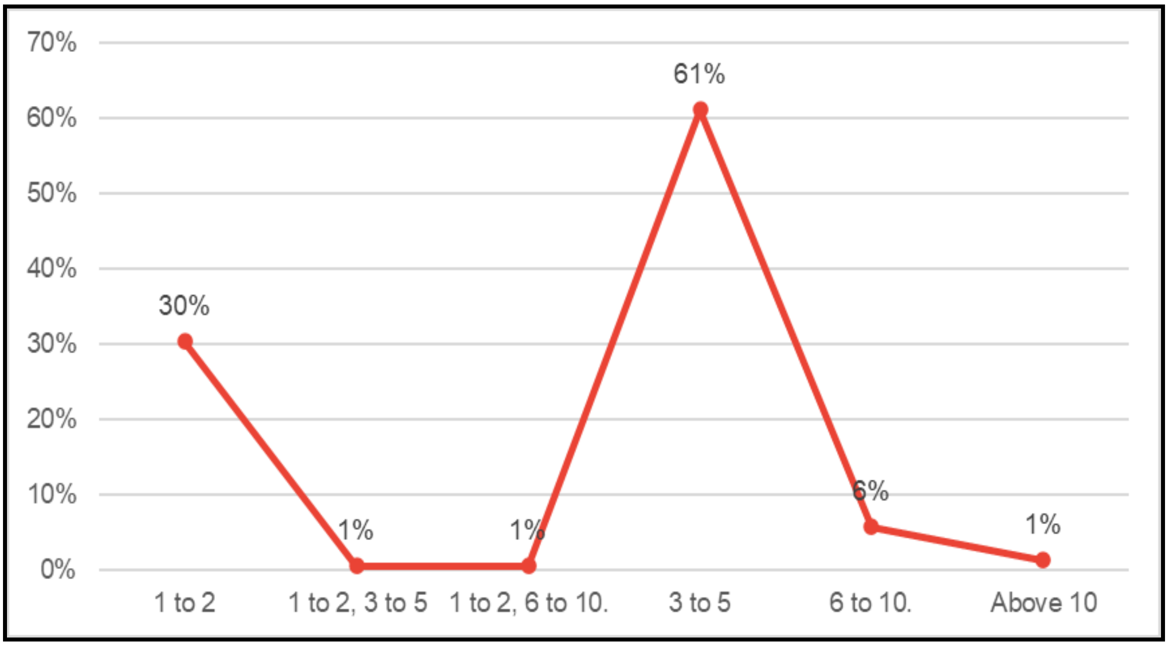


Figure-4.11. RQ.10. Distribution of Household Digital Devices User's

4.12. RQ.11. Distribution of Digital Device Users for Financial Transactions

The findings, as shown in figures (4.12.RQ.11) ninety-five percent (95%) of the respondents used their own digital devices for financial transactions. Five percent (5%) of respondents do not use digital devices, which indicates that digital financial sector customers are lagging behind in using digital devices for financial sector transactions. (See Figures—4.12. RQ.11).

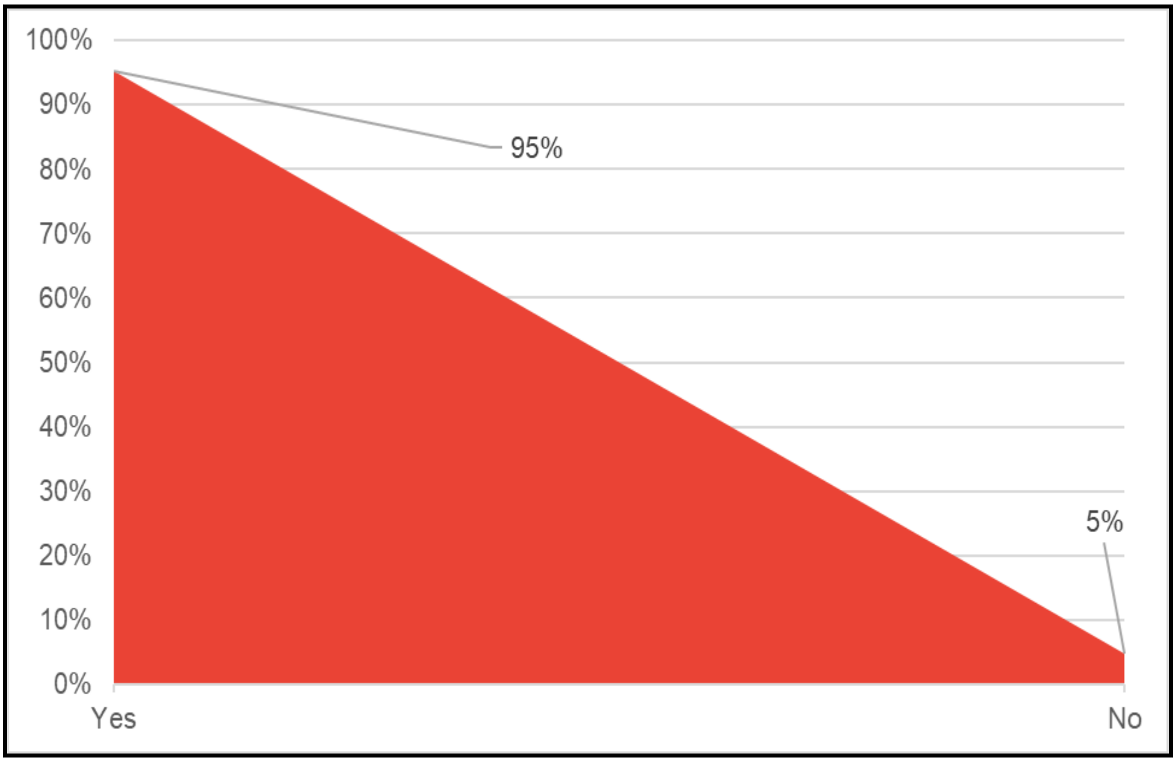


Figure-4.12. RQ.11. Distribution of Digital Device User's for Financial Transactions

4.13. RQ.12. Distribution of Knowing About Digital Governance

From the data, Figures- (4.13.RQ.12.) showed that ninety-one percent (91%) of the respondents knew in Bangladesh about digital governance, on the other hand only nine percent (9%) still lag behind the knowing about digital governance in the financial sector. (See Figure- 4.13.RQ.12).

The results of this survey indicate that digital technology is being used in all organs of the state as an umbrella in Digital Bangladesh. This digital governance has brought a new level of service to the nation and communication with the international financial sector.

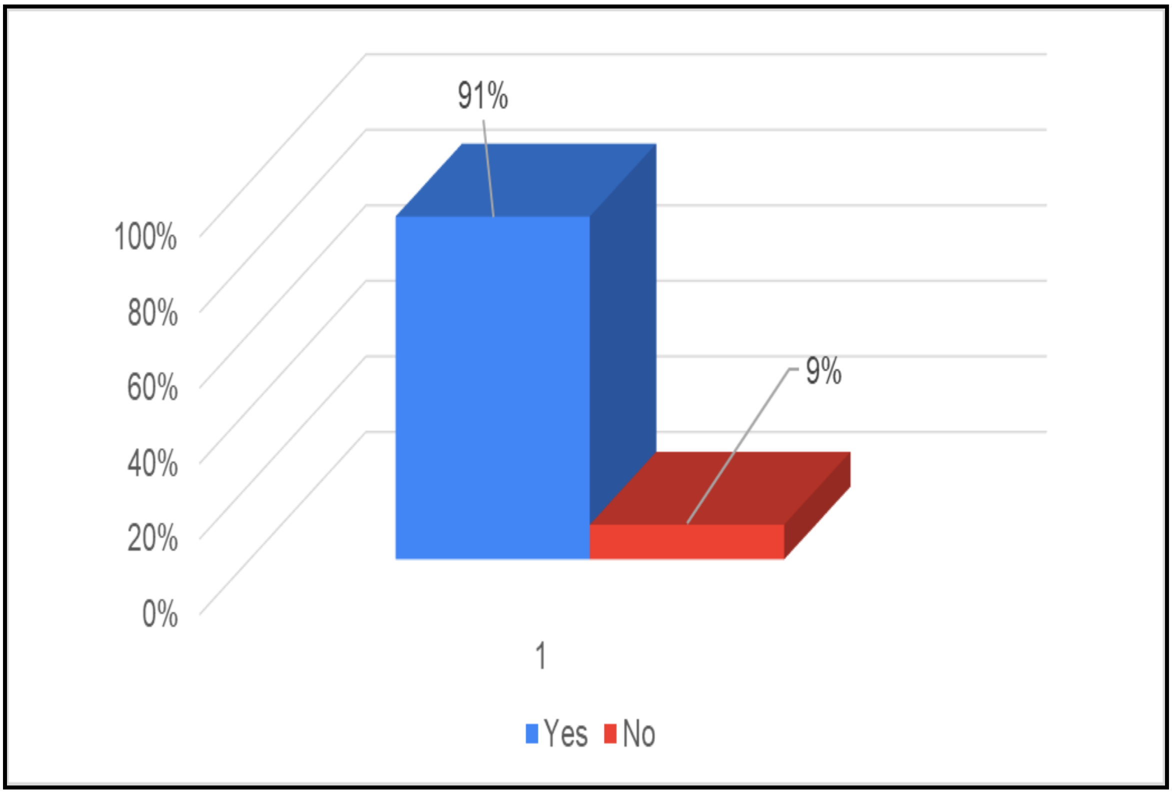


Figure-4.13. RQ.12. Distribution of Knowing about Digital Governance

4.14. RQ.13. Distribution of Digital Financial Sector Users

The data, in Figure- (4.14.RQ.13), it is clearly seen that ninety percentage (90%) of the respondents knew about digital financial services and agreed that they take digital financial services because digital financial services save time.

The figure also shows a very small percentage e.g. ten (10 %) percent are not very thoughtful about it, or they take the traditional branch financing. (See Figure 4.14.RQ.13).

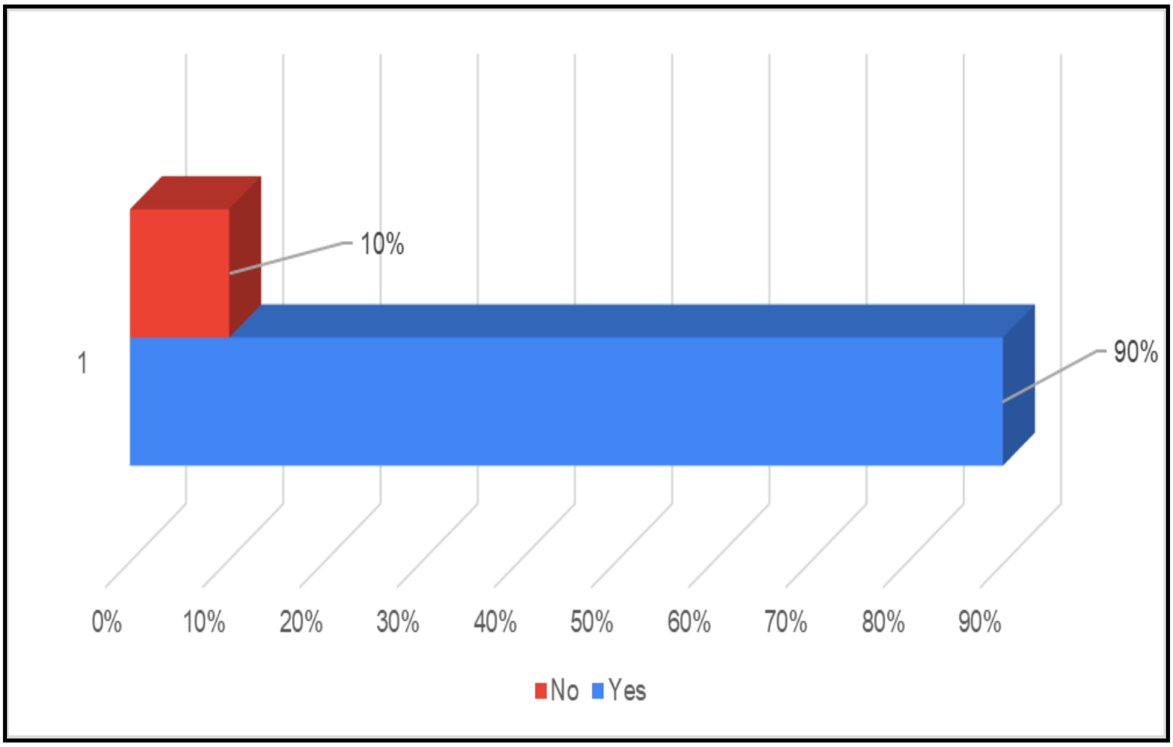


Figure-4.14. RQ.13. Distribution of Digital Financial Sector Users

4.15. RQ.14. Distribution of Knowing the Digital Financial Sector

From data, in figures- (4.15.RQ.14) findings, it is clearly showed that forty-two percent (42%) of the respondents knew about digital financial services through mass media or electronic media e.g. television, radio, and newspapers.

The second highest is twenty percent (20%) of the respondents knew through bank and Mobile operators together, and fourteen percent (14%) of the respondents knew about digital financial services through a financial sector directly. Seven percent (7%) of respondents knew about digital financial services through friends or family, and rest six percent (6 %) of respondents knew about digital financial services through agents, and another six percent (6%) of the respondents knew about digital financial services through Bank directly and rest six percentage (6%) of respondents knew about digital financial service through a mobile operator. (See Figure- 4.15.RQ.14).

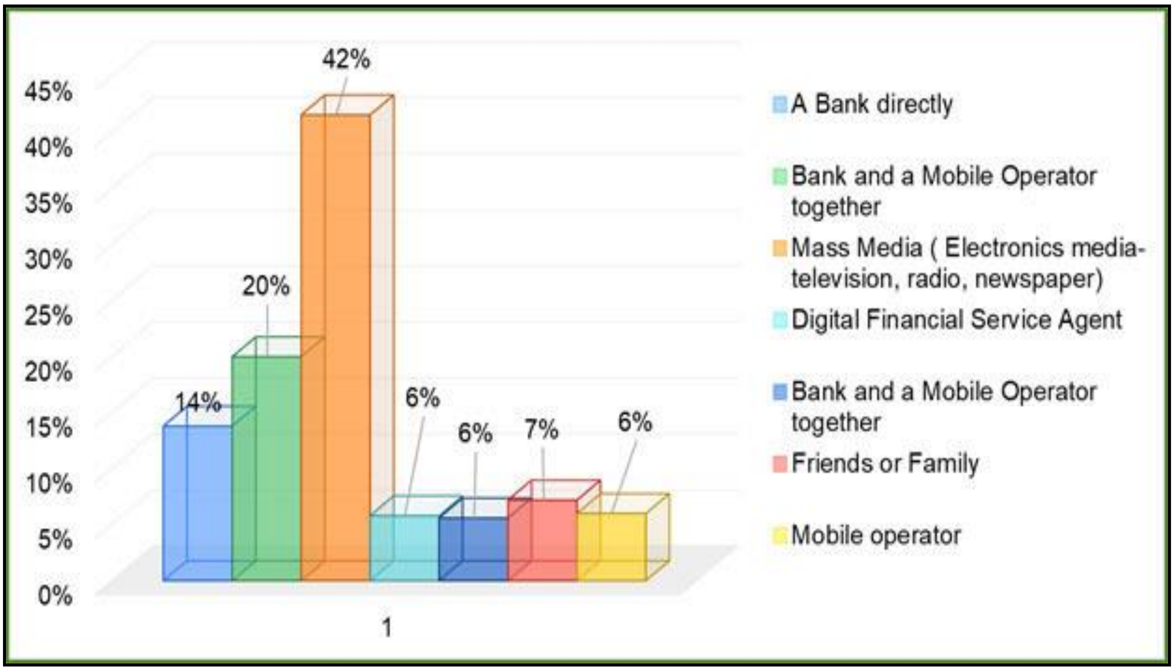


Figure-4.15. RQ.14. Distribution of Knowing the Digital Financial

4.16. RQ.15. Distribution of Times for Digital Money Transfer

Now financial services are within reach of people from almost every corner of the Bangladesh or globe. These services can be accessed conveniently from wherever the user is if they have a digital device and Wi-Fi connection. From the study data, in figures (4.16.RQ.15.) findings.

It is clearly shown that, in total thirty-three percent (33%) of the respondents used digital devices for digital money transfer. Twenty-five percent (25%) of the respondents used digital devices for digital money transfers, fifteen percent (15%) of the respondents daily used digital devices for digital money transfer and fourteen percentage (14%) of the respondents occasionally used digital devices for digital money transfer and rest of the nine percentage (9%) of the respondents seasonally uses digital devices for digital money transfer. And only five percent (5%) of the respondents annually used digital devices for digital money transfers. (See Figure-4.16.RQ.15).

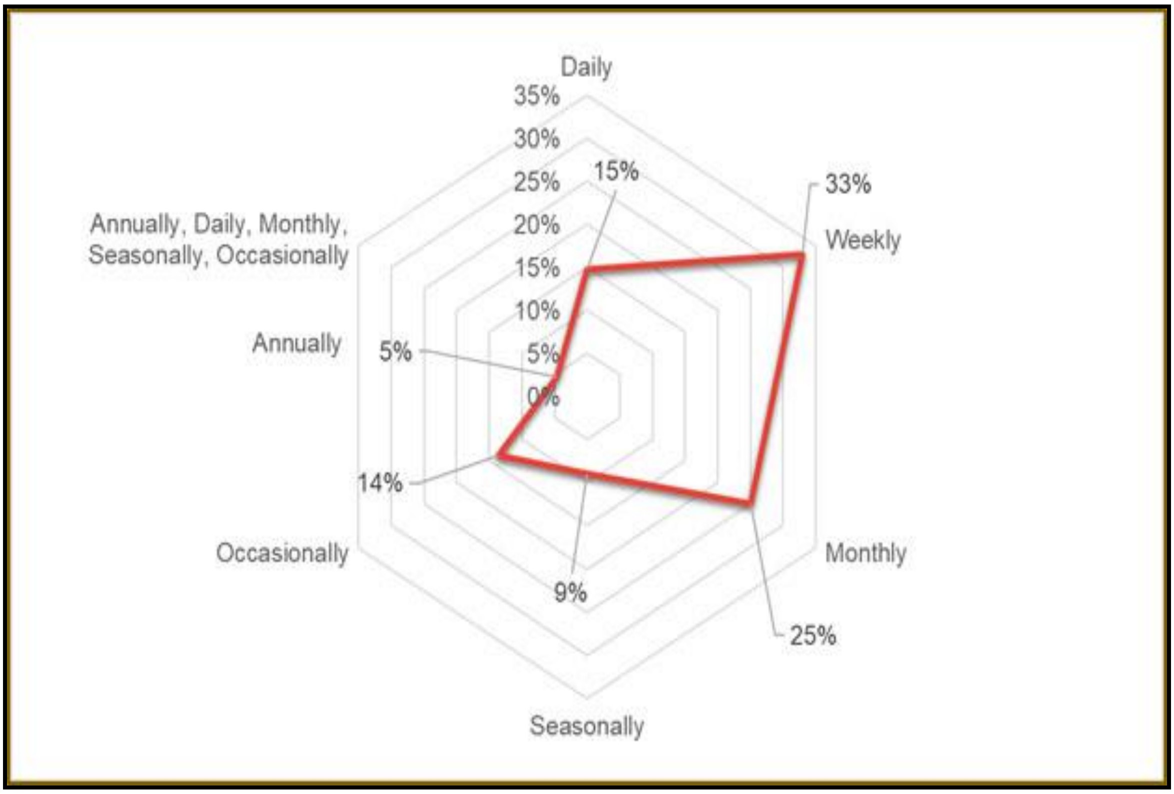


Figure-4.16. RQ.15. Distribution of Times for Digital Money Transfer

4.17. RQ.16. Distribution of Medium of Income

The results of this survey clearly show that a maximum of forty (40%) percent of survey respondents receive monthly income through digital devices. 26% percentage of survey respondents take monthly income through an A/C Payee cheque. Only thirteen (13%) percent of respondents receive their monthly income in cash. On the other hand, a 10% percentage of survey respondents receive monthly income payments through digital ATM/debit cards and four percent (4%) of respondents receive monthly income payments through digital ATM cards and cheques. Only three (3%) percent of respondents receive monthly income payments by check or other means. The remaining two percent (2%) of respondents receive monthly income only through business traders. (See Figure-4.17.RQ.16).

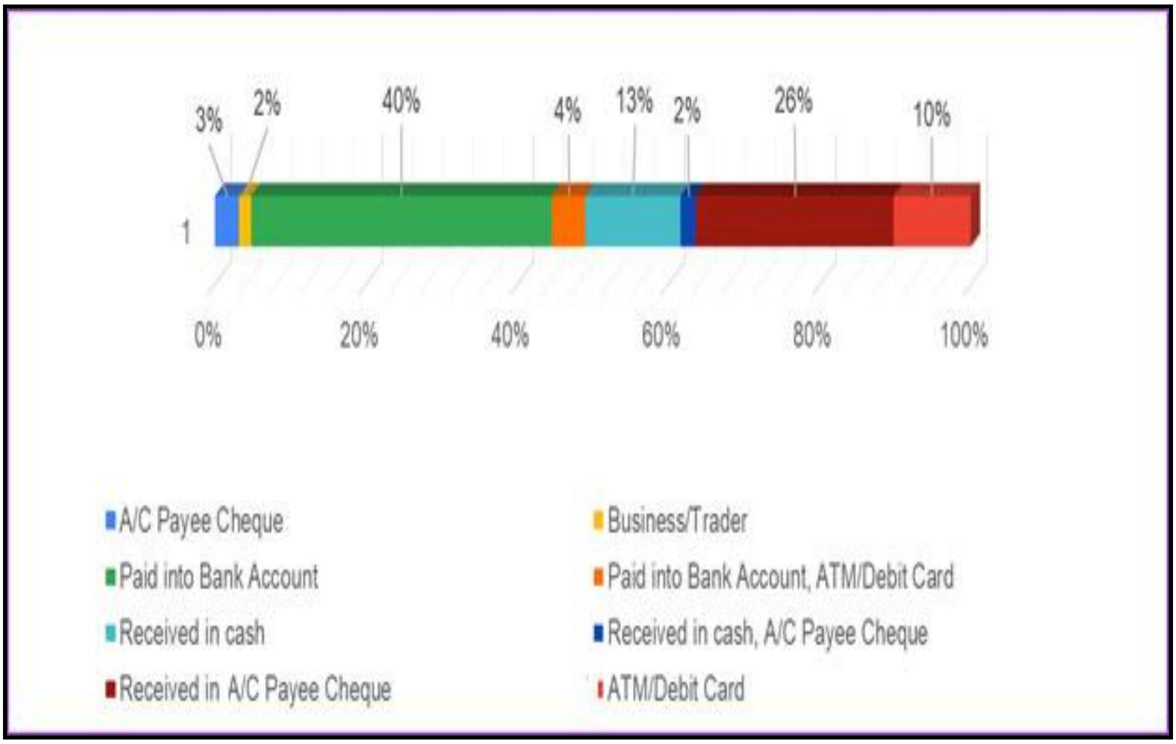


Figure-4.17. RQ.16. Distribution of Medium of Income

4.18. RQ.17. Distribution of Usual Places of Withdrawing Money

This survey question seeks to find out the extent of service usage in the digital financial sector. For example –What percentage of people are using digital financial channels for their income transactions? These are called frequency distributions to determine the preferences of digital financial services. From Figure sixteen (4.18.RQ.17) it is found, fifty-one percent (51%) of the respondents withdrew money through Automated Teller Machine (ATM) booths, and twenty percent (20%) of the respondents withdrew money which described all of the above.

The figures- (4.18.RQ.17) also found and present sixteen percentage (16%) of the respondents withdraw money through digital financial service agent outlets and the rest thirteen percent (13%) of the respondents withdraw money through the bank teller only. This result indicates that citizens in remote rural areas of Bangladesh are using digital technology to access digital financial services at a low cost and in a short time. (See Figure- 4.18.RQ.17)

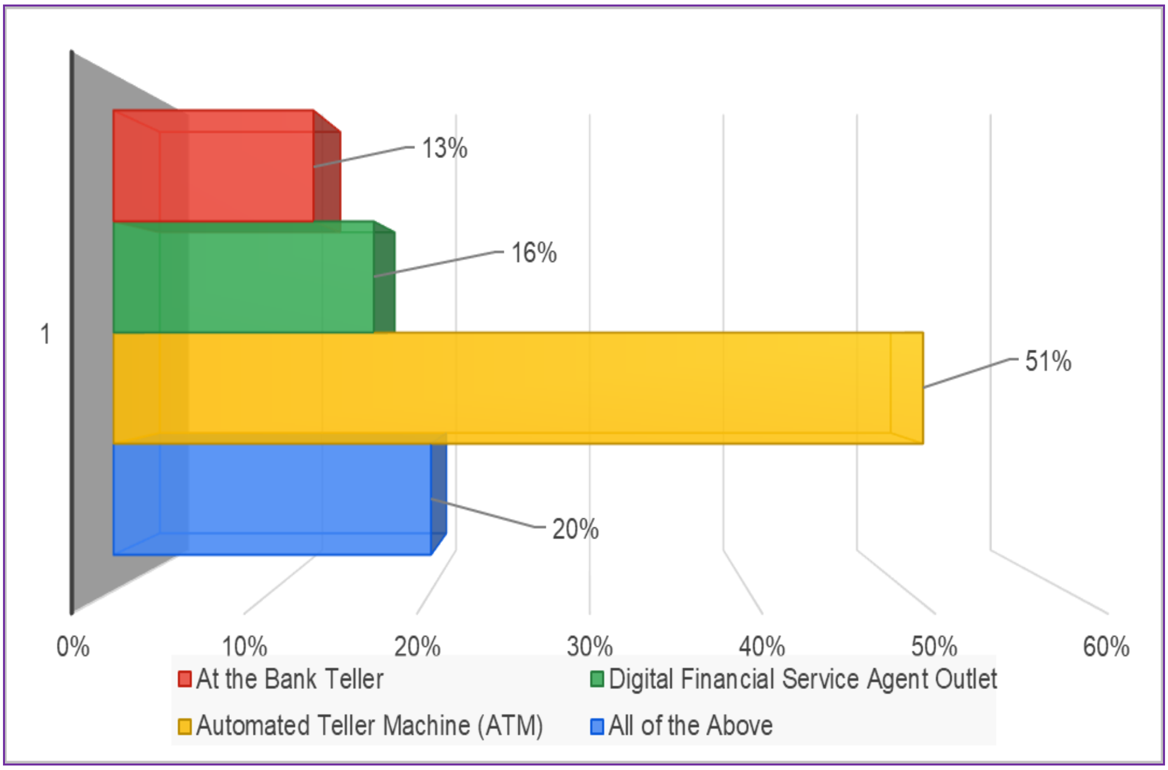


Figure-4.18. RQ.17. Distribution of Usual Places of Withdrawing Money

4.19. RQ.18. Distribution of Convenient Time for Withdrawing Money

From the data, figures (4.19.RQ.18) showed that the highest scoring average of forty-one (41%) percent of respondents withdraw money between 8:00 a.m. to 5:00 p.m. day time. About thirty-seven percent (37%) of the respondents withdraw money at any convenient time indicated 24/7, on the other hand, eighteen percent (18%) of the respondents withdraw complete the withdrawal money between 6:00 pm and 9:00 pm. The remaining five percent (5%) of the survey respondents usually withdraw money from 6:00 a.m. to 9:00 a.m. (See Figure- 4.19.RQ.18).

This finding indicates that technology-based financing saves more time and cost and creates new alternatives. These respondents of the digital financial sector are very satisfied with the service time regarding the digital financial industry in Bangladesh. This result establishes the one in question digital economic sector enhanced a strong digital infrastructure by the instruction and control of the Bangladesh Bank. Consequently, online financing, digital banking, different ADCs like ATMs, POST, digital financial service agent banking, call center banking, Banking through Apps, etc. have emerged in 24/7 full swing in Bangladesh.

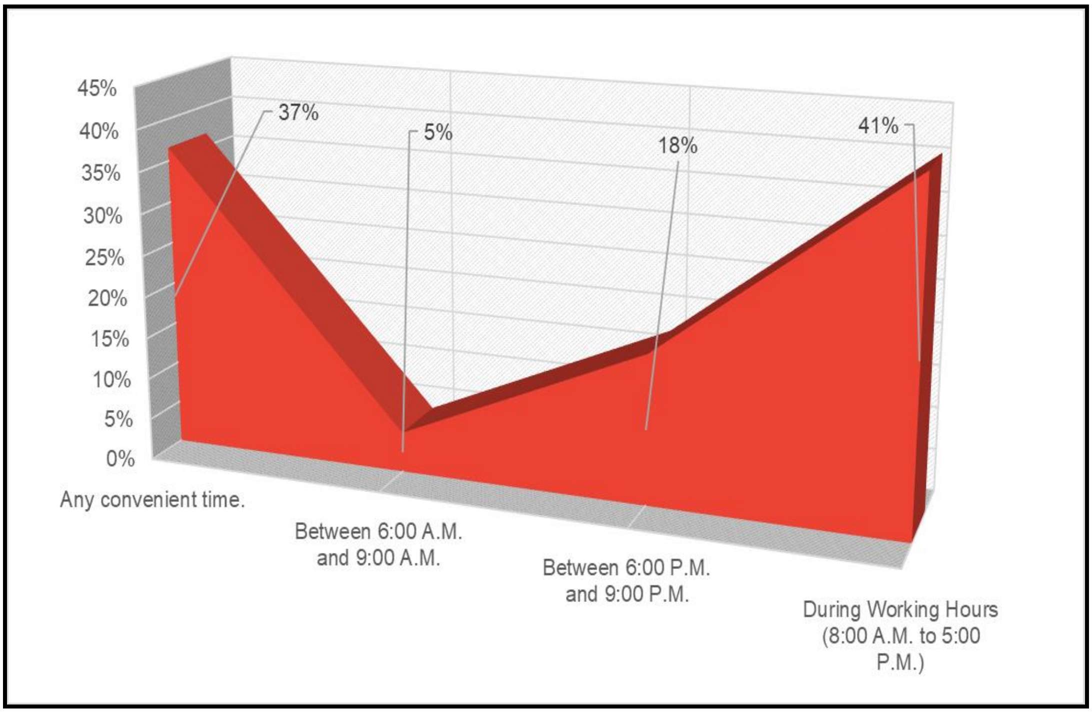


Figure-4.19. RQ.18. Distribution of Convenient Time for Withdrawing Money

4.20. RQ.19. Distribution of Types of Digital Financial Services Using by the Respondents

The data figure-(4.20.RQ.19.), clearly showed that fifty-two percent (52%) of the replied already used the automated economic sector as ATM cards for cash withdrawals, that the second highest, twelve percent (12%) of the replier already used automated economic sector as Investment. Five percent (5%) of the replier already used automated economic sector as fund transfer, four percent (4%) of the replier already used automated economic sector as credit cards, another four percent (4%) of the respondents used digital financial services as checking for balance inquiry and bank statement, only three percentages (3%) of the respondents used digital financial service as Utility Bills Payment, and another three percent (3%) of the respondents used digital financial service as payments for goods and services. And more another three percent (3%) of the replier used the automated economic sector for pension fund management, three percent (3%) of the replier already used automated economic sectors such as internet banking, another three percent (3%) of the respondents used digital financial service as airtime-data recharge accordingly.

This data also found, that only two percentages (2%) of the respondents used digital financial services for international remittance, another two percentages (2%) of the respondents used digital financial services for saving, another two percentages (2%) of the respondents used digital financial service as social activities/ entertainment, another two percentages (2%) of the respondents used digital financial service as digital wallet. (See Figure- 4.20.RQ.19).

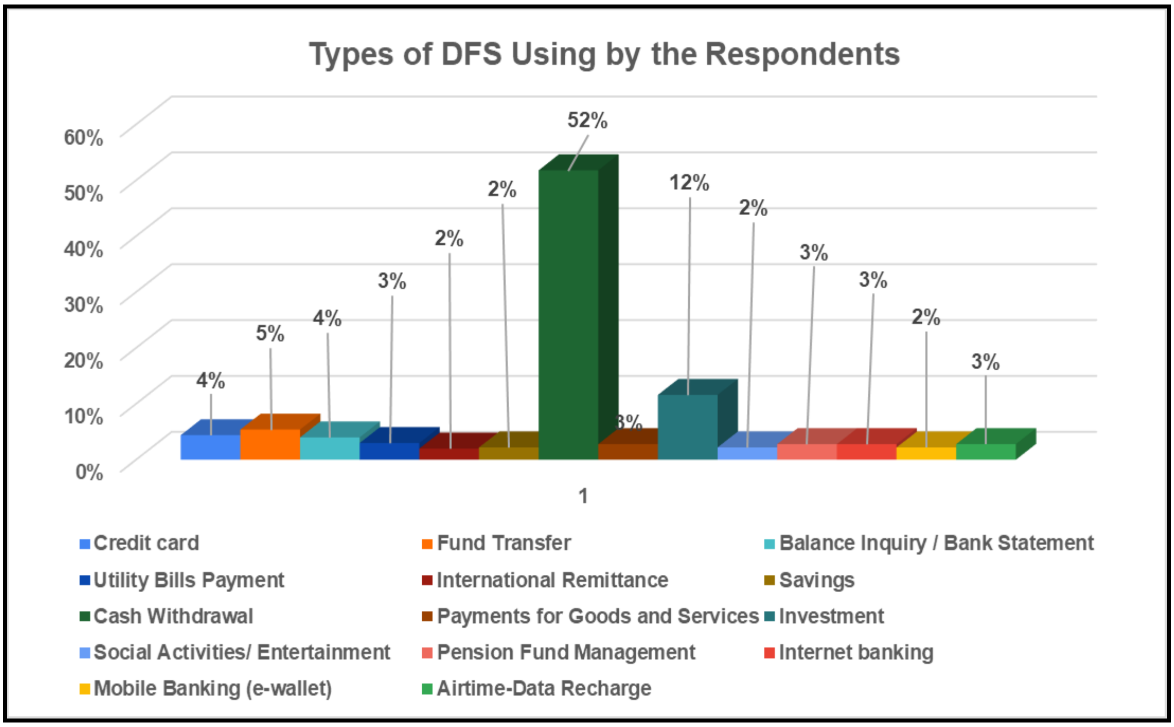


Figure- 4.20. RQ.19. Distribution of Types of DFS Using by the Respondents

4.21. RQ.20. Frequency Distribution of Digital Bill Payment

The data figure clearly showed that the majority of sixty percentages (60%) of the respondents agreed that digital money transfer makes groceries consumption smoother. They use digital financial services for Flexi load, talk time recharge of Smartphones, utility e.g. DTH TV, Wi-Fi internet, Electricity, Water, College University Fees, and religious donations. Figure (4.21.RQ.20) shows that on average fifteen percent (15%) of the respondents used digital financial services for Flexi load, interment, utility electricity water bill payment, ten percent (10 %) of the respondents used digital financial services for payment bill of goods for home, and average eight percentages (8%) of the respondents used digital financial service for Wi-Fi internet bill payment, also average three percentages (3%) of the respondents used digital financial service for utility, electricity water bills payment. Only a very negligible percentage e.g. two percentages (2%) of the respondents used digital financial services for cable TV, and bill payment, and rest two percentages (2%) of the respondents used digital financial services for College University Fees, education fees, and purchase books or other essential goods for the home respectively. (See Figure 4.21.RQ.20).

This result clearly indicates that, the relationship between digital money transfer and households e.g. grocery, shopping, DTH Cable TV bill, Wi-Fi bill, education fee payment, regular tuition fee payments, and buying household materials e.g. goods for home, goods for works, university, college fees. Basically: These are the main reasons for household daily digital money transfers. These results indicate that the survey respondents significantly benefited from the digital financial sector in paying household digital fees.

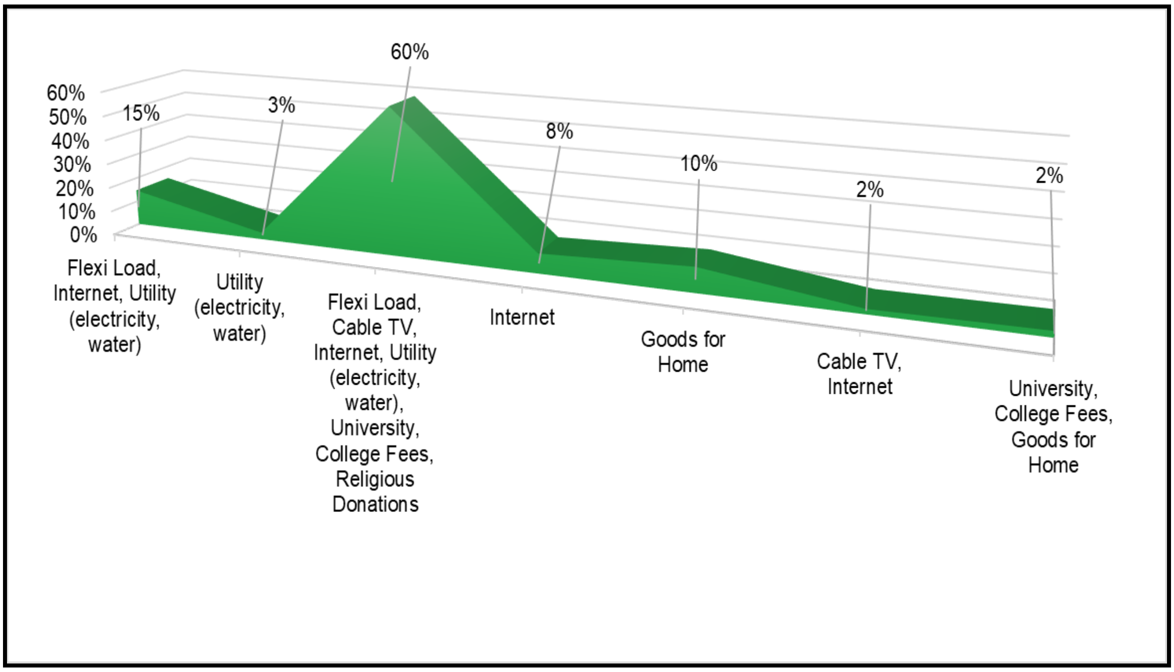


Figure 4.21. RQ.20. Frequency Distribution of Digital Bill Payment

4.22. RQ.21. Frequency Distribution of Digital Fund Transfers

According to the study result finding figure- (4.22.RQ.21.) the significant personal and business finance purposes of using the digital economic sector in Bangladesh. All the most popular services of automated financing are, the highest seventy-seven percent (77%) of the respondents used digital financial services for sending and receiving both tasks for money transfer.

An average of twelve percent (12%) of the respondents pointed to using digital financial services for sending money only. Apart from that, an average of ten percent (10%) of the respondents pointed to using digital financial services for sending, receiving and both tasks, and only one percentage (1%) of respondents pointed to using digital financial services for sending money and receive money respectively through digital fund transfer. (See Figure- 4.22.RQ.21).

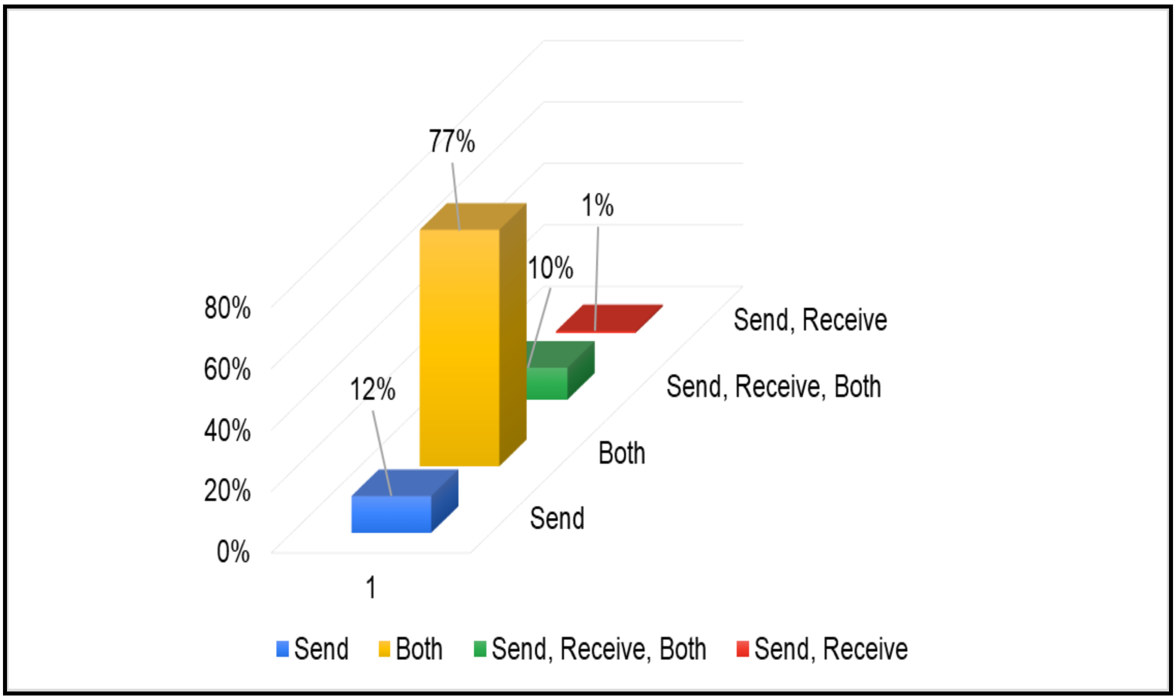


Figure 4.22.RQ.21. Frequency Distribution of Digital Fund Transfers

4.23. RQ.22. Future Trends of Digital Financial Sectors in Bangladesh

This is the question regarding the future trend of the digital financial sector in Bangladesh. For example, what can happen clued in on the automated economic sector in the future? What are the innovative benefits of the digital financial sector that Bangladesh citizens expect in the future? Through this study question an attempt has been made to know the demand for digital governance practices of the financial sector from the common citizens. This survey question will inspire the new generation of innovative capabilities sensible of the current surroundings of the digital economic sector. These reasons clearly explore respondents' customer value perceptions in the digital device or Smartphone-based financing in the future. Specially to explore consumer value creation in various digital financial sectors and compare customers' perceived value of digital bill-paying services. The findings data figure- (4.23.RQ.22.) presents the clear findings and points out that, most forty percent (40%) of the respondents want to see `Savings' as a future trend of digital financial services.

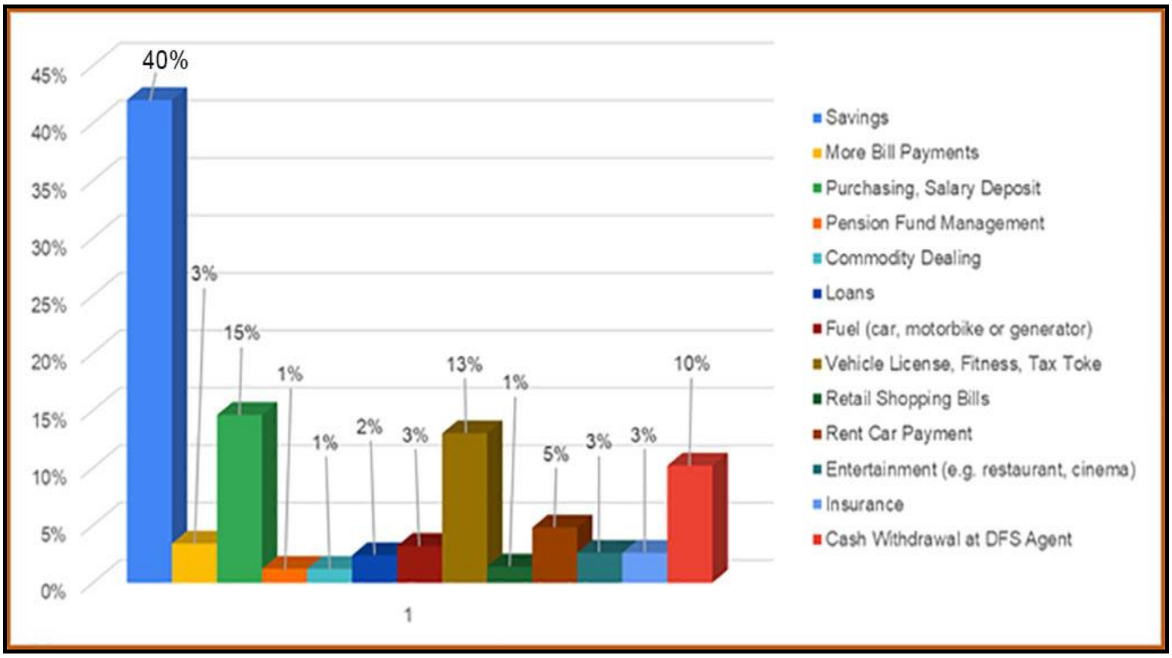


Figure-4.23. RQ.22. Future Trends of Digital Financial Sectors in Bangladesh

The second highest fifteen percent (15%) of the respondents want to see `Purchasing, salary deposit', as a future trend of digital financial service, thirteen percent (13%) of the respondents want to see `Vehicle license, fitness, tax token payments' as a future trend of digital financial service. Ten percent (10%) of the respondents want to see `Cash withdrawal at digital financial services agent' as a future trend of digital financial service, and only five percent (5%) of the respondents want to see `Rent a car payment' as a future trend of digital financial service. And rest three percent (3%) of the respondents want to see `More bill payments' as a digital financial service, and another three percent (3%) of the respondents want to see 'Fuel (car, motorbike or generator), bill payments as a future trend of digital financial service. On the other hand, the same amount e.g. three percentages (3%) of the respondents want to see `Retail shopping bills payments' as a future trend of digital financial services. And three percent (3%) of the respondents want to see `Insurance payments' as a future trend of digital financial services. Only two percentages (2%) of the respondents want to see `Loan payments' as a future trend of digital financial service, and only one percentage (1%) of the respondents want to see `Pension fund management payments' as a future trend of digital financial service, another one percentage (1%) of the respondents want to see `Commodity dealing payments' as a future trend of digital financial service. And last percentage (1%) of the respondents want to see `Entertainment (e.g. Restaurants, cinemas, art galleries, etc.), and bill payments as a future trend of digital financial services via digital devices or Smartphones. (See Figure-4.23.RQ.22).

According to the result, it could be interpreted that, the majority of forty percent (40%) respondents agree that digital money savings make grocery consumption smoother. It seems the majority of respondents spontaneously agree that they use digital devices or Smartphones for money-saving. Respondents agreed that this digital financial sector is doing a lot of good by saving money and time in daily activities.

4.24. RQ.23. Number of Daily Digital Financial Transactions in Bangladesh

The result of the data figure (4.24.RQ.23) presents clear findings and points out that, most twenty-two percent (22%) of the respondents make digital transactions `Monthly-Several times' as a digital financial service via digital device or Smartphone.

Data also showed that the second highest twenty percent (20%) of the respondents times `Weekly-Several times,' make digital transactions as a digital financial service via a digital device or Smartphone. The study questions result showed that the third highest seventeen percent (17%) of the respondents `Daily–Several times' make digital transactions as a digital financial service via digital device or Smartphone. Average fifteen percent (15%) of the respondents `Daily-once,' times make digital transactions as a digital financial service via a digital device or Smartphone, and fourteen percent (14%) of the respondents times `Weekly-Once' times make digital transactions as a digital financial service via digital device or Smartphone. Only eight percent (8%) of the respondents `Monthly-Once' times make digital transactions as a digital financial service via a digital device or Smartphone, and only four percent (4%) of the respondents make digital transactions time Occasionally (less than once a month), via digital device or Smartphone accordingly. (See Figure- 4.24. RQ.23).

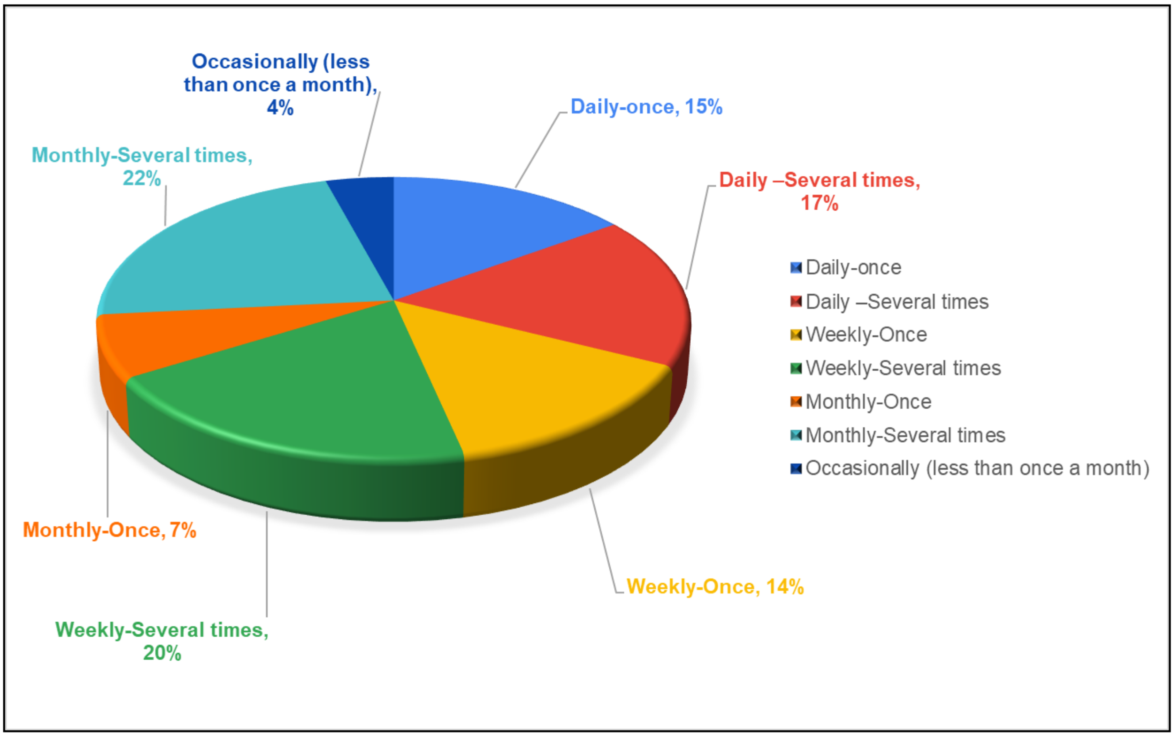


Figure 4.24. RQ.23. Number of Daily Digital Financial Transactions in Bangladesh

The outcome of the study indicates that other daily automated transactions in Bangladesh are increasing at a high rate every year. Since the introduction of automated democracy in the area of finance, citizens' lives in urban and rural parts of Bangladesh have become easier and more beautiful and the flow of money has increased significantly.

4.25. RQ.24. Distribution of Last One Year's Digital Send Money

Distribution of the total number of sent money using digital financial services to respondent's family, friends, or relatives and its volume are given in the result of the data figure (4.25.RQ.24). It clearly findings and points out that most of the ninety-one percentages (91%) of the respondents make the digital transaction as send money using digital financial services to respondent's family, friends, or relatives last one year. Apart from this data also showed that only nine percent (09%) of the respondents did not send money using digital financial services to their family, friends, or relatives in the last one year. It indicates that digital financial services are still not a very popular service among nine percent (09%) of the valuable respondent's customers, but it has huge potential. (See Figure (4.25.RQ.24).

Detection of this investigation specifies that consumers and respondents have been highly satisfied with digital financial services in recent years in Bangladesh. So, it could be said that the digital financial sector has more huge potential in the coming days. Because digital financial services have attracted a large number of citizens of Bangladesh.

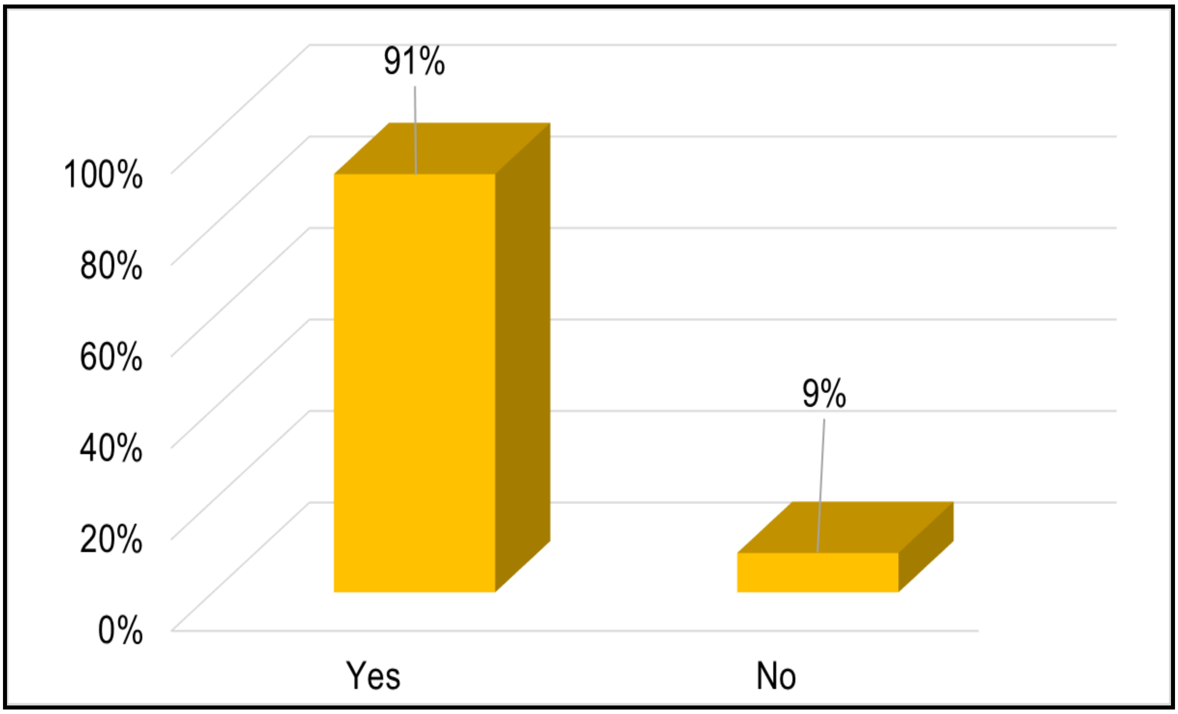


Figure- 4.25. RQ.24: Distribution of Last One Year's Digital Send Money

4.26. RQ.25. Distribution of Frequency of Programmatic Monetary Transactions

The results of this study are clearly presented in the figure (4.26. RQ.25). The results findings point out that, forty-two percent (42%) of the respondents' customer had the highest frequency of digital financial sector transactions monthly basis. The immediate below data figure shows that twenty percent (20%) of the respondents had the second highest frequency of digital financial sector transactions on customer weekly basis. Apart from this, data also showed that only seventeen percent (17%) of the respondent's frequency of digital financial sector transactions was occasionally basis.

Only fourteen percent (14%) of the respondents' frequency of digital financial sector transactions was daily basis. It was also observed that only two percentages (2%) of the respondents' frequency of digital financial sector transactions was a quarterly basis, and another two percent (2%) of the respondent's frequency of digital financial sector transactions was semi-annually basis and only two percentages (2%) of the respondent's frequency of digital financial sector transactions was seasonally basis, and another two percentage (2%) of the respondent's frequency of digital financial sector transactions was semi-annually basis and last one percentage (1%) of the respondent's frequency of digital financial sector transactions was annually basis. See Figure- (4.26.RQ.25).

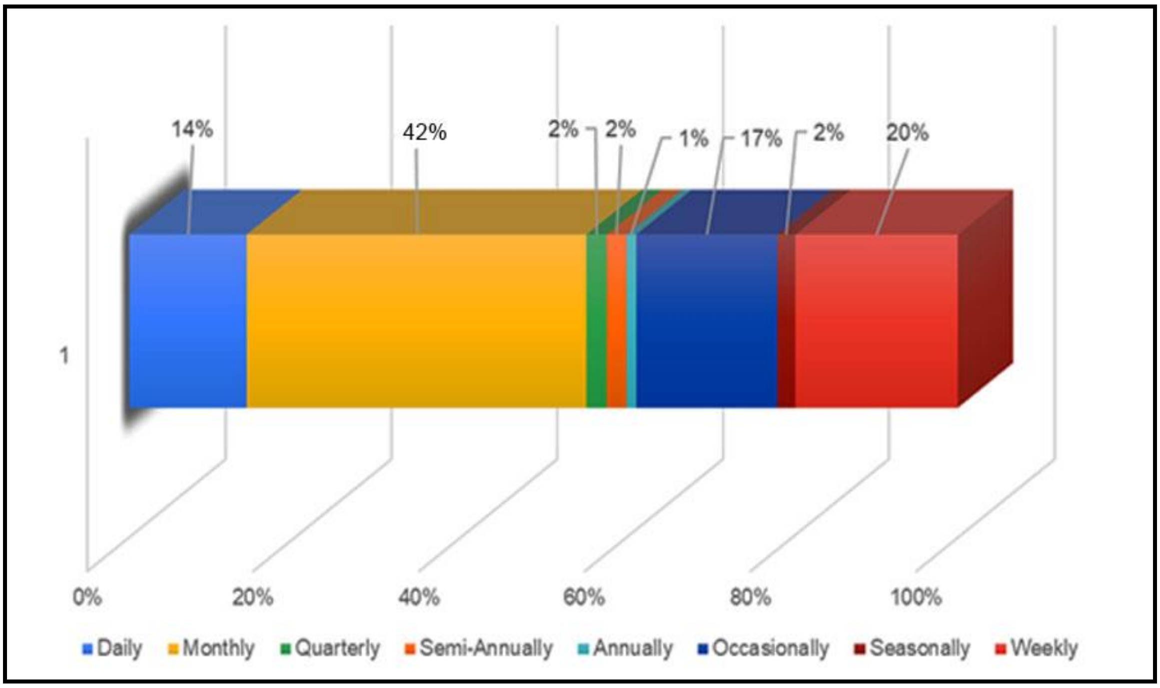


Figure- 4.26. RQ.25. Distribution of Frequency of Digital Transactions

4.27. RQ.26. Distribution of Reasons for Considering Electronic Direct Democracy in the Economic Sector in Bangladesh

Mindful of the past few years, the country's growth has been rapid due to digital technology acquainted with the economic sector in Bangladesh. Aggregate active digital financial accounts are an important consideration in bearing in mind digital leadership practices sensible of the financial sector. By this question, we need to evolve our visionary thinking to achieve more success in the economic sector particularly emergent nations like Bangladesh.

The results in data figure (4.27.RQ.26) clearly findings and point out that, on the reliability side, the highest score of twenty-seven percent (27%) of the respondents, surveyed customers are given opine and states- that digital governance in the financial sector always delivers service in time. This indicates they consider saving time and energy by the digital governance in the financial sector. 2nd highest twenty-three percent (23%) of the respondents consider safe transactions, fourteen percent (14%) of the respondents consider physical security, thirteen percentage (13%) of the respondents consider wider acceptability and twelve percentage (12%) of the respondents consider least probability of fraud, by the digital governance in the financial sector. Twelve percent (12%) with regard to respondents to this survey believe that the number of adopters of digital financial sector systems is increasing due to the security of these systems. Also, the least eleven percent (11%) of the respondents or consumers of the digital financial sector in this study identified lower transaction costs as a benefit of practicing digital governance in the financial sector. (See Figures-4.27. RQ.26).

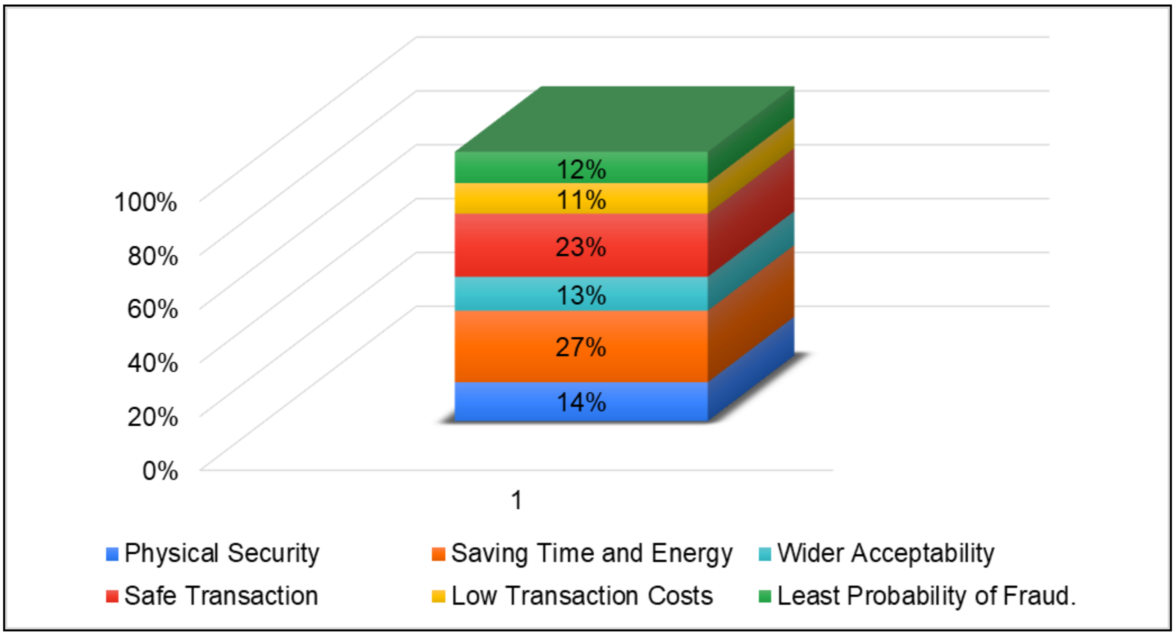


Figure 4.27. RQ.26. Distribution of Reasons for Considering Electronic Direct Democracy in the Economic Sector in Bangladesh

4.28. RQ.27. Distribution of Reasons for Not Using Digital Financial Sector

The results in data figure (4.28.RQ.27) clearly findings and point out that, out of 500 respondents, the highest one hundred eighty-nine (189) of the respondents firmly consider `I used digital financial services.' According to the data figure, the most serious disadvantages of digital financing are, hundred thirty-two (132) of the respondents consider, `Hacking, Fear of security from fraud' on digital financial services.

A significant number, e.g. fifty (50) of the survey respondents and customers in the digital financial sector indicated that they were 'not aware' enough about digital financial services. Only forty-five (45) consumers of digital financial services rated the digital financial sector as 'too expensive'. Also, only thirty-four (34) of the survey respondents feel that they have 'no need' for digital financial services. Only twenty-five (25) think that using digital finance is 'not a very easy task'. Digital financial services as a serious weakness of digital financing, and the last twenty-five (25) of the respondents considered and stated `Do not trust' digital financial services.

The study found hundred thirty-two (132) of the respondents consider `Hacking, Fear of security from fraud' as the reasons for not using digital financial services. Another fifty (50) of the respondents consider `Not aware', forty-five (45) of the respondents consider `Too costly', thirty-four (34) of the respondents consider `No need', twenty-five (25) the respondent stated `Not easy' to use, and last twenty-five (25) of the respondent stated `Do not trust' on digital financial services. These total three hundred eleven (311) respondents (out of 500) indicate the most significant challenges, demerits, and disadvantages remain in the digital financial sector in Bangladesh. (See Figures-4.28. RQ.27).

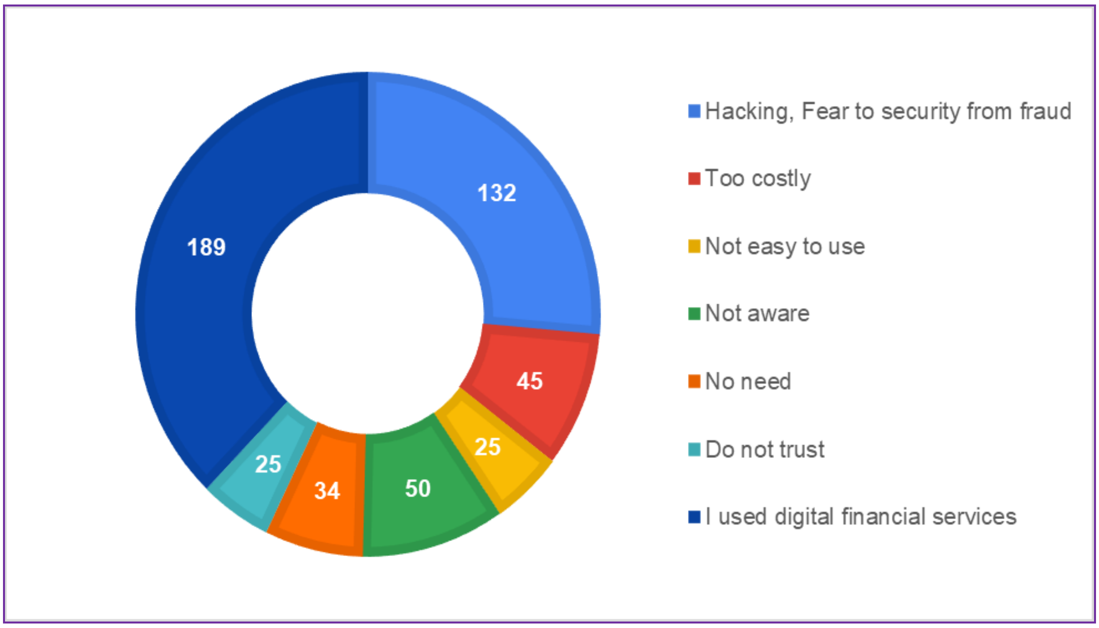


Figure 4.28. RQ.27. Distribution of Reasons for Not Using Digital Financial Sector

4.29. RQ.28.1. Distribution of Ease of Use of Digital Financial Sector

The digital financial sector can be used seamlessly, successfully, and easily without much physical and mental effort. The graph below (4.29.RQ.28.1) indicates the ease of use of the digital financial sector. A majority of the respondents (28%) percent gave the highest score as (7*) they said, ease of use of the digital financial sector. This respondent's customers agreed that the digital technology facility in the financial sector is considered by the citizens as the number one facility in recent digital Bangladesh. Seventeen percent (17%) of the respondents give three (3*) stars and stated, that the digital financial sector is very easy and user-friendly e.g. ease of use. A very remarkable percentage e.g. fifteen (15%) of the respondents gave four (4*) stars and stated, that the digital financial sector is very easy and user-friendly e.g. ease of use, followed by fourteen percentage (14%) of the respondents give five (5*) stars and stated, the digital financial sector is very easy and user-friendly.

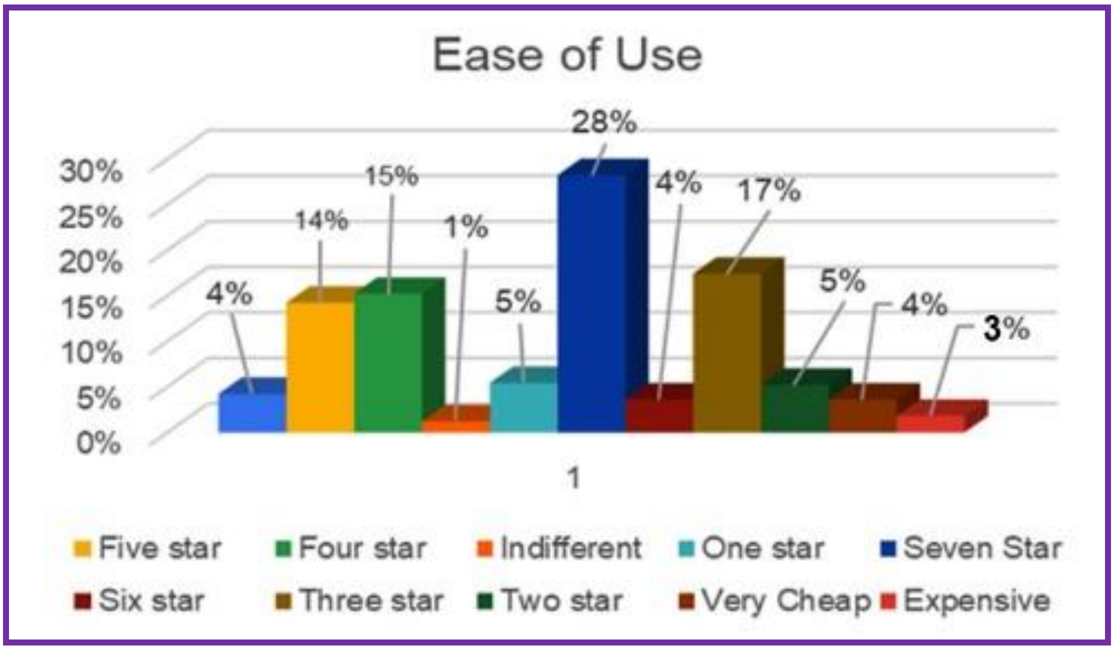


Figure-4.29. RQ.28.1. Distribution of Ease of Use of Digital Financial Sector

Only five (5%) percent of the respondents give two (2*) stars, another five (5%) percent of the respondents give one (1*) star, and the last four (4%) percentage of respondents give seven (7*) star, followed by another four percentage (4%) of the respondents give six (6*) star, and stated, digital financial service is very easy and user-friendly e.g. ease of use. and more another four percentage (4%) of the respondents stated, digital financial service is very cheap.

Only three (3%) percent of the respondents stated, that digital financial service is expensive and one percentage (1%) of the respondents stated, indifferent. (See Figure-4.29.RQ.28.1). The purpose of the discussion investigation question is to examine the sentiments of urban and rural residents towards digital financial services and thereby find out the barriers to becoming greater the customer base of the digital economic sector. The aforementioned study question related to benefits or `ease of use', which makes respondents consumers decide to use them in making digital financial transactions.

The advancement of digital devices and their usage has increased the uptake of fintech innovation. In Bangladesh, these new digital technologies should provide ease of use and give benefits and advantages to their digital customers. It could be mentioned here, that the use of the Wi-Fi internet in today's digital age is a necessity that cannot be separated. The development of digital technology makes Wi-Fi internet access easy to obtain so that, anyone can access it. The increasing scale of netizens in Bangladesh is a business golden opportunity for the digital financial sector. In this research, respondents gave seven stars (7*) for the advantages of the digital financial sector including ease of use, cost-saving, time-saving, and 24/7 access. There is also physical security, round-the-clock security in transactions due to digital SMS alerts, and widespread acceptance of digital money. (See Figure-4.29.RQ.28.1).

4.30. RQ.28.2. Distribution of Cost Saving, Lower Rates of Digital Financial Sector

Currently, the digital financial sector in Bangladesh is sporting a strong involvement in advancing the advancement of the entire state. Financial institutions, banks, insurance, business-trade, industry, agriculture, education, health, etc., in all sectors of the state, the benefits of digital financial investment have been ensured in all areas. As a result, digital governance in the financial sector is helping citizens escape poverty. However, the opposite picture can also be observed in this study. Many citizens are still not accepting the services of the digital financial sector in the rural public life of Bangladesh, especially due to the high cost of digital financial transactions. That is what this graphical image of the results of this research indicates (4.30.RQ.28.2).

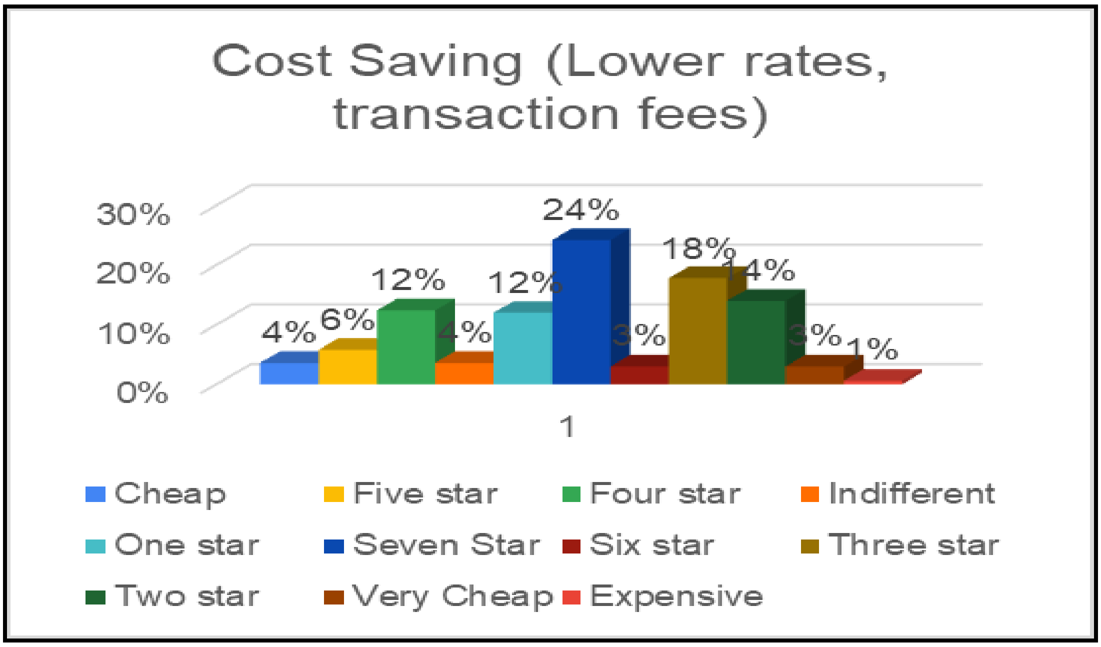


Figure-4.30. RQ.28.2. Distribution of Cost Saving, Lower rates of Digital Financial Sector

This study finding, majority twenty-four percent (24%) of the respondents gave the highest seven (7*) stars score, considering low transaction costs, eighteen (18%) percent of the respondents gave (3*) stars score, considering low transaction costs, and fourteen (14%) percentage of respondents give two (2*) star score, considering low transaction costs. Only twelve (12%) percent of the respondents gave a four (4*) star score, considering low transaction costs, and eleven percentage (11%) of the respondents gave one (1*) star score considering low transaction costs. Six percent (6%) of the respondents give a five (5*) star score, considering low transaction costs, and four (4%) percentage of the respondents clearly stated cost of the digital financial sector is `cheap'. Another four percent (4%) of the respondents describe `indifferent' on the point of cost saving, lower rate, Only three (3%) of the respondents stated `very cheap on the point of cost saving, lower rate, and another three respondents (3%) of the respondents give six (6*) stars score, considering low transaction costs, e.g. cost saving (Lower rates, transaction fees), and only one (1%) percentage of the respondents stated about cost of digital financial sector are expensive. (See Figure- 4.30.RQ.28.2).

In Bangladesh, digital financing often offers lower fees than the traditional financial sector or doesn't charge any subscription fees at all as they have lower fixed costs so they can be cost-saving for customers. On the vendor side, and financial sector side, there are fewer operational costs involved in digital financing and the number of staffs required is much lower. In recent years, the digital financial sector has been investing more in digital financial technologies like ATMs, agent financing, and online virtual financing Apps are also inspiring their customers to use these digital technologies.

4.31. RQ.28.3. Distribution of Benefits of Time Saving of Digital Financial Sector

Time-saving means reducing the amount of time needed to do something. The digital financial sector saving time and energy by paying utility bills and salary disbursements can be a hassle for many people. The results in data figure (4.31.RQ.28.4) findings and point out that, majority thirty-five percent (35%) of the respondents consider the digital financial sector to be time-saving and give the highest seven (7*) stars score positive remarks on the point of time-saving e.g. instantly transaction are the important benefits. The data pointed out and showed that the second highest score was fifteen percent (15%) of the respondent customers gave a four (4*) stars score, and thirteen percent (13%) of the respondent customers gave a five (5*) stars score. Nine percent (9%) of the respondents give a six (6*) star score, and another nine percent (9%) of the respondents give a three (3*) star score. Six percent (6%) of the respondents give two (2*) stars score, and only five percent (5%) of the respondents firmly stated that digital financial service is `very cheap'. Only two percent (2%) of the respondents firmly stated that digital financial service is `cheap', and another two percent (2%) of the respondents firmly stated, digital financial service is `expensive'. And last (1%) percentage of the respondents stated, `Indifferent' on the point of the benefit of digital financial service time saving e.g. instantly transactions. (See Figure- 4.31.RQ.28.4.).

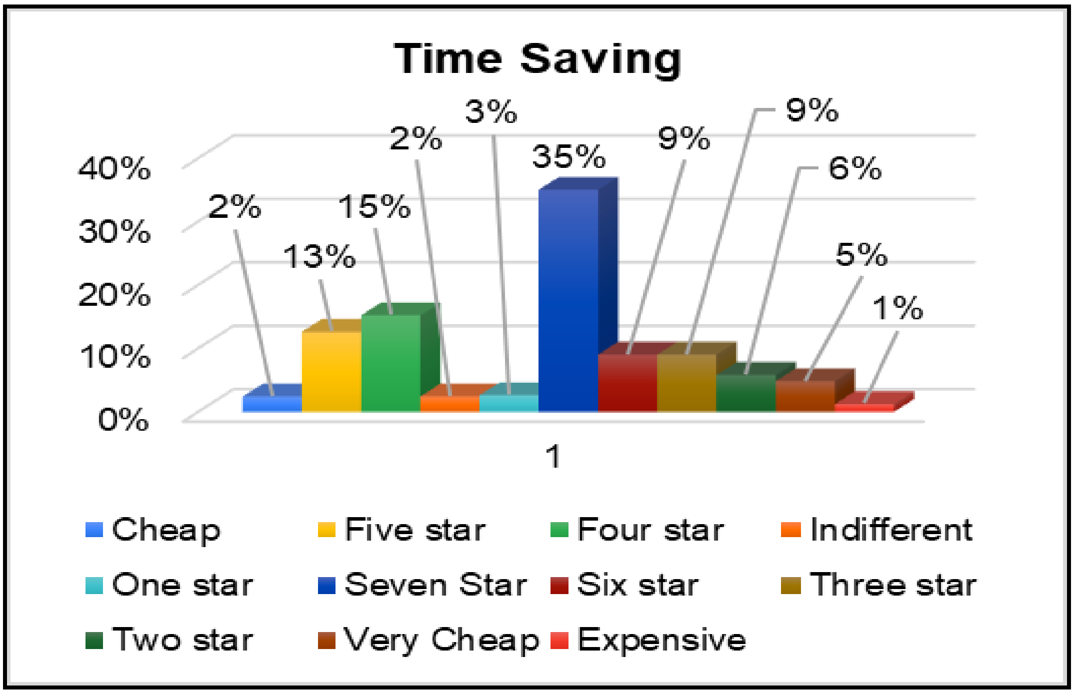


Figure- 4.31. RQ.28.3 Distribution of Benefits of Time Saving of Digital Financial Sector

This finding proved and indicates that the digital financial sector can save critical time which will help to utilize time better and save valuable business hours.

4.32. RQ.28.4. Distribution of Benefits of Access of 24/7 in Digital Financial Sector

Everyone knows that the digital financial sector is 24/7 best customer service, enabling the financial sector to meet customer demands for faster, more convenient, and secure financial services. Hence, the results in data figure (4.32.RQ.28.4) findings that the majority thirty-five (35%) percentage of the respondents consider the digital financial sector is access 24/7 service. These respondents give the highest score e.g. seven (7*) stars score, positive remarks on the point of 24/7 access.

The second highest score was fourteen percent (14%) of the respondent's customers gave a four (4*) stars score, eleven percent (11%) of the respondents gave a six (6*) stars score, ten percent (10%) of the respondent's customer give three (3*) stars score, nine percentage (9%) of the respondents give five (5*) stars. Only six percent (6%) of the respondents give two (2*) star score. Only four percent (4%) of the respondents firmly stated `Very cheap', and another four percent (4%) of the respondents gave one (1*) star score. Only three percent (3%) of the respondents firmly stated the digital financial sector is `cheap'. Two percent (2%) of the respondents firmly stated digital financial sector is `expensive', and two percent (2%) of the respondents firmly stated `Indifferent', on the point of the benefit of digital financial service 24/7 access. (See Figure 4.32.RQ.28.4). This finding indicates that the digital financial sector in Bangladesh is fast, efficient, and saves customers valuable time, therefore, enhancing the benefit of customers' experience. In sum, digital governance awareness of the area of finance furnish opportunities for finance company to create new products and services that are more responsive needs of customer.

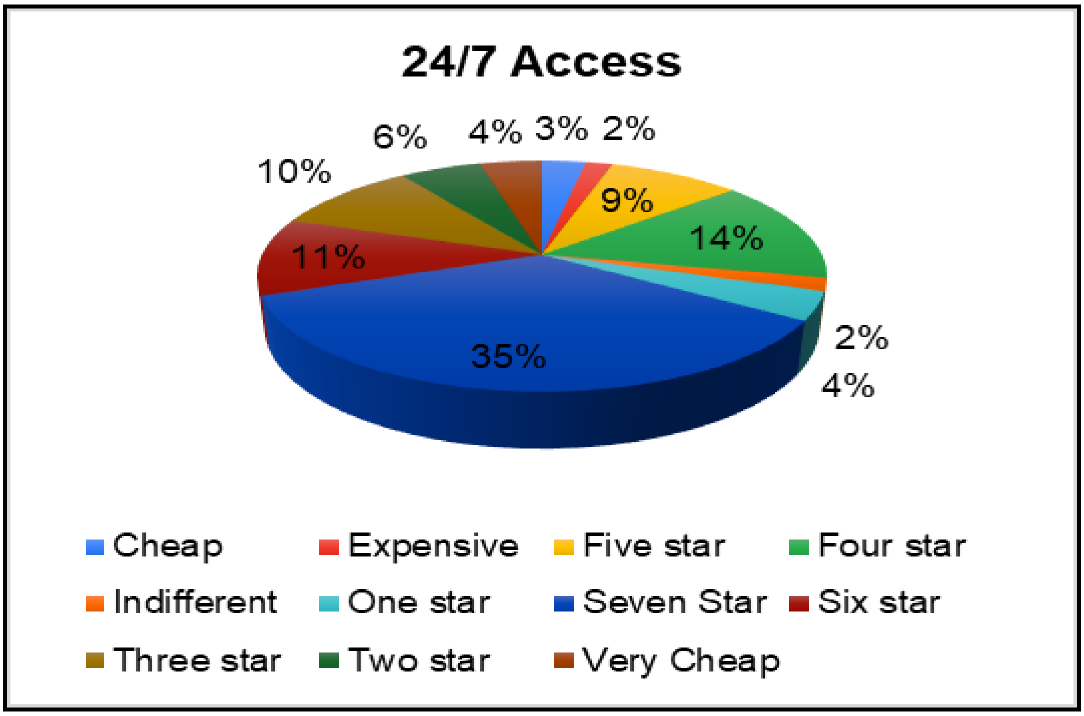


Figure- 4.32. RQ.28.4. Distribution of Benefits of Access of 24/7 in Digital Financial Sector

4.33. RQ.28.5. Distribution of Physical Security in The Digital Financial Sector

The digital financial sector in Bangladesh has significant benefits which are called physical security. From the data, figures- (4.33.RQ.28.5.), point out the question on physical security majority twenty-eight percent (28%) of respondents give the highest seven stars (7*) score. Seventeen percent (17%) of the respondents gave a star (3*) score and eleven percent (11%) of the respondents gave a five-star (5*) score. Another eleven percent (11%) of the respondents give a four-stars (4*) score.

Only ten percent (10%) of the respondents give a star score and six percent (6%) of the respondents give six-stars (6*) score. Five percent (5%) of the respondents give a one-star (1*) score, and four percent 4% of the respondents describe the `very cheap' digital financial sector benefits. Another 4% portion regarding responses described `cheap', and only 3% portion with regard to responses stated `indifferent'. Only 1% percent of the respondents stated `expensive' the physical security of digital financial service benefits. (See Figure- 4.33.RQ.28.5).

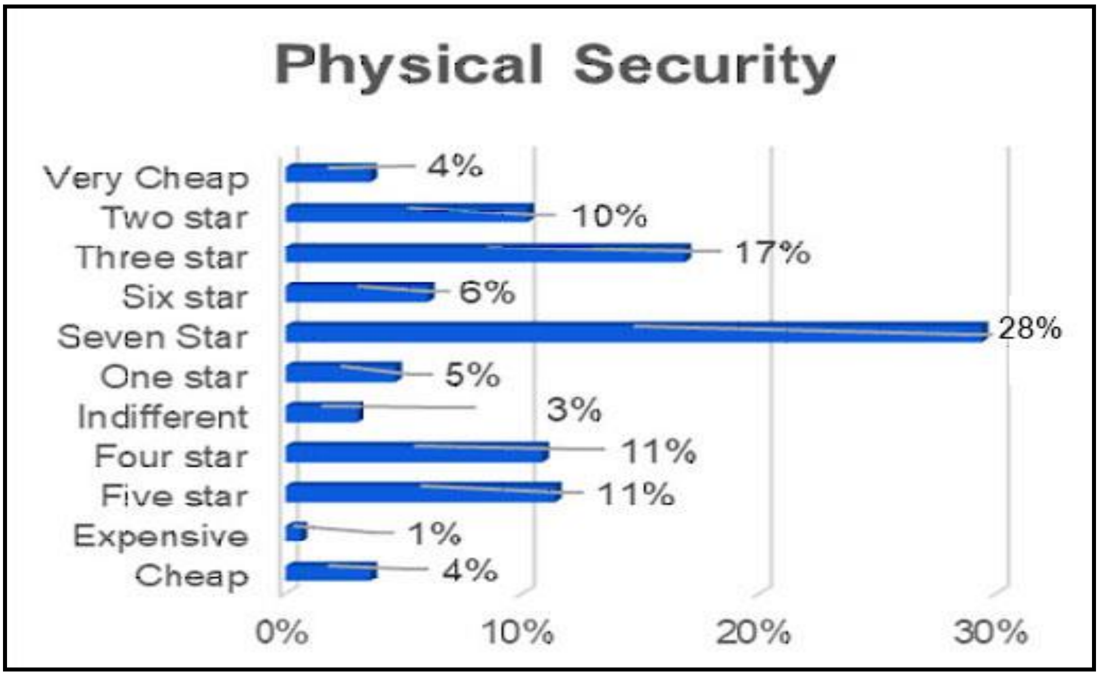


Figure- 4.33. RQ.28.5. Distribution of Physical Security in Digital Financial Sector

4.34. RQ.28.6. Safe Transaction Due to SMS Alert in Digital Financial Sector

The digital financial sector gives us safe transactions due to digital SMS alerts, while payment for goods and services. This is another significant benefit of the digital financial sector. Figure- (4.34.RQ.28.6) finds out the point of the statement- `Digital financial sector is safe due to digital SMS alert'. The majority thirty (30%) percentage of the respondents give the highest seven stars (7*) score about the digital financial sector benefit is safe transactions due to digital SMS alerts.

The 2nd highest fifteen percent (15%) of the respondents gave a three-star (3*) score, and the 3rd highest fourteen percent (14%) of the respondents gave a star (4*) score. Another twelve percent (12%) of the respondents gave a six (6*) stars score, nine percent (9%) of the respondents gave a two-star (2*) score, seven percent (7%) of the respondents gave five stars (5*) score. Only four percent (4%) of the respondents stated, that digital financial service is `very cheap' and considered safe transactions due to digital SMS alerts. Only three percent (3%) of the respondents gave a one-star (1*) score and two percent (2%) of the respondents stated `indifferent', another two percent (2%) of the respondents stated digital financial service is `cheap'. Only two percent (2%) of the respondents stated `expensive' but considered safe transactions due to digital SMS alerts. (See Figure 4.34.RQ.28.6).

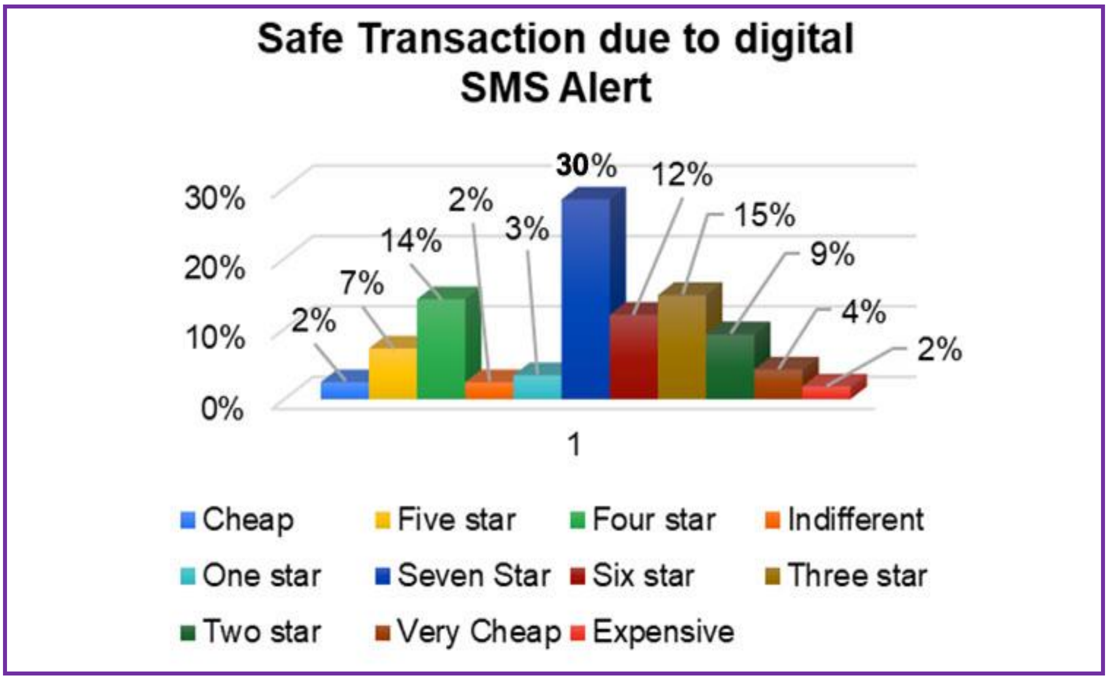


Figure- 4.34.RQ.28.6. Safe Transaction Due to SMS Alert in Digital Financial Sector

4.35. RQ.28.7. Measurement of Wide Acceptance of Digital Finance

Findings in data figure- (4.35.RQ.28.7) present and clearly point out, that the majority thirty-five percent (35%) of the respondents give the highest seven (7*) stars score and consider the wide acceptability of digital finance. Follow by the 2nd highest twenty-two percent (22%) of the respondents gave a three (3*) star score, twelve percentage (12%) of the respondents gave a four (4*) star score, ten percentage (10%) of the respondents give five (5*) stars score, and eight percentage (8%) of the respondents give two (2*) stars score. Only seven percent (7%) of the respondents gave a four (4*) star score, and only six percent (6%) of the respondents gave one (1*) star score considering the wide acceptability of digital finance. (See Figure- 4.35.RQ.28.7).

From the above figure findings, the highest wide acceptability of digital money is seen in thirty-five (35%) percentage cases of the accuracy of operations which implies that the wide acceptability of digital devices Smartphones, and gadgets helps financial sectors to reduce operational errors.

This finding indicates, that one of the primary benefits of the digital financial sector can reach a wider range of customers bringing more inclusivity to their customer base. It is proved that, in Bangladesh, several people choose the digital financial sector that is close to them, rather than going for the physical financial sector that offers optimum service. The digital financial sector gives the opportunity to reach and avail new customers far from their formal branch locations. Therefore, people are now able to choose the digital financial sector, and they can feel provided services as per their expectations. (See Figure-4.35.RQ.28.7).

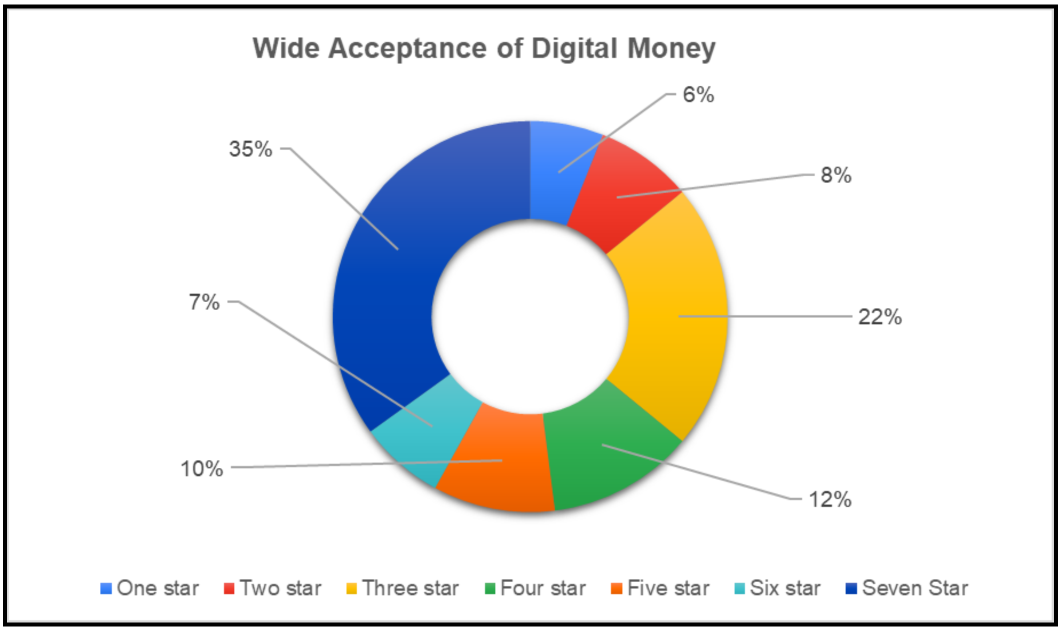


Figure- 4.35. RQ.28.7. Measurement of Wide acceptance of Digital Finance

4.36. RQ.28.8. Measurement of Cost of Digital Financial Savings

According to the results in data figure-(4.36.RQ.28.8.) respondents point out about cost of digital financial savings. A maximum of thirty-nine (39%) percent of the respondents stated, the cost of digital financial savings is `cheap', and the 2nd highest thirty percent (30%) of the respondents stated `indifferent'. Only sixteen percent (16%) of the respondents stated, `very cheap', and fifteen percent (15%) of the respondents stated, `expensive'. (See Figure-4.36.RQ.28.8.).

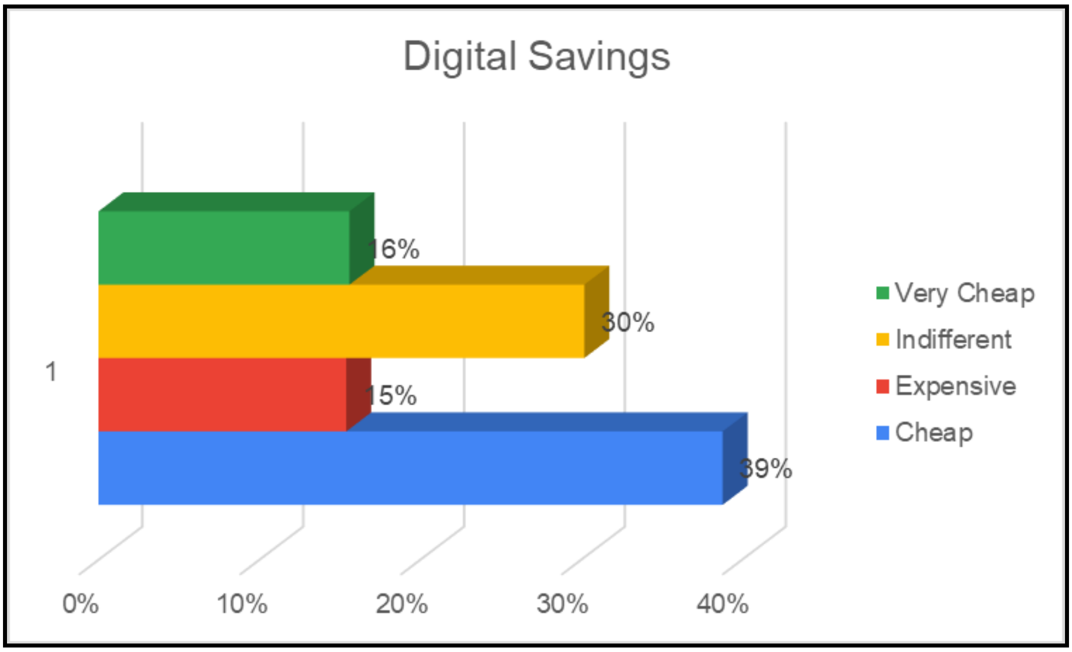


Figure 4.36. RQ.28.8. Measurement of Cost of Digital Financial Savings

4.37. RQ.28.9. Measurement of Digital Transaction Cost

The results in data figure- (4.37.RQ.28.9.) clearly findings and point out that, the majority thirty-eight (38%) percentage of the respondents stated cost of digital financial sector transaction fees is `cheap'. Followed the 2nd highest twenty-six (26%) percent of the respondents stated `indifferent', twenty-two percent (22%) of respondents stated `expensive', and fourteen percent (14%) of the respondents stated `very cheap'. (See Figure-4.37.RQ.28.9.).

The findings and opinions of the majority of respondents to this survey about digital financial services indicate that the cost of digital financial transaction fees is 'cheaper'. Digital financial services reach a larger number of customers as money transfers are cheaper in digital channels.

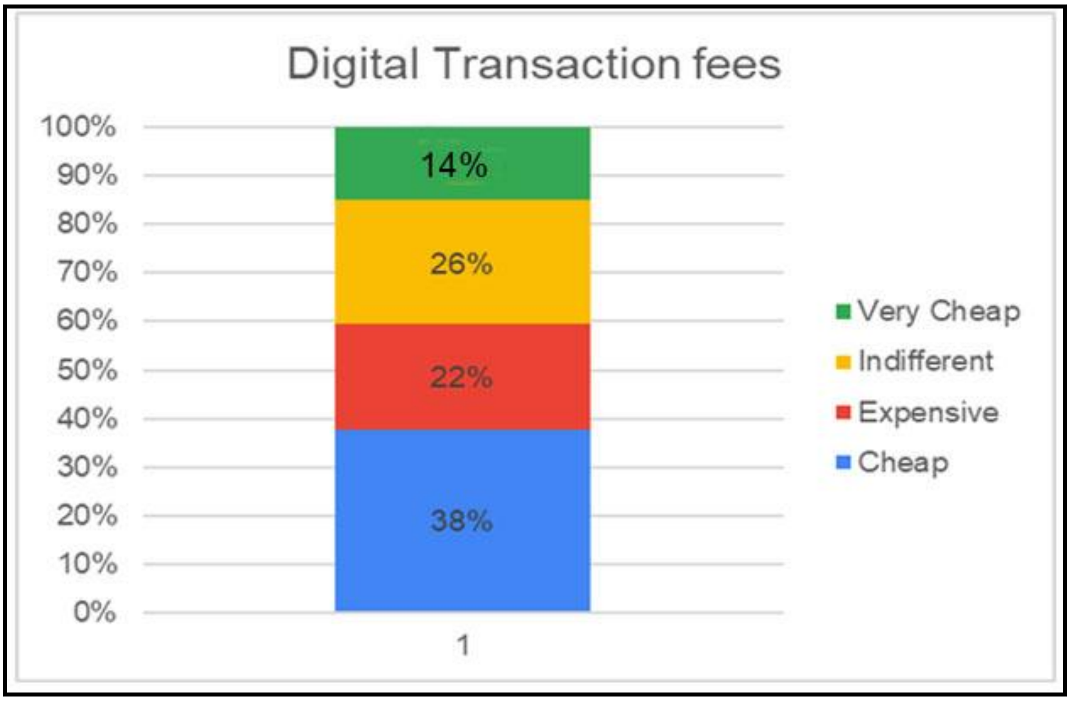


Figure- 4.37. RQ.28.9. Measurement of Digital Transaction Cost

4.38. RQ.28.10. Measurement of Digital Bill Payments

Digital financial sector users in Bangladesh yield be the owners of smartphones. Users could comfortably send cash accompanied by a sprinkling of pop of fingers. It has no limitation of physical distance in the middle of the customer and moreover recipient. Traditional fiat money is also not required. Consumers of the digital area of finance in Bangladesh are first introduced via the digital financial sector while paying household utility bills. The result findings in data figure- (4.38.RQ.28.10.), the majority forty-one (41%) percentage of the respondents stated cost of digital financial sector bill payments fees are `cheap'.

The 2nd highest twenty-four (24%) percent of the respondents stated `indifferent', and twenty-one percent (21%) of the respondents stated, `very cheap', only fourteen percentage (14%) of the respondents stated the cost of digital financial sector bill payments fees are `expensive'. (See Figure-4.38.RQ.28.10).

Therefore, digital bill payment services have become an increasingly important act of assistance in informing about the financial industry in Bangladeshi's daily life.

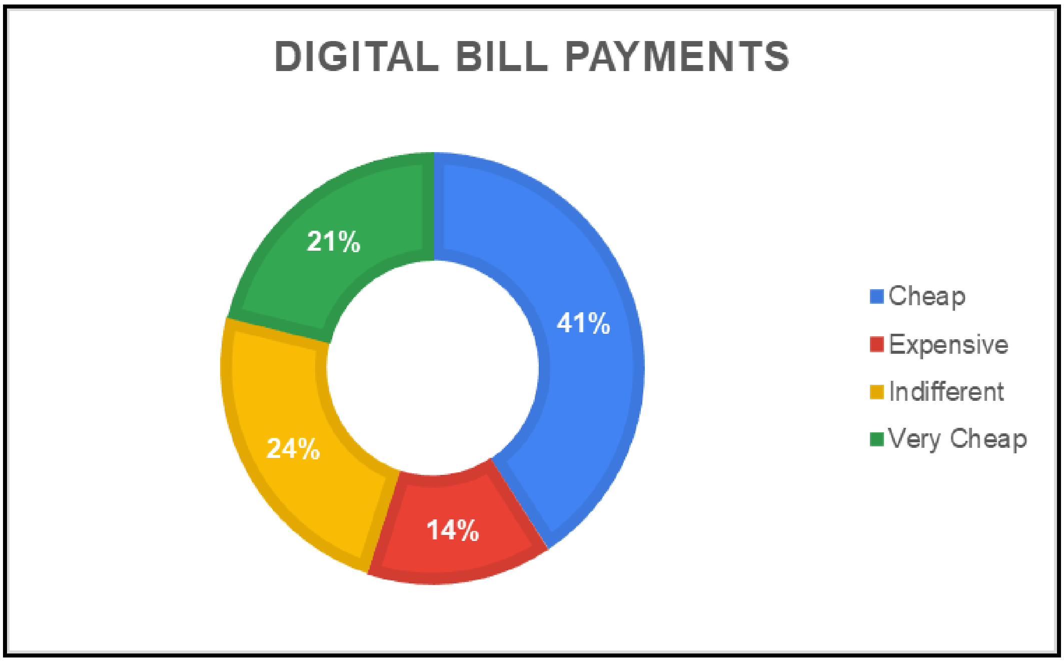


Figure- 4.38.RQ.28.10. Measurement of Digital Bill Payments

4.39. RQ.28.11. Measurement of Digital Online Shopping

After the introduction of 3G Wi-Fi, smartphones in Bangladesh, online small business trade has increased significantly. All kinds of items including clothes, digital electronics gadgets, cosmetics, and food items are being sold online. During the recent COVID-19 pandemic, the entire Bangladesh started isolation to prevent the increase of the COVID-19 virus. As a result, the business trade shop market is temporarily closed. Meanwhile, online shopping has become more common and popular. Most of the youth of today's digital generation are comfortably choosing online shopping instead of shopping in stores, markets, or shopping.

The data figure- (4.39.RQ.28.11.) shows that the majority of forty-four (44%) percentage of the respondents stated, that the cost of digital online shopping fees is `cheap’. The 2nd highest twenty-five (25%) percent of the respondents stated `indifferent’, only sixteen percent (16%) of the respondents stated, `very cheap’, and fifteen percent (15%) of the respondents stated the cost of digital online shopping fees are `expensive’. (See Figure-4.39.RQ.28.11.).

According to a recent survey, the Bangladesh online shopping market has now become the emerging digital financial sector. Through this, a growing online market of about 2 billion Bangladeshi takas is running. Online shopping in Bangladesh has become much easier and popular thanks to the Digital Bangladesh government's e-commerce protocol.

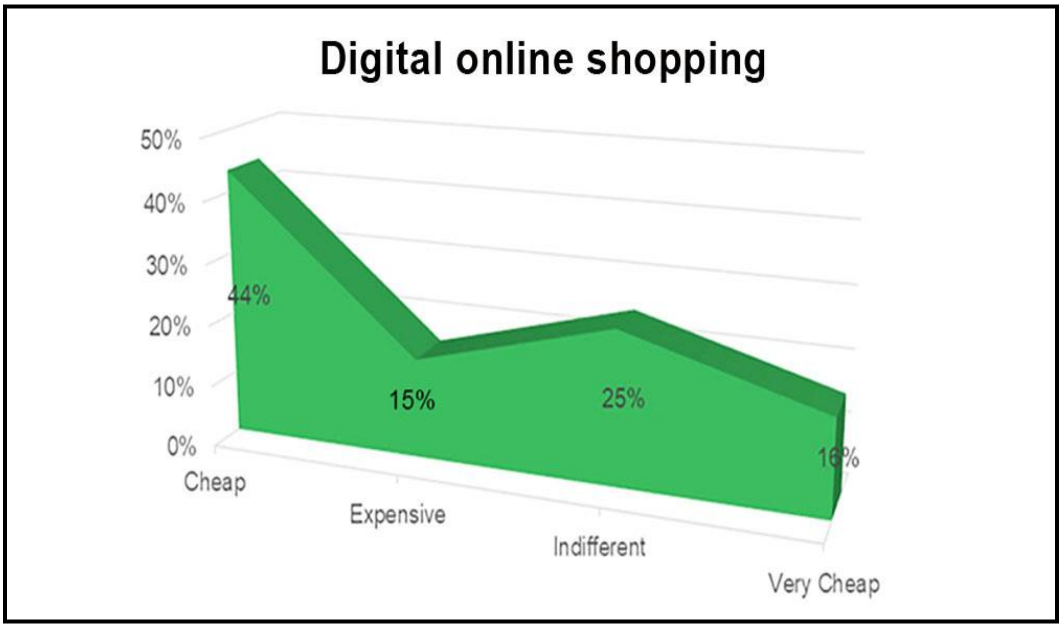


Figure- 4.39. RQ.28.11. Measurement of Digital Online Shopping

4.40. RQ.28.12. Measurement of Digital Investment

Investment fees occur every time an investment is bought, sold, or exchanged. Investment fees are one great example of digital financial sectors' hidden fees. The results in data figure- (4.40.RQ.28.12.) present clear findings and point out that, the majority forty (40%) percentage of the respondents stated the cost of digital investment fees is `cheap'. Following the 2nd highest thirty-seven (37%) percent of the respondents stated `indifferent', only thirteen (13%) percent of the respondents stated, `very cheap', and only ten (10%) percentage of the respondents stated, `expensive' about the cost of digital investment fees. (See Figure 4.40.RQ.28.12).

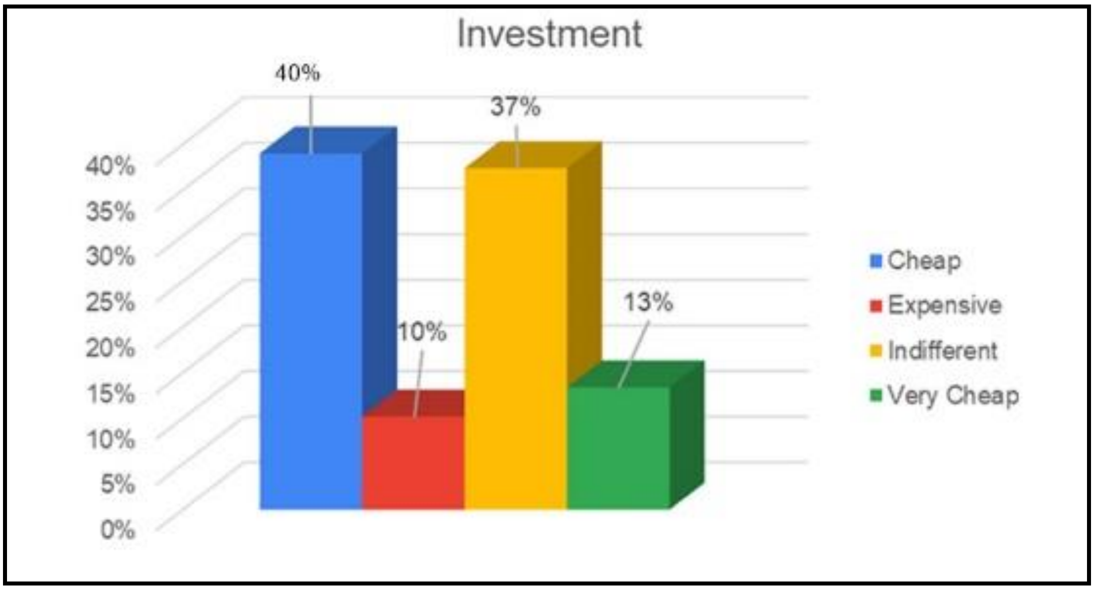


Figure- 4.40. RQ.28.12. Measurement of Digital Investment

The government's establishment of 'Digital Bangladesh' and increased investment in infrastructure has created a suitable environment for investment in the programmatic area of finance in the country. The monetary authority of the state, the Bangladesh Bank exuberantly entrenched the technology infrastructure for digital money investment since 2010. In today's era of digital equipment, investing apprised of digital financial territory has become part of everyday business activities. For a decade, commercial banks in Bangladesh have started investing in digital money. Now day by day the use of digital investment in the world is increasing widely and increasingly. The Central Bank of Bangladesh has already created a digital investment framework with banks and financial institutions in all developed and developing economies. Also continues to encourage more inter-bank/institutional digital investment. It is important for Bangladesh to achieve more innovative success in the digital financial sector in order to position itself in the same ranks as developed countries.

4.41. RQ.28.13. Measurement of Digital Fund Transfer

Digital Fund Transfer is termed an “Electronic Fund Transfer”. Digital Fund Transfer In the financial sector, money can be easily transferred from one account to another in a digital system. This digital financial service called Digital Fund Transfer, has connected the grassroots people in Bangladesh with the mainstream economy.

The results in data figure- (4.41.RQ.28.13.) present clear findings and point out that, the majority thirty-seven 37% percent of the respondents stated the cost of digital fund transfer fees is `cheap’. Followed by 2nd highest twenty-three 23% percent of the respondents stated `indifferent’. Follow by only twenty-one 21% percent of the respondents stated, `very cheap’, and the last only nineteen percent (19%) of the respondents clearly stated cost of digital fund transfer fees is `expensive’. (See Figure-4.41.RQ.28.13.).

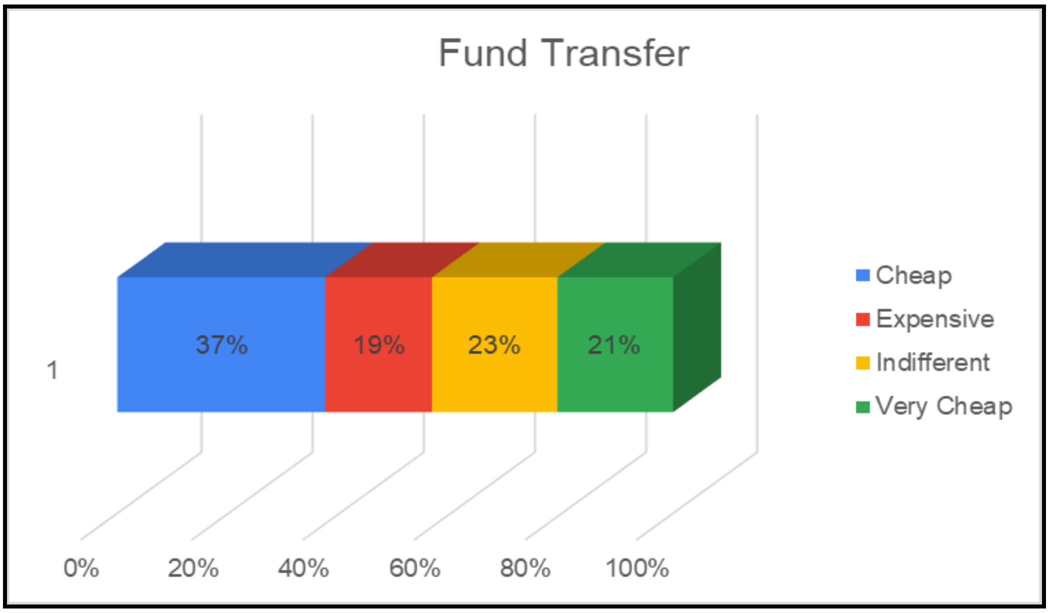


Figure- 4.41. RQ.28.13. Measurement of Digital Fund Transfer

This finding indicates that, the increasing use of digital fund transfer in daily life in Bangladesh, combined with the increased use of advanced developments in digital financial sectors, such as digital financial fund transfer by using Android Wi-Fi Smartphones, and the availability of advanced services, is driving demand.

Now we create digital capital moves in numerous systems. Everybody permits us to pay rapidly and comfortably for the moment those people require our assistance. Such a thing could be mentioned here that, in recent years in Bangladesh, the digital financial sector has increased consumer trust by adding a layer of verification to digital fund transfer portals to secure customer information. As the demand for digital fund transfer has geared up, also demand has increased for faster smart digital fund transfer portals.

4.42. RQ.28.14. Measurement of Digital Salary Deposit

The results in data figure- (4.42.RQ.28.14.) findings and points out that, the majority thirty-nine percent (39%) of the respondents stated digital salary deposit fees are `cheap'. Follow by 2nd highest twenty-nine percent (29%) of the respondents stated `indifferent', only twenty-four percentage (24%) of the respondents stated `very cheap'. Only eight percent (8%) of the respondents stated digital salary deposit fees are `expensive'. (See Figure-4.7.28.14.).

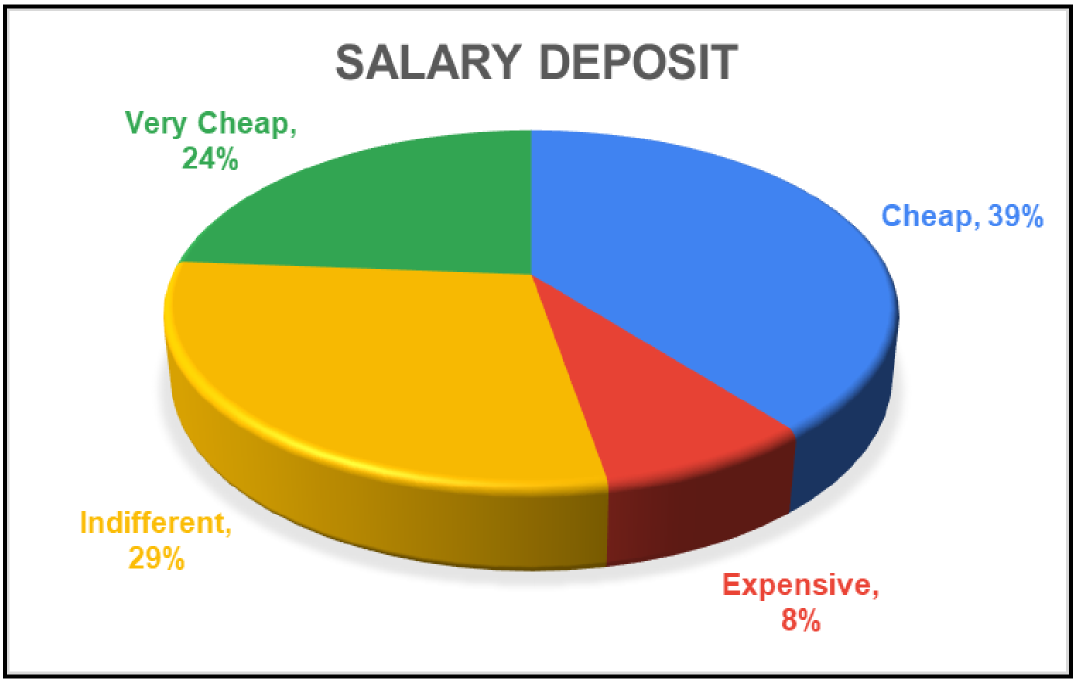


Figure- 4.42. RQ.28.14. Measurement of Digital Salary Deposit

This finding indicates that digital salary deposit eliminates many of the common threats that can compromise a physical paper check. For example, without physical paper checks, there's little risk of someone stealing our check or modifying it. Instead of this, it's easier to securely pay employees digital salaries, contractors, and vendors who are remote or in another location, the funds get seamlessly and securely moved from one digital financial sector account to another.

It also proved that, in this digital Bangladesh, the way salaries are paid is also becoming increasingly digital. Unlike traditional salaries, employment is not handed over as cash or financial accounts but is paid in the form of digital payments. Now employees have their salaries deposited into a cashless payment account managed by a non-bank financial transfer provider. Typical examples are bKash, DBBL, and other digital Smartphone payment Apps, that allow employees to have the amount of their salary paychecks transferred to them.

4.43. RQ.28.15. Measurement of Digital Credit Card Loan

Another name for credit cards in the developed world is plastic money. In Bangladesh, a credit card is a popular digital financial technology in everyone's pocket. There is no hassle of carrying cash. Even if we don't have enough money, we can pay later. The customer can only withdraw as much money as the credit card or credit limit provided by the financial sector. And debit card is the customer's own account that can withdraw the amount of money. Debit card is a very favorite technology for the new generation. It is very easy to pay our shopping bills from our savings. To sustain healthy cash flow, most financial sector needs to allow customers to use credit cards. The results in data figure-(4.43.RQ.28.15.) present and point out that, majority twenty-nine percent (29%) of the respondents stated digital credit card loan fees are `very cheap'.

Follow by 2nd the equilibrium number twenty- nine percentage (29%) of the respondents stated `indifferent' and twenty-five percentage (25%) of the respondents stated, `cheap'. Only seventeen percentage (17%) of the respondents stated, `expensive'. (See Figure-4.43.RQ.28.15.).

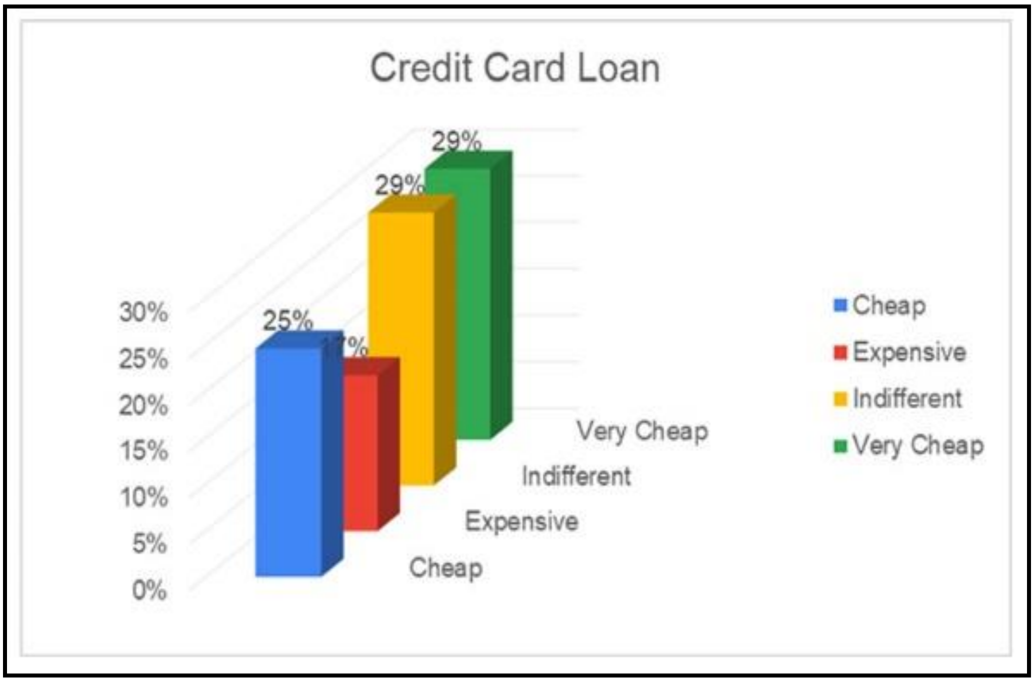


Figure- 4.43. RQ.28.15. Measurement of Digital Credit Card Loan

This finding indicates that the highest twenty-nine percent (29%) of the respondent's younger participants use digital credit card payment methods more frequently than older cohorts.

4.44. RQ.29.1. Measurement of Trust Level

The digital financial system exists on a web of trust. This question is introduced to detect the major factors that affect customers' overall trust in the digital financial sector. The following data figure and result describe the constructs with the interpretation that is used to estimate the overall trust level of customers by using the digital financial sector in Bangladesh. Moreover, overall customers' trust and loyalty towards the digital financial sector has been also measured here. Measurement of trust level maintained by the digital financial sector in Bangladesh on point of `Overall trust' the results data figure-(4.44.RQ.29.1.) findings and points out that, majority twenty-six percent (26%) of the respondents stated overall trust level is `higher'.

Follow by the 2nd 25% percent of the respondents stated, `highest', only 23% percent of survey respondents stated `indifferent', and 15% percent of survey respondents stated `lower'. On the other hand, eleven 11% percent of the respondents stated `lowest' about the overall trust level by maintaining the digital financial sector in Bangladesh. (See Figure-4.44.RQ.29.1).

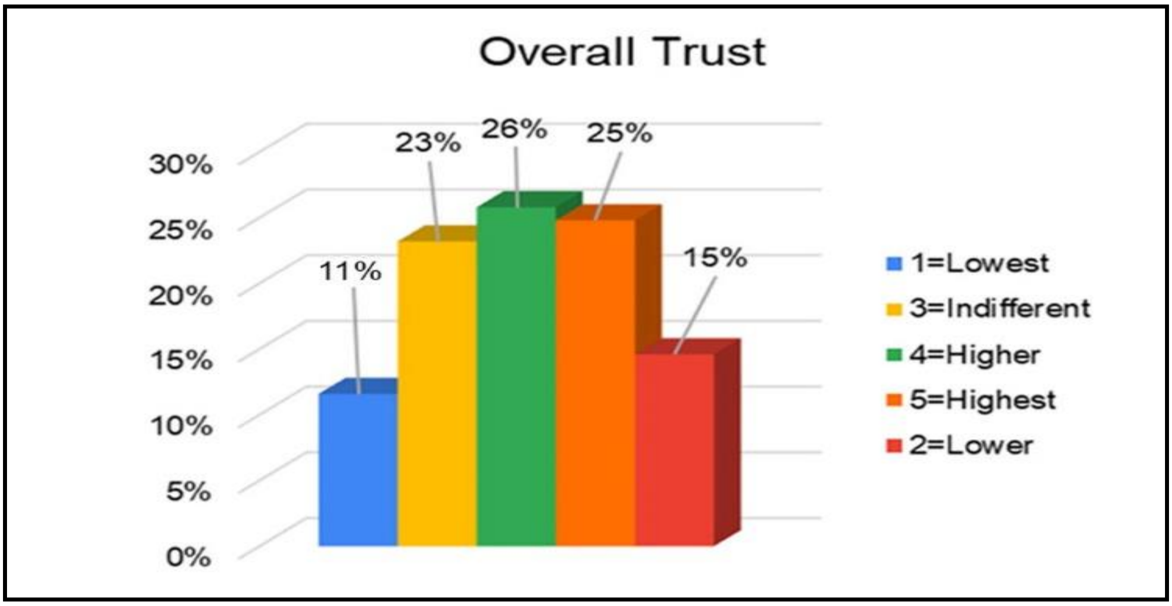


Figure-4.44. RQ.29.1. Measurement of Trust Level

This finding indicates that the customer's overall trust always comes first, particularly in the digital financial sectors in Bangladesh. Moreover, if customers do have not overall trust, it is very tough to expand the financial sector business. Although the overall trust level of the automated area of finance in Bangladesh is high, in the indicated data, the result shows that 23% percentage of the respondents stated 'indifferent 'and 15% percentage of the respondents stated `lower', the last two results indicate trust level is very worsening problematic and various challenges remain hidden in the digital financial sector in Bangladesh.

4.45. RQ.29.2. Measurement of Mistrust Level

Measurement of mistrust level by maintaining digital financial sector on the point of `I don't have trust'. The results data figure- (4.45.RQ.29.2). Presents the clear findings that the majority thirty-four percent (34%) of the respondents ranked `1= lowest' marks on the point of `I don't have trust'. This result indicates they have mistrust with a few hesitations, on the point of maintaining the digital financial sector. The 2nd highest thirty-one percent (31%) of the respondents stated `indifferent' these respondents did not specify full trust or mistrust on the point of maintaining the digital financial sector.

The 3rd highest fifteen percent (15%) of the respondents rated `2= lower' marks, these results also indicate they have trust with hesitation, and only thirteen percent (13%) of the respondents ranked `5= highest' marks. This finding indicates they have mistrust, and only seven percent (7%) of the respondents rated `4= higher' about `I don't have trust' on the point of `overall trust in the digital financial sector. (See Figure-4.45.RQ.29.2). These findings also indicate they have trust with hesitation on the point of maintaining the digital financial sector. These both the last two results indicate the very worsen problematic challenges on trust levels remain in the digital financial sector in Bangladesh.

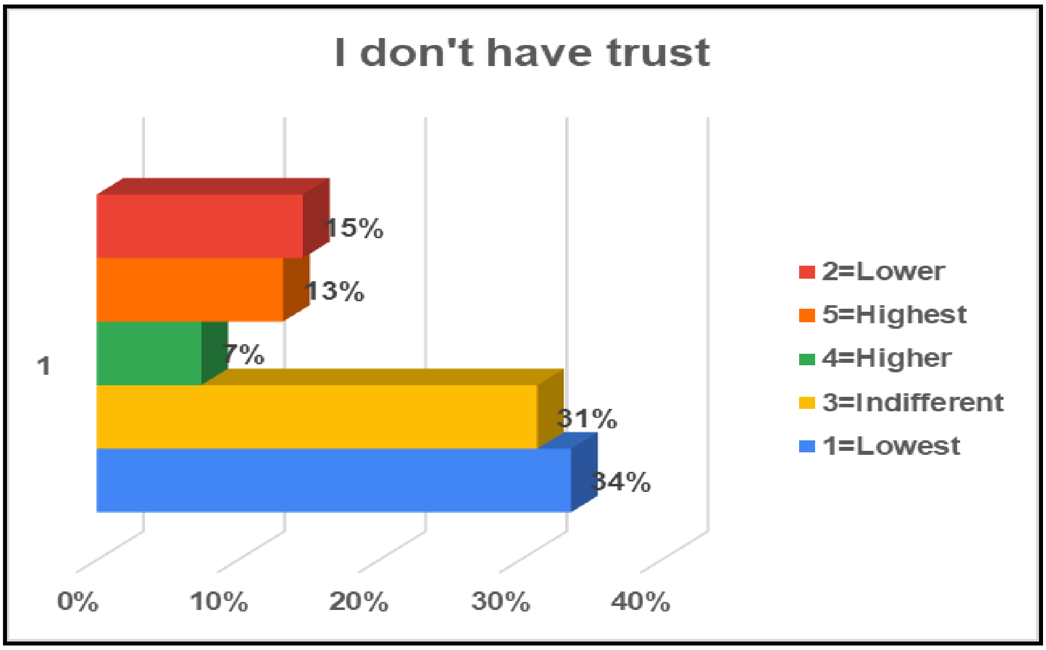


Figure- 4.45. RQ.29.2. Measurement of Mistrust Level

4.46. RQ.29.3. Measurement of Trust in Banks

The financial sector has always involved trust and human relationships. The results data figure- (4.46.RQ.29.3.), clearly findings and points out that, majority twenty-nine percent (29%) of the respondents give ranked `5= highest' marks on the point of `I Trust in Banks'. This result indicates, that they have full trust with no hesitations, and the equilibrium number showed in another twenty-nine percent (29%) of the respondents give ranked `4= higher' marks, on the point of `I Trust in Banks. It seems they have full trust in Banks.

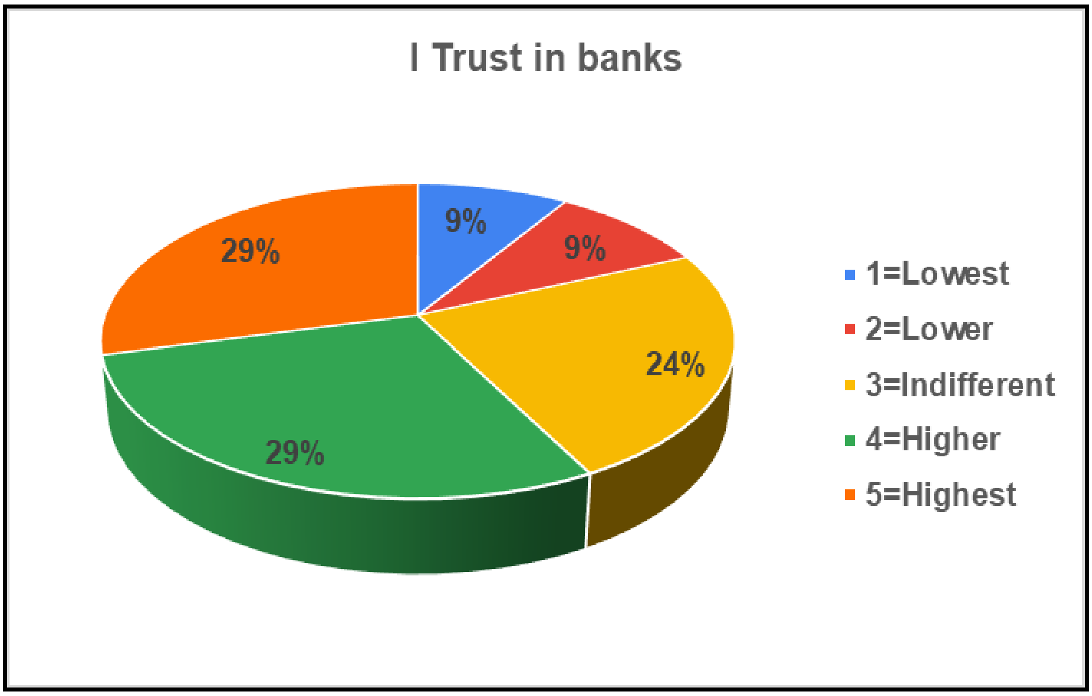


Figure-4.46. RQ.29.3. Measurement of Trust in Banks

Another twenty-four percent (24%) of the respondents give ranked `3=indifferent'. This result indicates they have trust in banks with a few hesitations, only nine percent (9%) of the respondents stated and ranked `2=lower' considering `I Trust in Banks'. This result indicates they have some problem with a few hesitations on trust in banks. The last equilibrium number also showed that another twenty-nine percent (9%) of the respondents ranked `1= lowest' marks, which indicates, they have little trust in the Bank. Here, both the last two results indicate very problematic risks, and fear and challenge on the Banks remain. (See Figure-4.46.RQ.29.3).

4.47. RQ.29.4. Measurement of Trust in Technology of Digital Financing

The question on measurement of trust level by maintaining digital financial sector in Bangladesh on the point of `I Trust in the technology of digital financing'. The results data figure (4.47.RQ.29.4), findings and points out that, majority twenty-nine percent (29%) of the respondents ranked `5= highest' marks, this result indicates they have full trust with no hesitations over digital financing.

Followed by twenty-six percent (26%) of the respondents ranked `3= indifferent' remarks, and twenty-four percent (24%) of the respondents gave ranked `4=higher' marks. This result indicates they have full trust in digital technology-based financing with no hesitations or they have persisted in other problems. Only fifteen percent (15%) of the respondents stated and gave ranked `2=lower'. This result indicates they have some hesitation or a few problems with trust in the technology of digital financing, and the last six percent (6%) of the respondents ranked `1=lowest' considering the point of `I Trust in the technology of digital financing'. This result indicates they have fear hesitation or another problem with trust in technology-based digital financing' on the point of maintaining the digital financial sector. (See Figure-4.47.RQ.29.4).

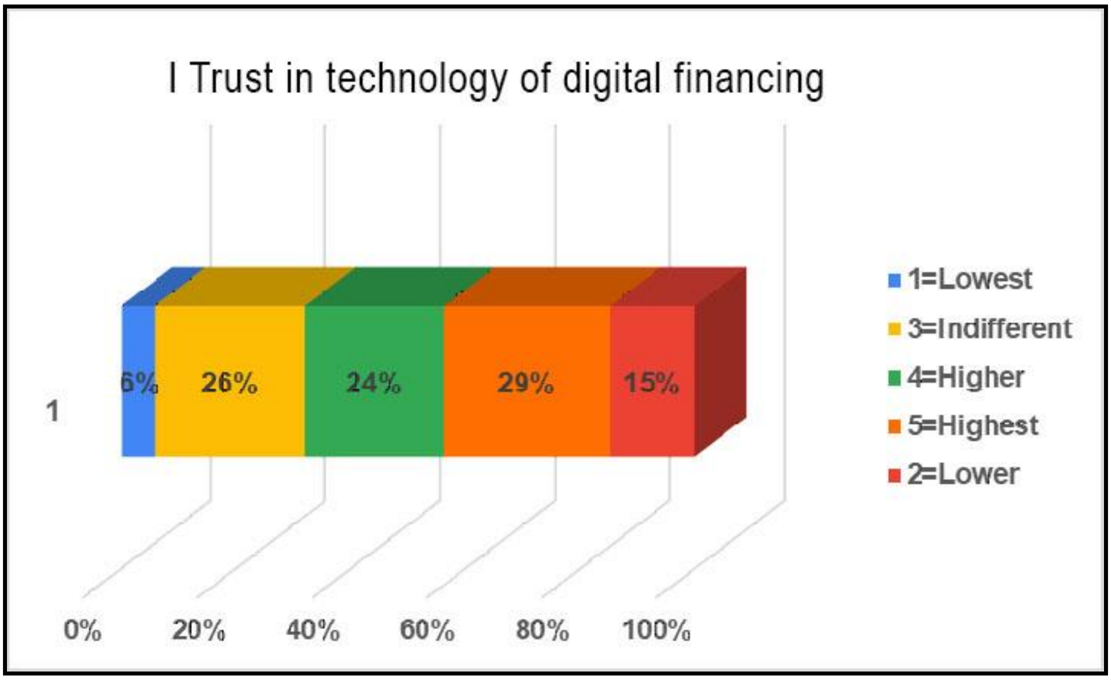


Figure- 4.47. RQ.29.4. Measurement of Trust in the Technology of Digital Financing

4.48. RQ.29.5. Measurement of Trust in Third-Parties' Agent

Measurement of trust level by maintaining digital financial sector in Bangladesh the results data figure (4.48.RQ.29.5.), clearly findings and points out that, majority thirty-three percent (33%) of the respondents ranked `3=indifferent', marks the point `I Trust in the third-party agent.

This finding indicates, that these digital financial sector customers or respondents have a few need-to-go third-party agents, they have full trust with no hesitations, on the point of maintaining the digital financial sector in Bangladesh. Twenty-two percent (22%) of the respondents ranked `2= lower', and twenty percent (20%) of the respondents gave poor ranked `1=lowest.

This finding indicates they have no need to go third-party agent, and they have full trust with no hesitations on the point of maintaining the digital financial sector in Bangladesh. Only thirteen percent (13%) of the respondents stated and gave ranked `5=highest'. This result indicates they have a few need-to-go third-party agents, and have a few hesitations or other problems on the point of maintaining the digital financial sector in Bangladesh. And the last twelve percent (12%) of the respondents stated and gave ranked `4=higher' marks.

This result also indicates, that these customers or respondents have a few need-to-go agents or they have some hesitation or a few problems on the point of maintaining the digital financial sector in Bangladesh. (See Figure-4.48.RQ.29.5).

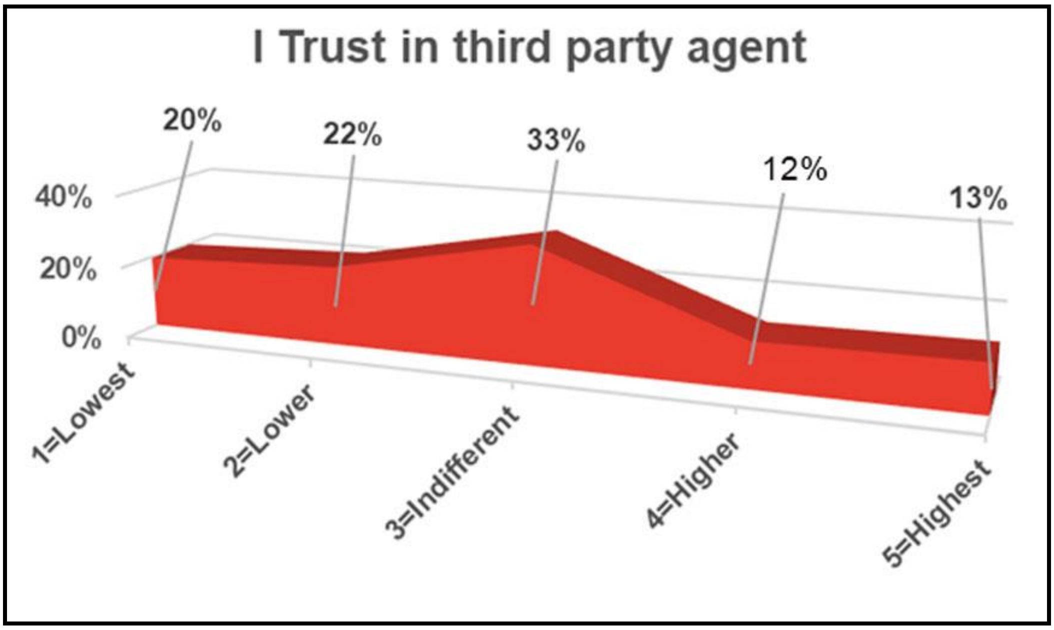


Figure- 4.48. RQ.29.5. Measurement of Trust in Third-Party Agent

4.49. RQ.29.6. Fear of Security from Hacking, Fraud, and Cybercrime

With the increasing use of programmatic technology sensible of financial territory, cyber security exists under threat. Every incidence of money laundering through digital scams is on the rise across the world. Such scams are also happening in developed sovereign states e.g. USA and UK. Is fear working among the general public to use the automated economic sector in Bangladesh? This investigation adopted this question to measure confidence in cyber security in the digital financial sector in Bangladesh.

The results data figure- (4.49.RQ.29.6.), clearly findings and points out that, the majority twenty- nine percentage (29%) of the respondents give ranked `3=indifferent' marks on the point of `fear of security from hacking, fraud, and cybercrime'. This finding indicates these digital financial sector customers or respondents have full trust with no fear of security from hacking or fraud. The data figure also showed twenty-three percent (23%) of the respondents ranked `5= highest' marks. This result indicates these customers or respondents do have not full trust in the digital financial sector. They have a fear of security from hacking or fraud, and only twenty-one percent (21%) of the respondents stated and ranked `2=lower' marks. This result also indicates these digital financial sector customers or respondents have a few fears about security from hacking, fraud, and cybercrime. Fifteen percent (15%) of the respondents stated and ranked `1=lowest' marks. This result indicates these respondent's customers have some fear and hesitation. And last twelve percent (12%) of the respondents stated and ranked `4=higher' marks on the point of `fears to security from hacking, fraud, cybercrime'. (See Figure-4.49.RQ.29.6).

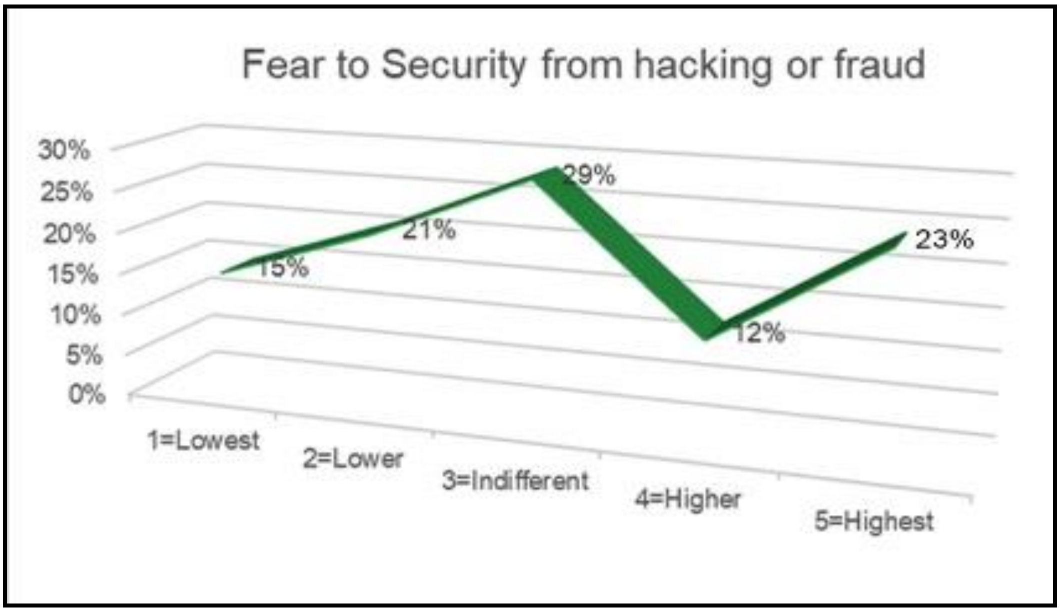


Figure- 4.49. RQ.29.6. Fear to Security from Hacking, Fraud, Cybercrime

4.50. RQ.29.7. Neither Trust nor Mistrust in the Digital Financial Sector

Measurement of trust level by maintaining digital financial sector in Bangladesh, on the point of `Neither trust nor mistrust on digital financial sector' the results data figure-(4.50.RQ.29.7.), presents the clear findings and points out that, majority forty-eight percent (48%) of the respondents give ranked `3=indifferent' marks and nineteen percentage (19%) of the respondents give ranked `1= lowest' marks. This result indicates that these digital financial sector customers or respondents have trust in the digital financial sector. Only fifteen percent (15%) of the respondents stated and ranked `5=highest' marks, followed by twelve percent (12%) of the respondents ranked `2=lower' marks and last six percent (6%) of the respondents give ranked `4=higher' marks. (See Figure-4.50.RQ.29.7).

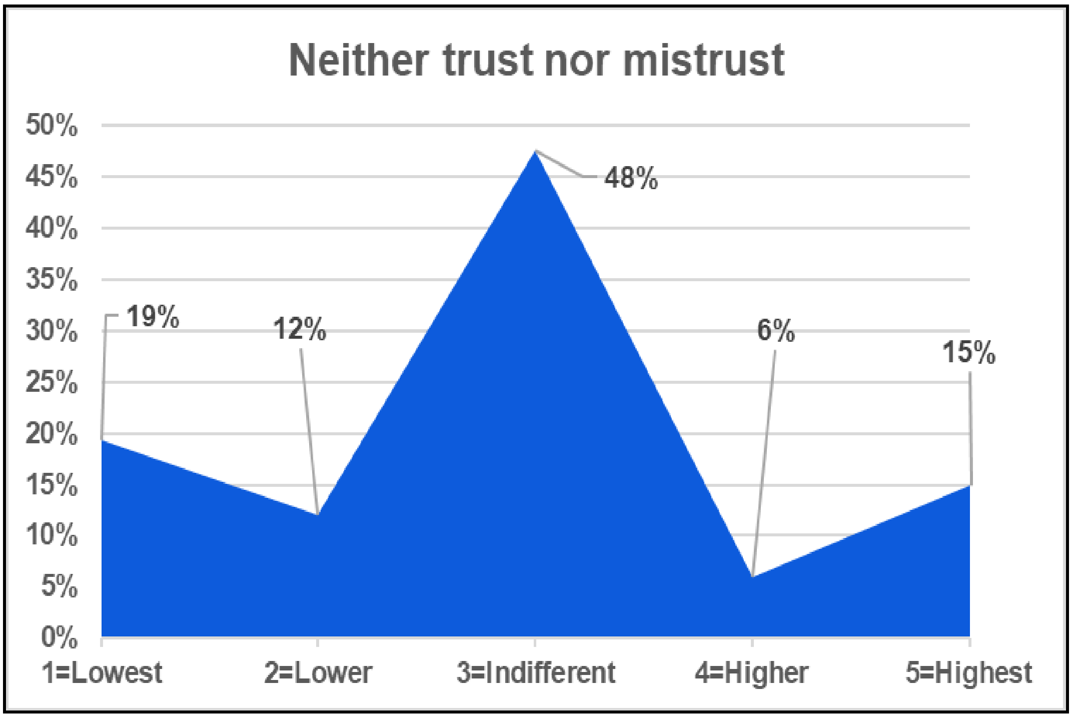


Figure- 4.50. RQ.29.7. Neither Trust nor Mistrust on Digital Financial Sector

This result also indicates these customers or respondents have ultimately higher trust in the digital financial sector.

4.51. RQ.30.1. Digital Financial Companies are Fully Trustworthy

Survey results data figure- (4.51.RQ.30.1.) presents, findings and points out that, the majority thirty-three percent (33%) of the respondents agreed, that digital financial companies are fully trustworthy in Bangladesh. Followed twenty-four percent (24%) of the respondents clearly stated `indifferent’. This result indicates, that these customers or respondents have no trust or persist in other problems. Twenty-one percent (21%) of the respondents clearly opined, `strongly agreed’, this result indicates, this respondent has full trust in the digital financial sector, and eighteen percent (18%) of the respondents clearly opined, `disagreed’. This result indicates, that this percentage of customers or respondents have no trust or persist in others' problems or hesitation, and the result showed, that the last four percent (4%) of customers or respondents opine-`strongly disagreed’. This result also indicates these customers or respondents have no trust in digital financial sectors. (See Figure-4.51.RQ.30.1.).

It would also be interpreted here, that respondents are satisfied with the digital financial sector, most frequently mentioning customer service. In this study survey findings indicate that the biggest consumers are normally joyful themselves in digital financial sector.

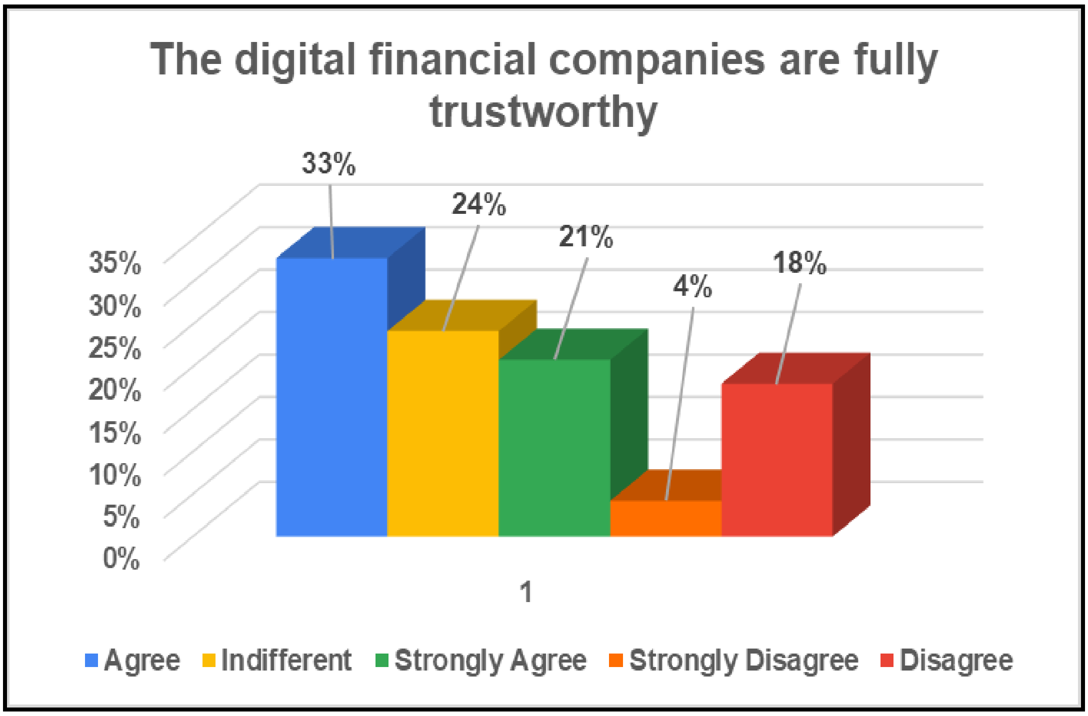


Figure- 4.51. RQ.30.1. Digital Financial Companies are Fully Trustworthy

4.52. RQ.30.2. Digital Financial Transactions is Fully Secured

From the governance point of view, respondents' opinion concerning the reliability of the digital economic sector in Bangladesh, the results data figure- (4.52.RQ.30.2.) clearly points out, majority thirty-two percent (32%) of the respondents agreed, that the digital financial transactions are fully secured in Bangladesh. Follow by twenty-seven percent (27%) of the respondents clearly stated `indifferent', and this indicates, that the second highest percentage of respondents have no trust in security, or they have persisted in other problems, hesitation on digital financial sector security in Bangladesh.

Another twenty percent (20%) of the respondents clearly stated `disagreed', this result indicates, that the third highest percentage of respondents have no trust in security or they have persisted with others' problems or hesitations. Seventeen percent (17%) of the respondents clearly opined `strongly agreed', this indicates, that they have full trust in the security of the digital financial sector. The data also showed, that four percent (4%) of respondents stated strongly disagreed', this indicates, that these respondents have no trust in the security of digital financial transactions. (See Figure- 4.52.RQ.30.2.).

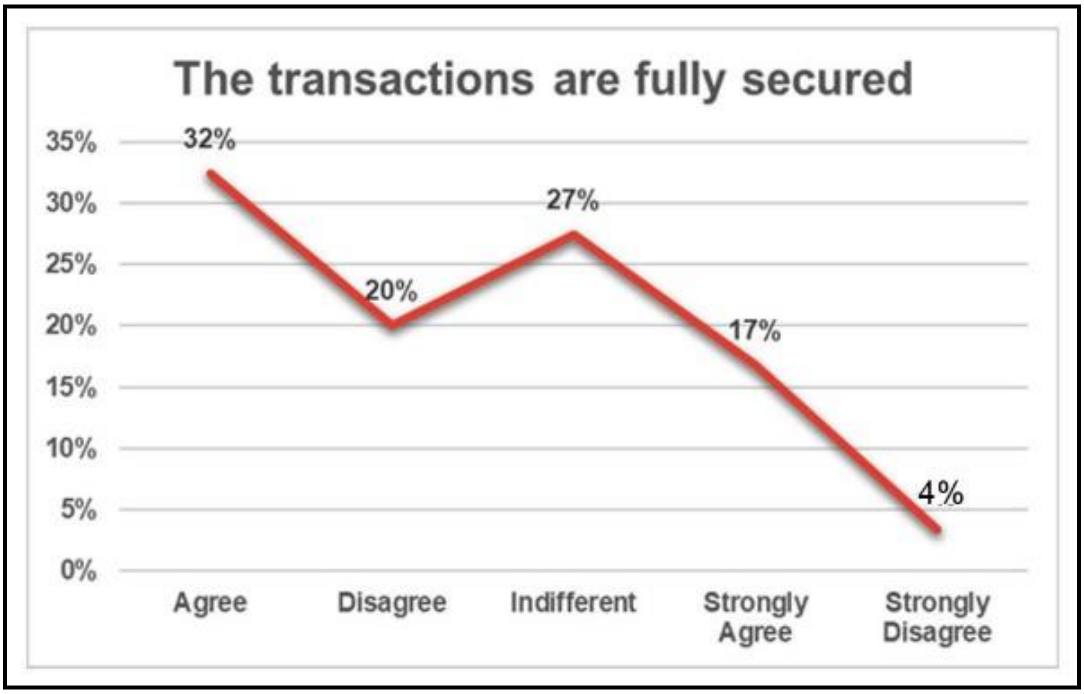


Figure- 4.52. RQ.30.2. Digital Financial Transaction is Fully Secured

4.53. RQ.30.3. Cyber Security Risk is Minimum

Length of time automated financial modification put forward remarkable advantage directed toward economic ecology, additionally expanding vulnerability a mixture of mechanical possibility, as well as device security threat. Respondent's opinion about the cyber security risk of the digital financial sector, the results data figure- (4.53.RQ.30.3.) presents, from a governance point of view, the majority thirty-two percent (32%) of the respondents agreed, the cyber security risk is minimum in the digital financial sector in Bangladesh.

So, digital financial transactions are fully secured in Bangladesh. Data also showed, that twenty-two percent (22%) of the respondents clearly stated, `indifferent', the second highest percentage of respondents have no trust in the statement `cyber security threat is minimal' or persist other problems. Only twenty-one percent (21%) of the respondents stated `strongly agreed'. It seems, they believe, digital financial transactions are fully secured in Bangladesh.

Twenty percent (20%) of the respondents stated `disagreed'. These respondents indicate, that they have no trust in the statement `cyber security threat is minimal' or persistent in other problems. And last five percent (5%) of respondents stated-`strongly disagreed'. This finding indicates these respondents have no trust in a statement that `cyber security threat is minimal'. (See Figure-4.53.RQ.30.3.).

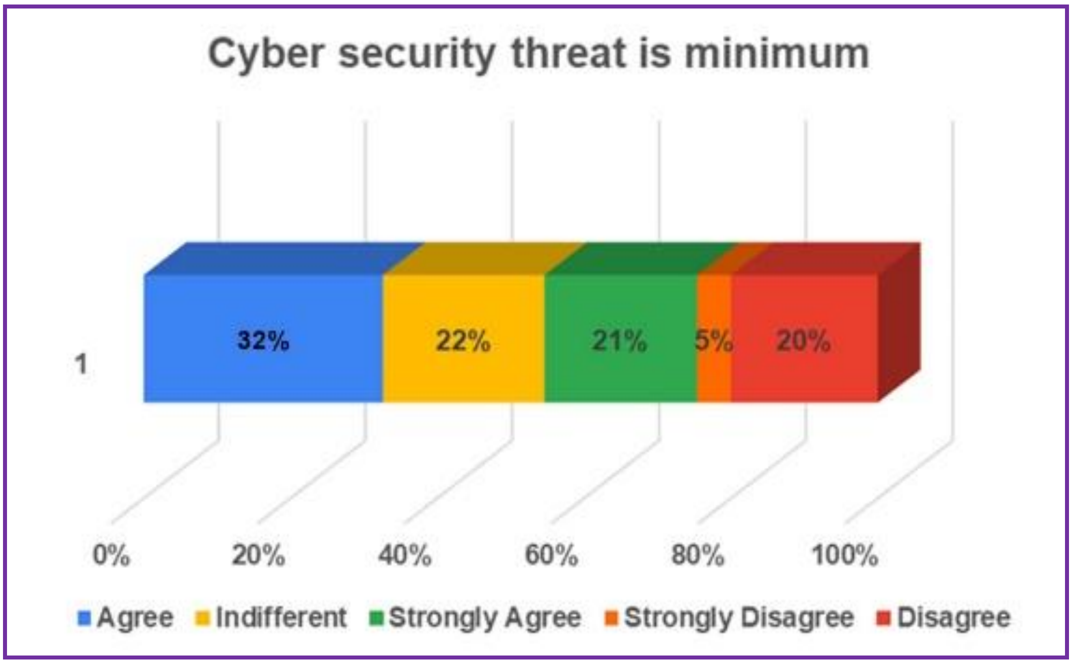


Figure- 4.53. RQ.30.3. Cyber Security Risk is Minimum

4.54. RQ.30.4. Digital Financial Sectors are Fully Accountable

Before entering the digital financial sector, both the customer and the agent agree on certain policies in some documents related to terms and conditions, agreements, service contracts, etc. Therefore, as per the service agreement document, the digital financial sector is fully responsible to the customer for providing its services smoothly to the customer. At this stage of the research survey question, this question has been raised to know the opinion of the respondent customer's viewpoint about digital governance practices sensible of financial territory.

The data figure (4.54.RQ.30.4.), clearly points out the opinion from the governance point of view about electronic direct democracy practices sensible of financial territory in Bangladesh. The majority thirty percentage (30%) of the respondents stated `indifferent'. This finding indicates, that these respondents have no trust in digital financial sector accountability, or persist in other problems in the digital financial sector. Follow by twenty-seven percent (27%) of the respondents clearly stated `disagreed', this finding indicates, that the second highest percentage of respondents have no trust in the digital financial sector, or they had persisted other problems, hesitation on digital financial sector accountability in Bangladesh.

Twenty-six percent (26%) of the respondents stated `agreed', these respondents confidently believe, the digital financial sector is fully accountable in Bangladesh. Ten percent (10%) of the respondents stated `agreed', this finding indicates, that these respondents have trust over the financial sectors. Only seven percent (7%) of the respondents stated `strongly disagreed'. This finding indicates these respondents have no trust in electronic direct democracy practices sensible of financial territory in Bangladesh. (See Figure- 4.54.RQ.30.4).

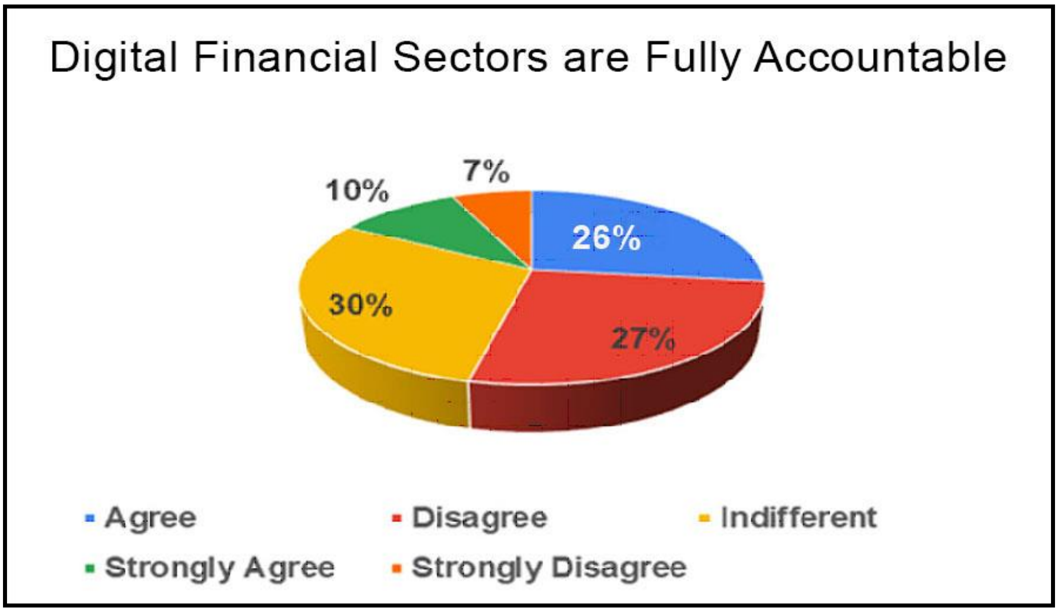


Figure- 4.54.RQ.30.4. Digital Financial Sectors are Fully Accountable

4.55. RQ.30.5. Digital Financial Sector is Fully Compliant

As per the Service Agreement, the Digital Financial Sector is fully responsible to the Customer for the smooth delivery of its services to the Customer. The results data figure-(4.55.RQ.30.5.) clearly points out the opinion from a governance point of view, that the digital financial sector is fully customer-compliant and responsive for its services and transactions. The majority thirty-seven percent (37%) of the respondents stated `indifferent'. This finding indicates these respondents do not agree with the point, or they have persisted in other problems in the digital financial sector. Instead of being compliant, these respondents believe, the digital financial sector is fully secured in Bangladesh.

Following the twenty-seven percent (27%) of the respondents clearly opine and stated `agreed', this finding indicates, that the financial sector offering digital financial services is fully compliant, these second highest percentage of respondents have no trust in a digital financial transaction or they had persisted others problem or hesitation on digital financial sectors in Bangladesh. Twenty-one percent (21%) of the respondents clearly stated `disagreed', these respondents believe, digital financial sectors have no compliance and are fully secured and trustworthy in Bangladesh. Only twelve percent (12%) of the respondents clearly stated `strongly agreed'. This finding indicates these respondents have less trust in the digital financial sector due to compliance factors. Only three percent (3%) of the respondents stated `strongly disagreed'. This finding indicates these respondents have full trust in the digital financial sector, they do not have persist other problems in the digital financial sector. (See Figure-4.55.RQ.30.5).

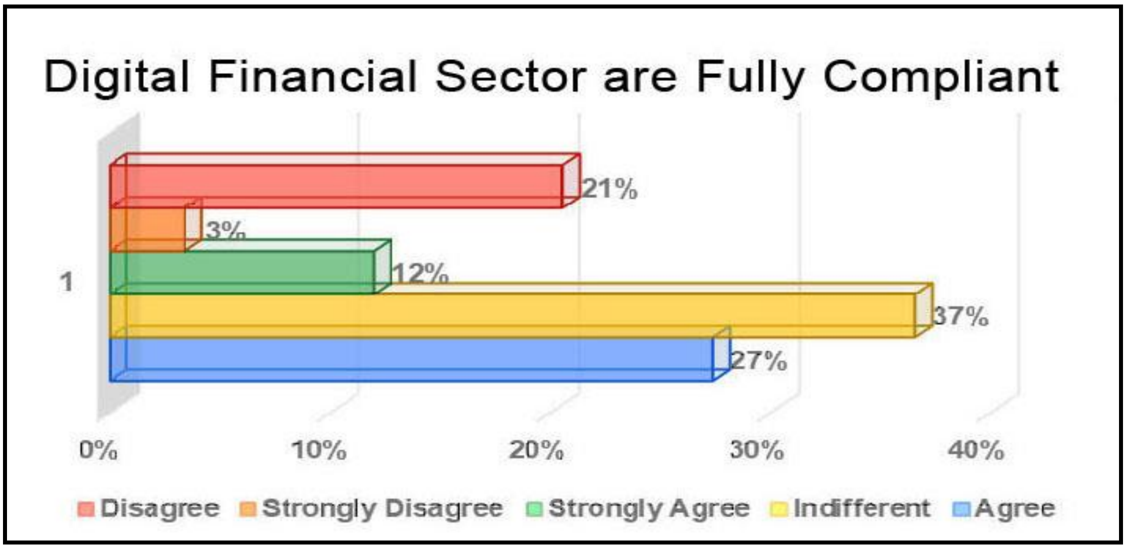


Figure- 4.55. RQ.30.5. Digital Financial Sector are Fully Compliant

4.56. RQ.30.6. Risk Factors of Digital Financial Sector Agent

The benefits concerning the digital area of finance in Bangladesh are many. But the digital financial sector also has some risks. Which we won't deny clinching in this study. It is often heard, that the digital economic sector of Bangladesh is a scene of theft, robbery, and extortion. Even the security guard of the ATM booth was hacked to death by miscreants. As a result, financial institution officials and businessmen are often apprehensive about security. This investigation strives to expose negative views of the respondents-customers towards agents. In a word, this study presents this question for opinions from the perspective of governance to know the sensitive issues that hinder the position of digital financial sector agents, create fear, and increase anxiety.

According to the survey results data Figure No. (4.56.RQ.30.6.), the risk factors for digital financial sector agents are theft, robbery, robbery, and assassination, etc. Most of the customers and respondents referred to the automated economic sector, said that they do not worry about these fears. The majority of respondents (38%) in this study said 'indifferent'. This finding indicates, that these respondents do not give any comments on this point, although this significant percentage of respondents have full trust in the digital financial sector, and seems to persist with no other problems. They seem to believe; that digital financial sector agent is fully secured in Bangladesh.

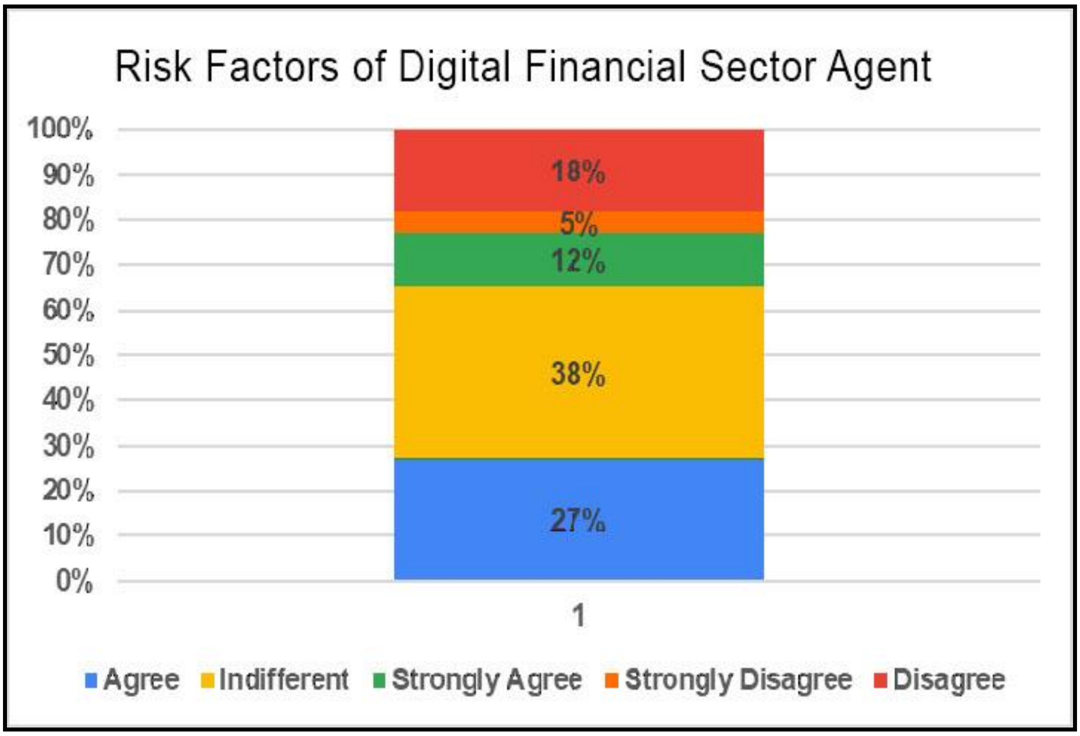


Figure- 4.56. RQ.30.6. Risk Factors of Digital Financial Sector Agent

Following the 2nd highest twenty-seven percent (27%) of the respondents stated `agreed'. This finding indicates, that the digital financial sector agent is untrustworthy of their services and it has risk factors remaining. It seems to us, that this section of respondents has fear on digital financial sector agents.

Only eighteen (18%) percent of respondents to this research survey disagreed with this question. This result indicates that perhaps these dissident respondents believe that they have no tension or doubts about the security of automated areas of finance in Bangladesh. There is no incident of violence, murder, or robbery in the digital financial sector in Bangladesh. They do not believe in these rumors. According to them, the security of the digital financial sector is very strong and reliable.

Twelve percent (12%) of the respondents stated `strongly agreed'. This finding indicates these respondents are untrustworthy and fear digital financial sector agents. Only five percent (5%) of the respondents stated `strongly disagreed', this result indicates, that these respondents offer full faith and trust in the digital financial sector agent, and they have no fear of hijacking, mugging, rubbering, assassination, etc. (See Figure- 4.56.RQ.30.6).

4.57. RQ.30.7. Lack of Digital Financial Literacy Among Users

The results data figure (4.57.RQ.30.7.), clearly points out that, financial literacy is lacking in the digital economic sector in Bangladesh. The indicated opinion of the respondents is highlighted amongst outlook governance practices of the digital economic sector. All results of the study show that the highest percentage (32%) of the respondents have never thought about it. They replied that they were 'indifferent' about it.

This finding indicates these respondents do not want to give any comments or they do not agree on the point. This significant percentage of respondents seems to not care about to need for digital financial literacy. The data figure also showed, that twenty-eight percent (28%) of the respondents stated `agreed', this second highest percentage of findings indicates, that these respondents agreed and acknowledged- the `Lack of digital financial literacy among users is very high in in Bangladesh.' Bangladesh has a lot to improve in this field. Eighteen percent (18%) of the respondents stated `strongly agreed', these respondents believe, knowledge management becomes pivotal for promoting electronic direct democracy in the economic sector.

Twelve percent (12%) concerning respondents stated `disagreed', this finding indicates, that these respondents have no knowledge about the significance of digital financial literacy among users. They have full trust in the digital financial sector and no fear and hesitation in the digital financial sector persist. Only ten percent (10%) of the respondents stated `strongly disagreed'. This finding indicates, that these respondents treated this point as false, although they have full trust in the digital financial sector and offer full faith in knowledge about digital financial literacy, on the other hand, this finding indicates, that this percentage of the respondents would believe, digital governance in the financial sector has positive impact in mass people's lives and digital financial literacy rate is sufficient in Bangladesh. (See Figure- 4.57.RQ.30.7).

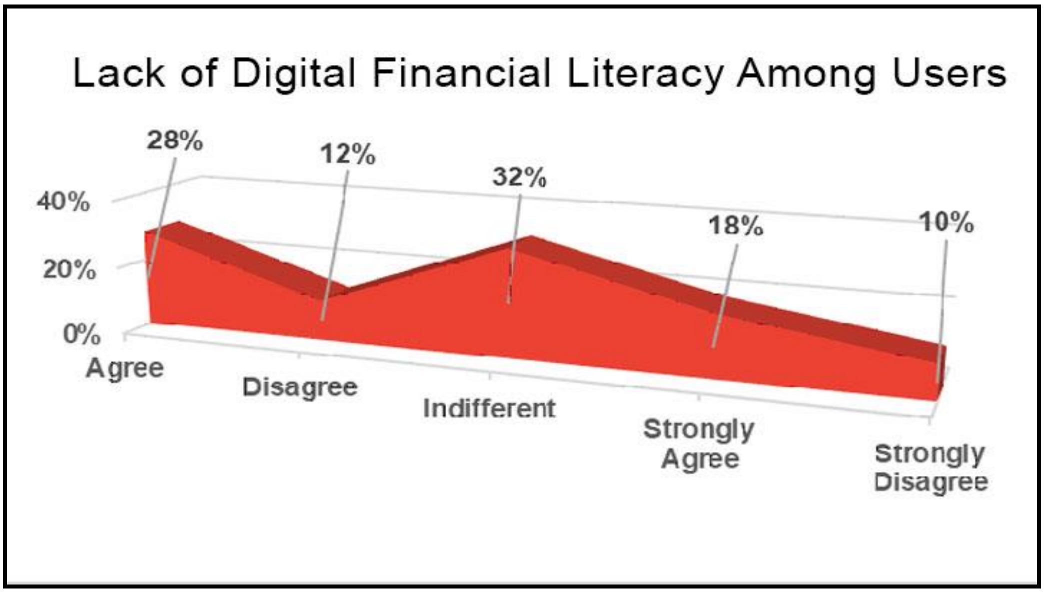


Figure- 4.57. RQ.30.7. Lack of Digital Financial Literacy among Users

4.58. RQ.30.8. Real-Time Monitoring by the Digital Financial Sector Regulator

From the governance point of view, respondents' opinions on `Continuous and close monitoring by the digital financial sector regulator' are very high in the digital financial sector in Bangladesh. The findings data figure- (4.58.RQ.30.8.) clearly points out, the majority thirty-four percent (34%) of the respondents stated `agreed'. This significant percentage of respondents have full trust in the digital financial sector.

This finding indicates, that these respondents have no hesitation, and seem to persist no other problems. It is indicating, there is continuous and close monitoring by the regulator is very high in the digital financial sector in Bangladesh. These respondents strongly confess digital financial sector is securely running and regulated in Bangladesh. The data figure also showed, that twenty-nine percentage (29%) of the respondents clearly stated `indifferent'. The second highest percentage of the respondents indicates they had persisted in other problems or hesitation on digital financial sector regulators in Bangladesh.

According to the data figure, fifteen percent (15%) of the respondents clearly stated `strongly agreed', these respondents believe, the digital financial sector is properly regulated in Bangladesh due to 24/7, continuous and close monitoring by the regulator. Fourteen percent (14%) of the respondents stated, `disagreed'. This percentage of respondents indicates this is a false statement they perceive the regulator as less favorable. Only eight percent (8%) of the respondents clearly opined `strongly disagreed'. (See Figure-4.58.RQ.30.8).

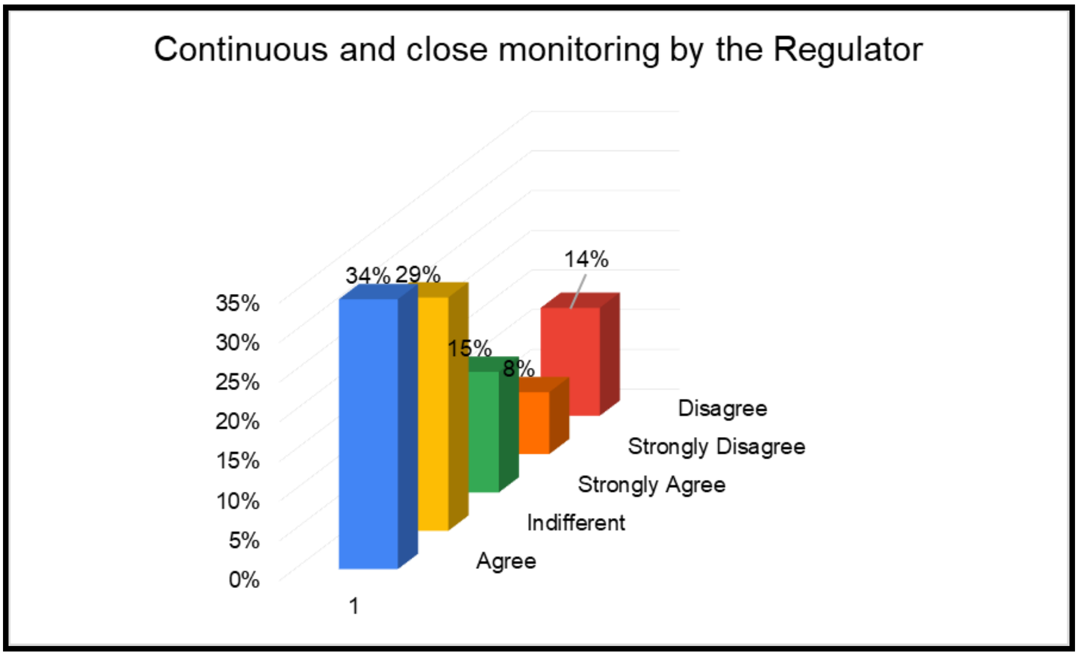


Figure- 4.58. RQ.30.8. Real-Time Monitoring by the Digital Financial Sector Regulator

According to this finding, a significant number of respondents give negative feedback and indicate this is a totally false statement, they do have not full trust in the regulator of the digital financial sector or even seek other options. They believe, there is no continuous and close monitoring by the regulator in the digital financial sector in Bangladesh.

4.59. RQ.30.9. Digital Financial Sector Will be Solely Liable for Financial Crime

Before entering the digital financial sector, both the customer and the agent agree on certain policies in some documents related to terms and conditions, agreements, service contracts, etc. The digital financial sector shall be fully responsible to the customer for preventing, indemnifying, etc., and any financial fraud by third parties as per this service agreement document.

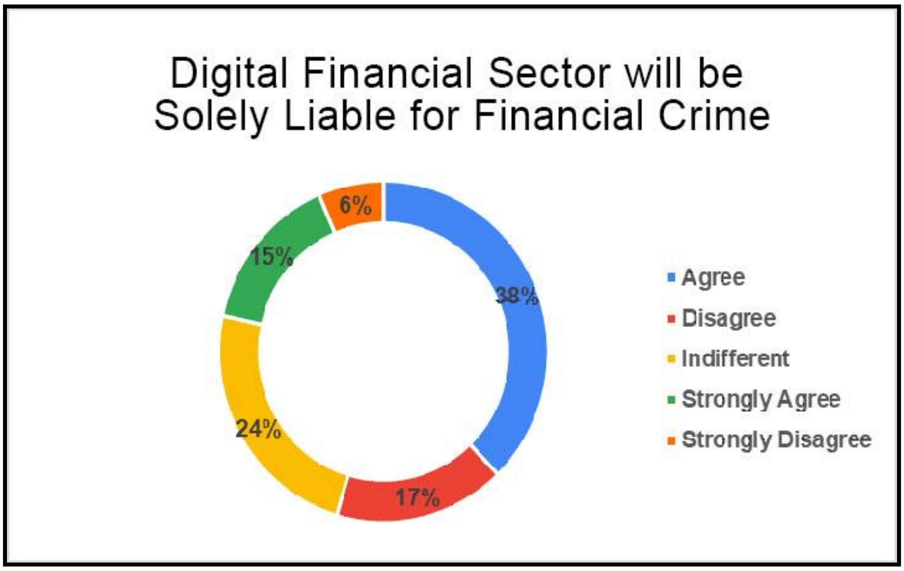


Figure- 4.59. RQ.30.9. Digital Financial Sector will be Solely Liable for Crime

At this stage of the research survey question, this question has been raised to know the opinion of the respondent customers amidst governance viewpoint about digital governance practices apprised of financial area. Respondent's views on the 'Digital Financial Sector' shall be fully responsible for any financial crime, fraud, or forgery committed by third parties. According to the result data Figure No.— (4.59.RQ.30.9.), it was discoverable that the lion's share of the informant (38%) in the financial sector said they agreed or 'agreed' with this statement. This finding indicates these respondents have no hesitation or tension in digital financial sectors. This significant percentage of respondents have full trust in digital financial sector liabilities. It seems they believe; the digital financial sector is fully secured in Bangladesh. According to the above figure findings, twenty-four percent (24%) of the respondents stated, `indifferent’. The second highest percentage of respondents had persisted with other problems or hesitations. Follow by seventeen percent (17%) of the respondents stated `strongly disagreed’. These strongly disagreed respondents could strongly believe, that the digital financial sector is fully secured in Bangladesh, in spite of any sort of financial crime, fraud, or forgery committed by third parties the digital financial companies will not be solely liable, or even they seek other options. According to the above figure, fifteen percent (15%) of the respondents `strongly agreed'. This finding indicates these respondents have a fear of some trust or hesitation in the digital financial sector. Only six percent (6%) of the respondents stated `disagreed'. (See Figure 4.59.RQ.30.9.).

4.60. RQ.30.10. Digital Financial Sector Providers are Highly Professional

Respondents' opinion on the statement `Digital financial sector providers are highly professional'. According to the survey data figure- (4.60.RQ.30.10.) showed the highest thirty-three percent (33%) of the respondents stated `agreed'. This finding indicates a significant percentage of respondents have no hesitation or tension about digital financial sector services. Rather they completely agreed digital financial sector providers are highly professional they have full trust in the digital financial sector and they believe, digital financial transactions are fully secured in Bangladesh.

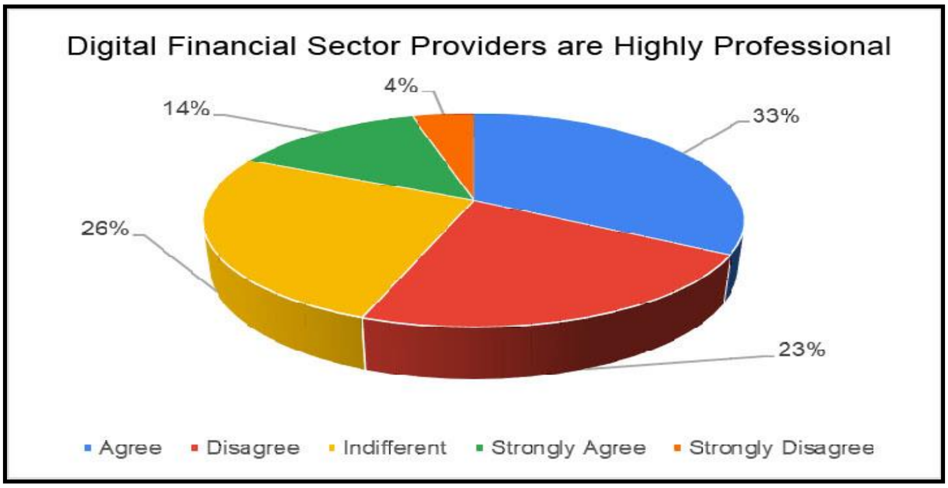


Figure-4.60. RQ.30.10. Digital Financial Sector Providers are Highly Professional

The data figure- (4.60.RQ.30.10.), also showed, that twenty-six percent (26%) of the respondents stated `indifferent'. This second-highest percentage of respondents indicates they had persisted with other problems or hesitation or even sought other options. Twenty-three percent (23%) of the respondents clearly stated `disagreed'. These disagreed respondents could psychologically believe that digital financial sector providers are not highly professional, and they believe the digital financial sector is not fully secure, and trustworthy in Bangladesh. This finding indicates these respondents have encountered difficulties while using the digital financial sector. Fourteen percent (14%) of the respondents stated `strongly agreed'. This finding indicates they had not any hesitation regarding the digital financial sector, or they have full trust in the digital financial sector in Bangladesh. Only four percent (4%) of the respondents opine `strongly disagreed'. This finding indicates these respondents negatively treated the statement- `digital financial sector is not highly professional', or they had persisted other problems in the digital financial sector in Bangladesh. (See Figure- 4.60.RQ.30.10.).

4.61. RQ.30.11: Construct and Description of Digital Financial Sector Providers

S. No.	Construct	Description
1	Availability of digital financial services	Latest digital equipment and physical facilities-full automation, Core financial solution, ATM, POST, Online financing, Agent banking, Digital financial Services, SMS Notifications, Credit Card, Electronic Fund Transfer (EFTN), Online Bill Payment, Call Center, etc.
2	Digital requirement	Scope of digital financial sector services, availability of online networks, digitization of overall financial sector information, and diversification of financial sector services.
3	Authenticity	Providing authentic automated financial sector services through the distribution channels of the on-screen economic sector.
4	Efficacy	The digital financial sector has the advantage of faster transactions, faster clearing, deposits, information searches, money transfers, and feedback in less time.
5	Security	In the digital financial sector, trust, privacy, credibility, truthfulness, and greater security (guarantee from fear of money loss, fraud; theft of PINs and passwords; hacking, etc.) create complete customer confidence.
6	Responsive	The digital financial sector offers quick solutions to reactive issues such as employee courtesy, PINs, passwords, and financial compensation.
7	Easy Operations	In the digital financial sector, online delivery channels such as ATMs, digital financial services, mobile banking, credit cards, debit cards etc. are easily possible.
8	Advantage	The digital financial sector offers customized services, financial services from any place at any time, and appropriate language support.
9	Efficiency	Digital financial sector service fees, digital remittance commissions, interest rates, clearing charges, bill collection, transaction charges, and processing service fees should be low.
10	Resolve	Digital financial sector refers to the process of solving service problems in the financial sector.
11	Settlement of Grievances	Digital financial sectors problems, difficulties, and loss recovery of using delivery channels in the financial sector.
12	Contact and help desk support	In the digital financial sector, it is possible to maintain communication with the customers of the financial sector through digital mail, SMS, interactive websites, digital devices, call centers, etc.
13	Perception	Consumers' overall perception of the digital financial sector regarding the commitment made to services.
14	Perceive	The digital financial sector aggregates and informs the quality of service and cost of money issues of the digital financial sector.

4.62. RQ.30.12. Overall Satisfaction on Digital Governance in The Financial Sector in Bangladesh

A comparative satisfaction level of customers w.r.t.[23] different categories of financial sector are given in the following figure.

Figure-4.30.11. summarizes the respondent customers' satisfaction regarding digital financial sector in Bangladesh, with respect to different construct (ex. availability, accuracy, security, etc.). Satisfaction is calculated by the following formula for each construct.

$$Overall\ Satisfaction\ (\%) = \frac{\sum_{i=1}^{n} S_i}{n \times HS} \times 100$$

Here, $\sum_{i=1}^{n} S_i$ is sum totals outcome of n respondents as long as each and every examination /construct through understand the overall satisfaction level. *HS* is the highest score assigned for each question. Actually, we have calculated the overall satisfaction level of digital financial sector respondent customers for each question as a percentage of maximum satisfaction a customer expects from a digital financial sector.

4.63. RQ.30.13: Mean and Satisfaction score for Digital Financial Sector in Bangladesh

S. No.	Construct	Mean	Satisfaction (%)
1.	Availability of digital financial Services	3.77	75
2.	Digital requirement	3.41	68
3.	Efficiency	3.69	74
4.	Accuracy	3.98	80
5.	Security	3.05	61
6.	Responsiveness	3.46	69
7.	Easy operations	3.42	68
8.	Convenience	3.34	67
9.	Cost effectiveness	3.67	73
10.	Problem handling	2.81	56
11.	Settlement of grievances	2.62	52
12.	Contact and help desk support	2.77	55
13.	Brand perception	3.14	63
14.	Perceived value	3.43	69
15.	Overall customer satisfaction	3.05	61
16.	Continue with digital financial Services	3.45	69
17.	Recommend this financial sector to others	2.78	56

Source: Researchers' Calculation

[23] w.r.t. (also w.r.t.). An abbreviation of writing, especially emails, text messages, etc.

From the above data table figure highest respondent's customer satisfaction is seen in the case of digital financial sector service which implies that digital financial sectors employ to reduce operational errors. The lowest satisfaction is found in the case of handling grievances. Customers are not getting the right and quick solution when they complain about any dispute. Moreover, overall customer satisfaction sixty-one percent (61%) implies that, though digital financial sectors adopted in Bangladesh very widely and rapidly, there are enough scopes to develop good customer relationships by satisfying them more. However, with this level of overall satisfaction the customers would like to continue their relationship with the digital financial sector for the time being but they don't like to recommend other customers to make a relationship with the respective digital financial sector. (See Table 4.63. RQ.30.13). This might lead the customer to search for a better digital financial sector company in the long run putting questions regarding customer relations with the digital financial sector.

4.64. R.Q.31.1. Next Generations Cashless Finance

The latest buzzword is ongoing in Bangladesh, that the digital financial sectors are based on a `cashless society' crypto-currency, credit cards, debit cards, digital wallets, etc., and are replacing traditional financial transaction methods e.g. paper cash or metal coins. `Within the next ten years or forthcoming day, cash-less finance would be the digital financial service for the next generation.' In this research question, we are trying to sketch from the digital technological reality, a digital visionary point of view, and we aim to test our thinking again about the future trends of the digital financial sector in Bangladesh. The data figure- (4.64. R.Q.31.1) found, that the majority of forty-three percent (43%) of the respondents pointed out their views, and opinions and stated, `agreed'.

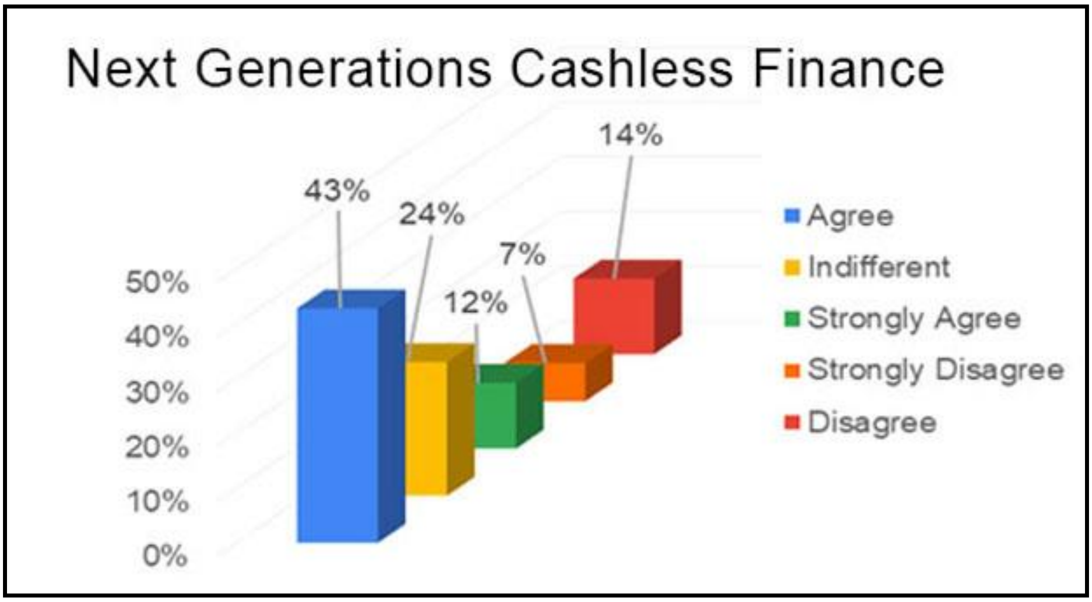


Figure-4.64. RQ.31.1. Next Generations Cashless Finance

This finding indicates a significant percentage of respondents have a future vision of digital trendy development. Following this finding, 2nd highest, twenty-four percent (24%) of the respondents stated `indifferent'. This finding indicates the second highest percentage of respondents had persisted in other problems, or even sought other options. Fourteen percent (14%) of the respondents clearly opined `disagreed'.

This finding indicates that these respondents could psychologically hesitate regarding future trends in the digital financial sector in Bangladesh. Twelve percent (12%) of the respondents clearly stated `strongly agreed'. It seems they had no hesitation regarding the futuristic digital belief that a cashless economy would be the next generation's popular trend in the digital financial sector in Bangladesh. Only seven percent (7%) of the respondent's futuristic views, `strongly disagreed'. (See Figure-4.64. R.Q.31.1). This finding indicates they had persisted in other problems e.g. trust, governance, or psychological hesitation regarding future trends of the digital financial sector in Bangladesh.

4.65. R.Q.31.2. Next Generations Less-Cash Finance

Respondent's opinion on the point of `within next ten years or forthcoming days less- cash finance would be the next generations digital financial sector, e.g. future trends of the digital financial sector in Bangladesh. The data figure (4.65.R.Q.31.2) found majority forty-four percent (44%) of the respondents stated `agreed'. This finding indicates, that a significant percentage of respondents have full trust in the digital financial sector and they have a future vision for digital trendy development.

According to this data figure showed, that twenty-six percent (26%) of the respondents stated `indifferent'. This finding indicates the second highest percentage of respondents had persisted in other problems, even if they sought other options. Fourteen percent (14%) of the respondents opine `strongly agreed'. This finding indicates these strongly agreed respondents had no other hesitation regarding the futuristic belief of less-cash finance. Only ten percent (10%) of the respondents clearly stated `disagreed', This finding indicates, that these respondents could psychologically hesitate regarding future trends of the digital financial sector in Bangladesh. Only six percent (6%) of the respondent's futuristic views and opine- `strongly disagreed'. (See Figure-4.65. R.Q.31.2).

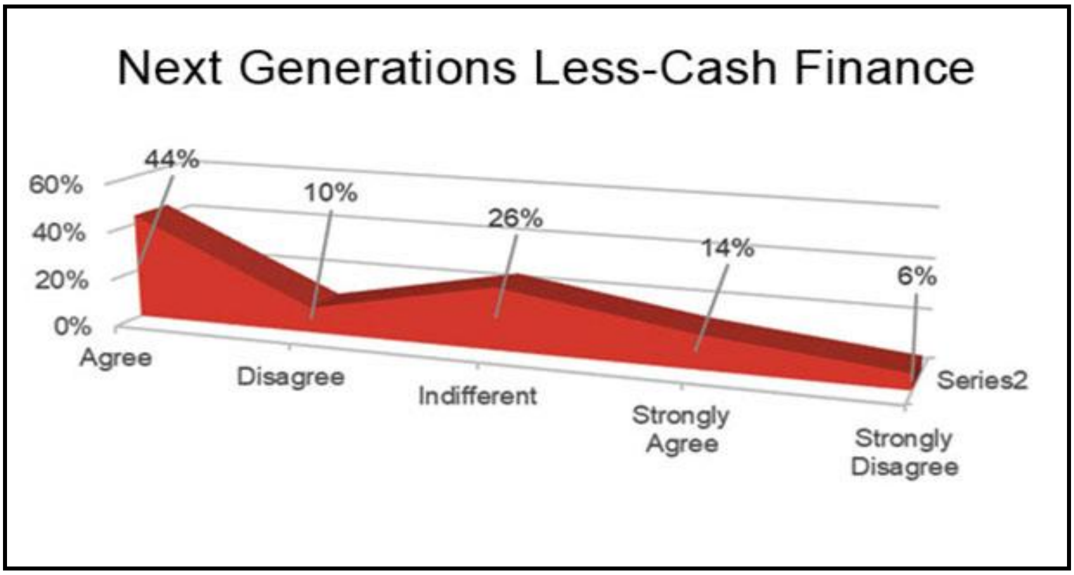


Figure- 4.65.RQ.31.2. Next Generations Less-Cash Finance

This finding indicates, that these respondents have negatively treated these futuristic views or these respondents encountered difficulties or psychological hesitation and they persisted in other problems e.g. trust, and governance regarding future trends of the cashless monetary sector in Bangladesh. on the contrary, many political governments claim that cash is a danger when it falls into the hands of the wrong people. Corruption, bribery, terrorist activities, counterfeiting, and other illegal activities are all funded by cash. This is accurate logic.

4.66. R.Q.31.3. Use of Future Digital Finance in Bangladesh

According to data figure (4.66. R.Q.31.3), findings, and opinions about digital trends, are on the point of ‘use of future digital finance in Bangladesh’. The majority forty-four percent (44%) of the respondents stated `agreed’. This finding indicates a significant percentage of respondents have full trust in future digital financial development. These respondents had a future vision of trendy digital development.

The data figure showed 2nd highest twenty-nine percent (29%) of the respondents stated `indifferent’. This finding indicates the second highest percentage of respondents had persistent other problems or hesitation. Sixteen percent (16%) of the respondents opine `strongly agreed’. This finding indicates these strongly agreed respondents had no hesitation regarding the futuristic belief of the use of digital finance. Only seven percent (7%) of the respondents stated `disagreed’. This finding indicates, that these respondents could psychologically hesitate regarding future trends of the digital financial sector in Bangladesh. Only four percent (4%) of the respondents stated `strongly disagreed’. This finding indicates that these respondents would have negatively treated the statement `Use of future digital finance in Bangladesh’. It seems they had persisted other problems e.g. trust in digital governance, or psychological hesitation regarding future trends of digital finance in Bangladesh. (See Figure- 4.66. R.Q.31.3).

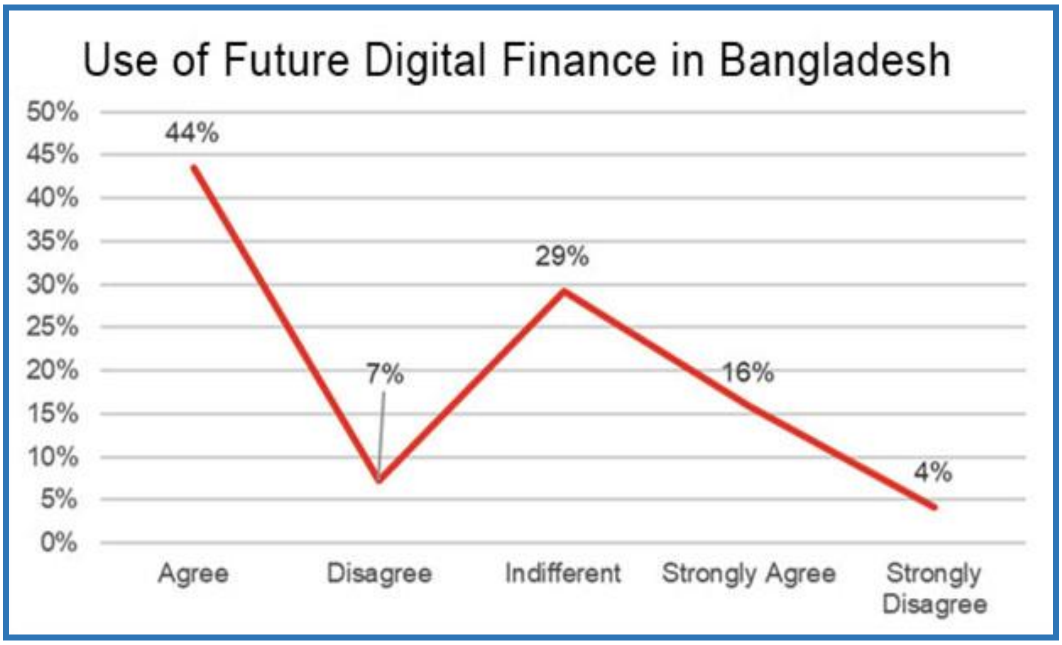


Figure- 4.66. RQ.31.3. Use of Future Digital Finance in Bangladesh

This finding in sum, could be stated, that digital finance is not physically tangible like paper taka and metal coins or bills, etc., it is accounted for and transferred using digital online systems. In Bangladesh, finance is increasingly digital and the Bangladesh Bank is recently considering about issuing digital finance.

4.67. RQ.31.4. Future Digital Crypto-Currency in Bangladesh

Cryptocurrency is basically a virtual digital currency. Such currency of the online virtual world cannot be held or touched. It is a fully decentralized digital currency designed as a payment alternative. The number of such currencies traded through the Internet is now more than eight thousand. But the most popular among them is Bitcoin. Now is the time for Digital Bangladesh to truly test the potential of cryptocurrency.

The survey data figure- (4.67.RQ.31.4) presents, the majority twenty-eight percent (28%) of the respondents stated `agreed'. This result indicates a significant percentage of respondents have a future vision of trendy digital development. As previous highest findings, data figure showed, equilibrium value, twenty-eight percent (28%) of the respondents stated `indifferent'. This finding indicates a significant percentage of respondents had persisted with other problems or hesitation. Nineteen percent (19%) of the respondents clearly opined `disagreed'. This finding indicates these respondents could psychologically hesitate regarding the use of crypto-currency.

Fourteen percent (14%) of the respondents stated `strongly agreed'. This finding indicates they had no hesitation regarding the futuristic belief in to use of crypto currency. Only eleven percent (11%) of the respondents clearly opined `strongly disagreed'. This finding indicates, that these respondents negatively treated this statement about the use of crypto-currency. (See Figure-4.67. RQ.31.4).

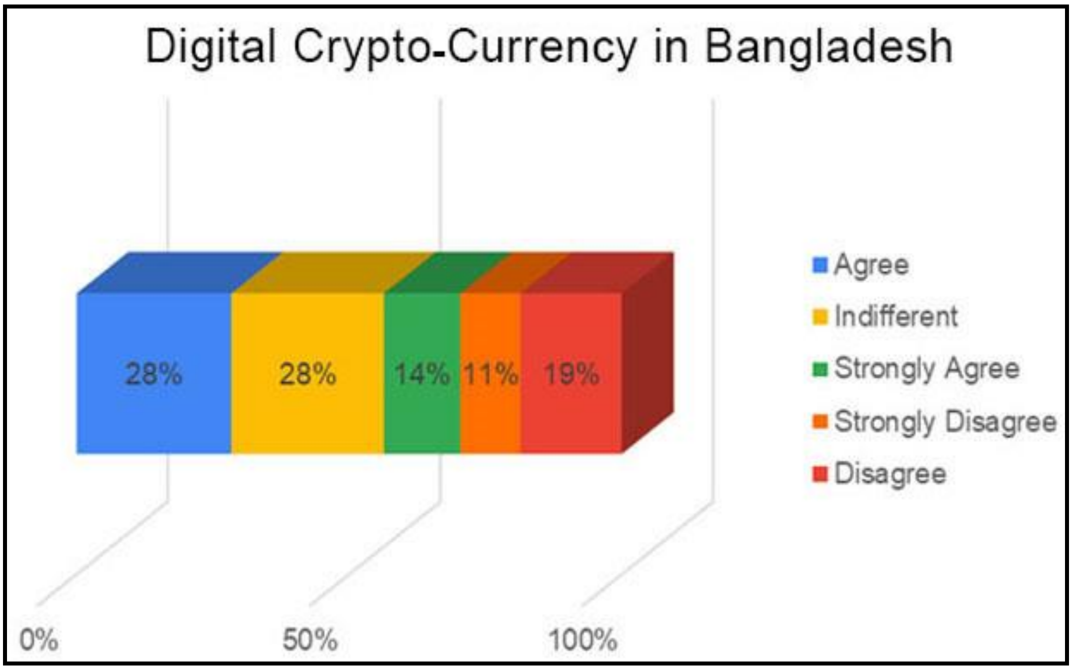


Figure- 4.67. RQ.31.4. Future Digital Crypto-Currency in Bangladesh

It seems to us, that these respondents had persisted in other problems e.g. trust, governance, or psychological hesitation regarding future trends e.g. cryptocurrency would be the digital financial sector in Bangladesh. In sum of findings, there are some signs in Bangladesh, that the government may be keen to expand digital financing and look into digital crypto-currency launch. The government warming up to the idea of regulating crypto-currencies and already planned to conduct a feasibility study in a bid to introduce Central Bank Digital Currency (CBDC) to facilitate crypto-currency in virtual transactions in encouraging startups and forthcoming digital virtual financial businesses. From the researcher's view, it could be strongly stated, that Bangladeshi digital cryptocurrency could be coming soon.

4.68. RQ.32.1. Respondents Views on Digital Financial Sector Regulation

Like another sovereign state in the globe, Bangladesh possesses complicated regulations regarding governing every digital economic industry. All digital economic sector in Bangladesh is governed along a set of rules to provide convenience and security to the common people in the automated economic sector.

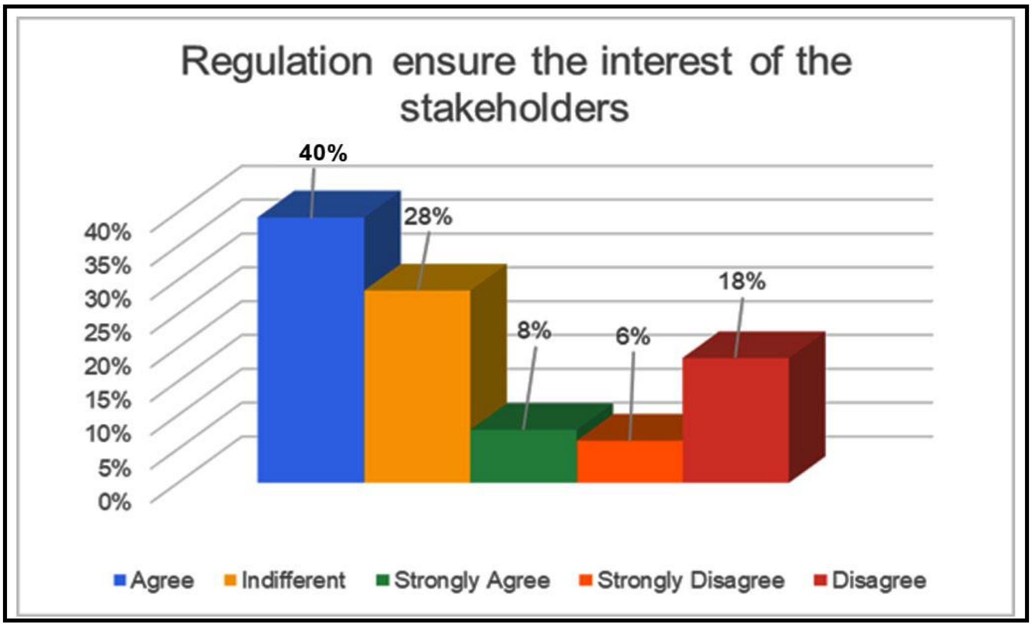


Figure- 4.68. RQ.32.1. Respondents Views on Digital Financial Sector Regulation

According to those regulations, automated economic services can be accessed very easily through any mobile phone or agent shop for a short duration. Through all discussion survey questions, every digital financial sector user and respondent is asked how much they know and how much they are aware of the Digital Mobile Financial Regulation 2022 (See Appendix- VI)., in Bangladesh. How adequate and equitable are the provisions of digital financial transactions in Bangladesh for purchasing economic goods and services? Perspective of governance in this study, the respondents opined that—according to the survey data figure- (4.68.RQ.32.1.), revealed that, majority of forty percentage (40%) of the respondents stated `agreed'. This finding indicates, that these respondents know the mobile financial service regulation 2022, and this significant percentage of respondents have full trust in digital financial regulation 2022.

According to the figure showed, twenty-eight percent (28%) of the respondents stated `indifferent'. This finding indicates a significant percentage of respondents had no knowledge about MFS regulation 2022. Eighteen percent (18%) of the respondents opine `disagreed'. It seems this significant percentage of respondent's lack knowledge of mobile financial service regulation 2022 and they stated, that mobile financial service regulation is not adequate enough. Eight percent (8%) of the respondents confessed `strongly agreed'. This finding indicates these respondents had no hesitation regarding mobile financial service regulation 2022. Only six percent (6%) of the respondents stated `strongly disagreed'. It indicates this percentage of respondents had persistent other problems e.g. trust, governance, or psychological hesitation regarding mobile financial service regulation 2022. (See Figure-4.68.RQ.32.1).

4.69. RQ.32.2. Regulations Provide Adequate Safety Measure for Digital Financial Transactions

Through this survey question, it's sought to know from respondents, how much safety and security measure the regulation provided? The finding data figure- (4.69.RQ.32.2), presents the respondents opine on digital financial sector regulation. The majority thirty-nine percent (39%) of the respondents clearly stated `agreed'.

This finding indicates, that the highest percentage of respondents opine, that regulation provides an adequate safety measure for their financial transactions, and they have full trust in regulation. The survey data figure revealed, that thirty percent (30%) of the respondents opine `indifferent'. This finding indicates, that a significant percentage of respondents had a lack of knowledge on regulation or they have persisted hesitation on regulation providing an adequate safety measure for financial transactions.

Only fourteen percent (14%) of the respondents opine `disagreed'. This finding indicates digital financial sector regulation does not provide an adequate safety measure. Ten percent (10%) of the respondents clearly stated `strongly agreed'. This finding indicates, that these respondents confidently confess, that regulation provides an adequate safety measure for digital financial transactions. Only seven percent (7%) of the respondents stated `strongly disagreed'. This finding indicates, that these respondents have encountered difficulties or had persistent other problems with trust, governance, lack of knowledge regarding regulation, etc. (See Figure-4.69.RQ.32.2).

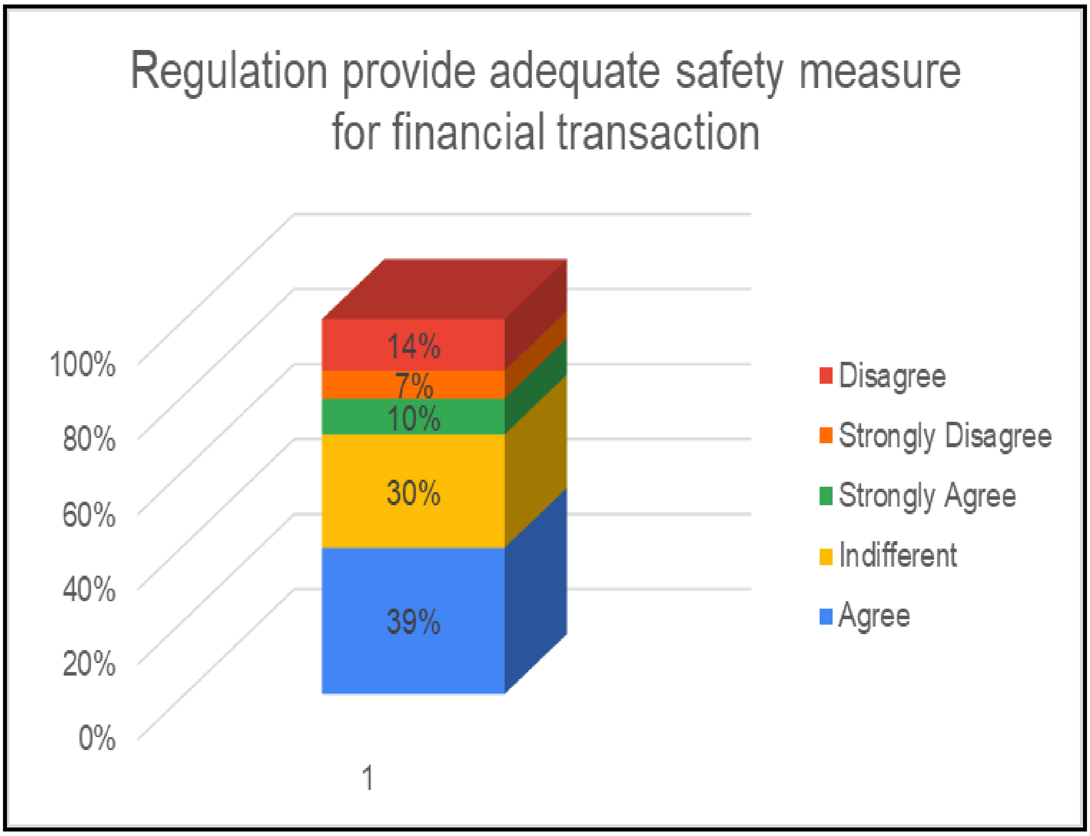


Figure- 4.69. RQ.32.2. Regulation Provide Adequate Safety Measure

4.70. RQ.32.3. Regulation Support Minimize the Operational Risk

According to the study question, `Does digital financial sector regulation 2022 in Bangladesh, support minimizing the operational risk and providing an adequate safety measure for financial transactions? This study question, sought to know from respondents, from the governance point of view, how much support minimize the operational risk by mobile financial service regulation 2022 provides? The finding in data figure-(4.70.RQ.32.3) presents, that the majority forty-one percent (41%) of the respondents clearly stated `agreed'. This respondent confesses Mobile Financial Service Regulation 2022 provides support to minimize the operational risk for financial transactions in Bangladesh. This finding indicates a significant percentage of respondents have full trust in the digital financial sector regulation in Bangladesh.

The figure also showed twenty-seven percent (27%) of the respondents opine, `indifferent'. This finding indicates a significant percentage of respondents had a persistent lack of knowledge about providing support to minimize the operational risk for digital financial transactions in Bangladesh. Seventeen percent (17%) of the respondents opine `disagreed'. This significant percentage of respondents have no trust in digital financial sector regulation. It seems, that these respondents negatively opine, that the regulation does not provide support to minimize the operational risk for digital financial transactions in Bangladesh. Only nine percent (9%) of the respondents stated `strongly agreed'. They strongly confess regulation provides support to minimize the operational risk for digital financial transactions. This result indicates these respondents had no hesitation regarding the MFS regulation 2022 of Bangladesh. Only six percent (6%) of the respondents clearly opined `strongly disagreed'. It seems these respondents have encountered difficulties or they had persisted in other problems e.g. trust, governance, or psychological hesitation regarding MFS regulation 2022. (See Figure 4.70.RQ.32.3).

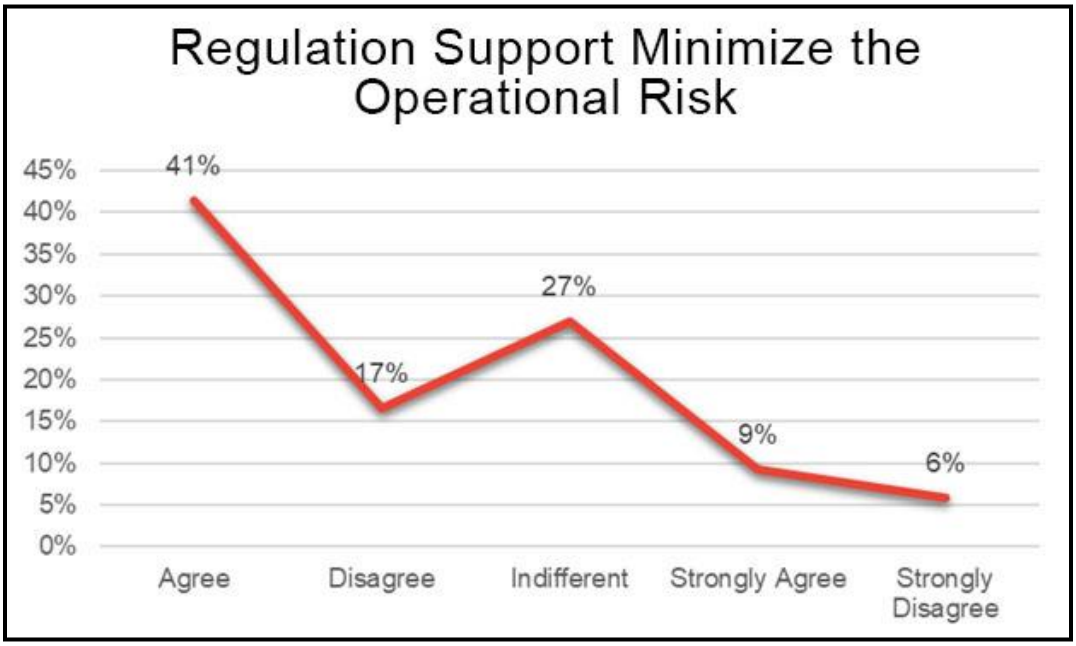


Figure- 4.70. RQ.32.3. Regulation Support Minimize the Operational Risk

4.71. RQ.32.4. Regulation Enforces the Vendors to Equip with Digital Financial Sector

There was a time when we had to waste a great deal of time standing in line to obtain financial services. Now it is very easy to hand over hard cash deriving out of a single bank ledger to a different bank account through every digital app. What is now gaining importance is the extent to which digital financial sector services can interconnect.

The digital financial sector differs from the traditional financial sector in a number of ways that have huge implications for consumers and regulators. The role of the digital financial sector is essential in building Smart Bangladesh. So now it is thought that the existing challenges of the digital financial sector can be overcome by the economy of Bangladesh? Respondents to this question are asked to give their views on the governance perspective. The finding in data figure (4.71.RQ.32.4), a maximum of forty-eight percent (48%) of the respondents clearly points out `agreed'. This finding indicates a significant percentage of respondents have full trust and faith in digital financial sector regulation. The figure also showed twenty-three percent (23%) of the respondents stated, `indifferent'. This finding indicates a significant percentage of respondents had a lack of knowledge of regulation, or other problems persisted. Only fifteen percent (15%) of the respondents opine `disagreed'. This significant percentage of respondents was negatively treated and indicates, that regulations do not provide necessary support to digital financial sector clients. It seems, these respondents would have psychologically dubious, hesitation or lack of knowledge regarding regulation.

Ten percent (10%) of the respondents stated `strongly agreed'. This finding indicates these respondents had no hesitation regarding the regulation. Only four percent (4%) of the respondents stated and opined `strongly disagreed'. It seems to us, that these respondents have encountered difficulties or persisted in other problems e.g. trust, governance, or psychological hesitation regarding mobile financial service regulation 2022. (See Figure-4.71.RQ.32.4).

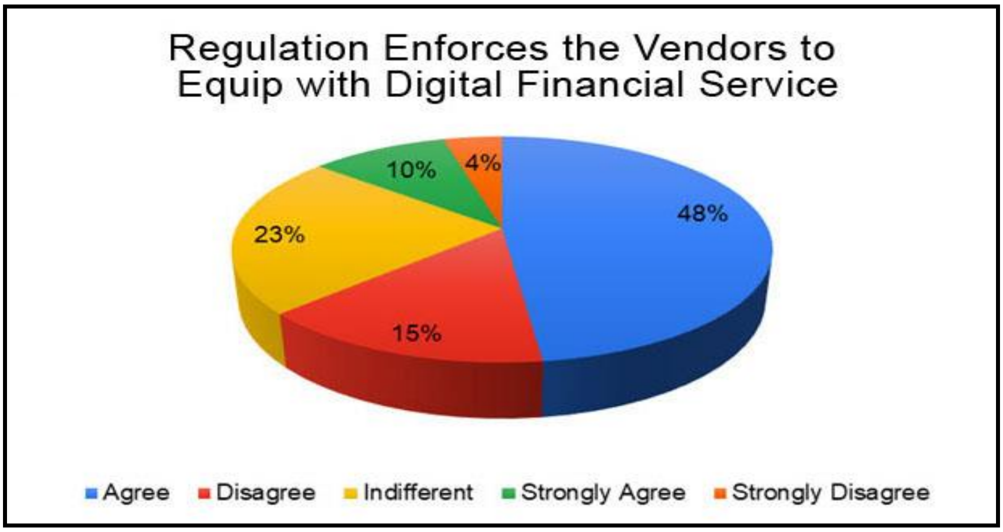


Figure- 4.71. RQ.32.4. Regulation Enforce the Vendors to Equip with Digital Financial Services

4.72. RQ.33.1. Significant Comments and Suggestions of Respondents for and Against Governance Practices in The Automated Economic Territory in Bangladesh

We found various respondents' significant comments in the `comments box' of the survey questionnaire. (To find the questionnaire please click this digital link. https://forms.gle/AwrfhM1nfXbexX3g8. Or See Appendix 1. RQ.36.). Citizen across Bangladesh has made critical comments on the services provided through the digital financial sector. Most of the respondents wrote `No comments' in the comment box. Only fifty-eight (58) respondents wrote a brief comment regarding the overall interesting factors leading to the study.

These comments indicate that consumers of the digital financial sector who have experienced misbehavior, delay, and corruption by digital financial sector officials in their operations have made negative comments here. Along with various benefits of the digital financial sector, recent progress of the digital financial sector in Bangladesh, and various recommendations and suggestions for getting better digital financial services in the future. Hence, the researcher encloses important thirty-five (35) selected suggestions and comments below.

4.73.RQ.33.2. Summary of The Respondent's Views

1. Risk associated with the digital financial sector is not considered. - Khaleda Ismat, 45 years SME business professional, Pallabi, Mirpur, Dhaka.

2. Digital financial transactions are not secure in Bangladesh- AKM Abul Bacher, 52 years old, Additional Superintendent of Police, Dhaka.

3. Development of a digital payment gateway in Bangladesh. – Baishnab Mandal, 55 Years, AGM, Agrani Bank Limited, Dhaka.

4. Security risk and lack of digital knowledge is the main barrier to digital financial service in Bangladesh. -Md. Ziaur Rahman Roni, 45 years Medicine Business professional, Shalbagan, Sopura, Rajshahi.

5. We are living in the digital age but still, there is no facility to transfer money or make payment from one mobile bank account to another mobile bank. If this can be done, great progress can be made in the digital financial sector of Bangladesh. I hope that Bangladesh Bank will take the initiative in this regard. -- Rizia Khatun, 54 Years, Program Officer, (NGO), Centre for Mass Education in Science, Dhanmondi, Dhaka.

6. Financial institutions/others provide required data to the regulatory authority for offsite supervision. in most cases, the authority does not cross-check/verify them. - Salah Uddin Mahmud, 45 years, Feature Editor, https://www.jagonews24.com, Dhaka.

7. A comprehensive guideline about FinTech and RegTech is essential from the central bank as soon as possible. -Nasima Akhter, 45, Senior Principal Officer, Manger, Agrani Bank Limited, Bangla Academy Branch, Dhaka.

8. All of us experienced credit card rejection problems during the payment process at POS or via internet banking, because of an internet connection or server down or else, locally or abroad, regardless. calling the financial sector customer service hotline will usually end up with a fruitless conversation with a third-party agent who will most probably let you know that a 'system upgrade' is running and you better try again 'later'. at that point in time, you better take your digital card back and pay with hard cash for your potato burger, or green chilly. -Swapna Akhtar, 36 years, mid-level official, One Bank, Dhaka,

9. FinTechs and banks need to work together for greater benefits. -Ainul Hoque, Senior Superintendent of Police, Narayanganj Industrial Zone, Bangladesh Police, Narayanganj, Dhaka.

10. As digital payment platforms are not unified, cross-platform payment or money swaps cannot be done. Individuals need to register on several (Instead of one) platforms to get different services. i.e., you need to have a tele talk sim to pay for the Primary School Certificate PSC examination fee, a Rocket account to pay for the BCS examination fee, a bKash account to pay for bus tickets, and a Nagad account to pay for BRAC booth COVID-19 test, and so on, which is very annoying. So, the system should be like this, if you pay for a bus ticket from your Nagad account, bKash will get a commission. -Zabery Jahangir, 45 years, Joint Director, Bangladesh Bank, Dhaka.

11. Senior-level management needs to be aware of FinTech and RegTech. - Ashraful Alam Pintu, 55 Years journalist, Editorial Assistant, Daily Jugantor. Dhaka.

12. Digital governance in the financial sector needs adequate digital infrastructure along with trained professionals, which we do not have, as long as this issue remains unsolved, all of the above (along with many other issues) will persist. - Arun Kumar Chowdhury, 55 years government official, HBFC, Dhaka. Bangladesh.

13. Training and seminars should be organized to promote FinTech and RegTech. - Mahmudul Islam, 45 Years, SPO, Rupali Bank Limited, Dhaka.

14. Compliance is not satisfactory. More acceptable platforms are required. It's good. -MD. Nur-A-Al Muktadir, 51 years, senior officer, Public Bank Limited, Dhaka.

15. How to engage mass people with the digital financial sector? To make good governance, trust, commitment, social security, and etiquette are mandatory. But our government is 90% failed. There is no significant implementation at ground level. People can't trust the public sector. There is no control in government. -Dr. Shoheilul Amin Sahel, 55 years, physician, Dhaka.

16. An integrated system is required for financial sectors. – Alice Akhter, 58 Years, Principal, Damkura College, Rajshahi.

17. How we can improve our digital financial service security? It is a major thing to think about. -Kamalesh Roy, 55 years, Journalist, Executive Editor, The Daily Shomoyer Alo. Dhaka. https://www.shomoyeralo.com/

18. There is a gap between business and IT executives. It is important to minimize the gap in facing the challenges of the FinTech wave. – Mohammad Mamunur Rashid Leon, 52 Years, Income Tax-Vat and Company Law Consultant, Kafil Uddin & Associates, South Ibrahimpur, Dhaka Cantonment, Dhaka.

19. The licensing process of digital financial service providers is difficult. -Krishnendu Sarkar Apu, 48 years, Business, Dhanmondi 15, Dhaka.

20. Questionnaires are well enough relevant. Questions regarding regulation may be increased. I have not found any difference between a cashless economy and a less cash economy. - Golam Motasim Billah, 55 years, senior NGO executive, Dinajpur.

21. How or what way will make mass people comfortable with using digital financial services is not analyzed here. How digital governance will make good governance in Bangladesh? -Serajul Islam Seraj, 62 years, School Teacher (Retired), Rangpur.

22. I feel unsecured in digital governance in the financial sector, it should need tightened security. - Juliana Rozario, 55 years housewife, Green Road, Dhaka.

23. To ensure personal data protection, many people are not very comfortable with digital financial services. So, it is an important question, how can many people be more comfortable using digital financial services? -Liton Chowdhury, 55 years, business, Saheb Bazar, Rajshahi.

24. The researcher covered almost everything. -Fatema Abedin, 45 years, Assistant General Manager, Agrani Bank Limited, Motijheel, Dhaka.

25. It should be more carefully secured and trusted. -Mohammad Ala Uddin Patoary, 55 years, Assistant General Manager, Agrani Bank Limited, Motijhell, and Dhaka.

26. We should reach digital financial services much people. -Shuvo, 52 years, businessman, Zigatola, Dhanmondi, Dhaka,

27. I have not yet gone through the digital financial service regulations 2022 fully. I am not commenting on that. The interview is good for the present condition. -Mir Shoboocktagin Mahamud, 52 years senior government official at Chattogram.

28. It is a very sophisticated smart research topic for a new generation in Bangladesh. - Professor Md. Nazim Uddin, 58 years old, Azimpur, Dhaka.

29. This questionnaire is very much effective for financial governance and as well as digital financial services. –Muhammad Shams-ul-Islam, former CEO & Managing Director MD, Agrani Bank Limited, Motijheel, Dhaka.

30. Digital Service should be all time everywhere. -S M S Azgar, 43 years, midlevel officer, Pubali Bank Limited, Dhaka.

31. Digital governance in the financial sector is satisfied, and people have trust in digital financial services. – Mr. Chandan Kumar Roy, 53 years old, business, Kallyan Pur, Mirpur,

Dhaka.

32. Thanks a lot, but I'm not financially intelligent though I'll try my best. - Md. Nabiul Islam, 53 years, District Social Welfare Officer, Narayanganj. Dhaka.

33. House rent payments should be considered by using the digital financial service sector. -Jotish Chandra Roy, 52 years, Govt. High School Teacher, Sylhet.

34. Now, we are living in a global village. We must have to run with the digitally first-moving world and of course, we should adopt in digital financial sector in Bangladesh and we have to ensure security for every transaction for public trust and its growth in the future. -Hosne Ara Jahan, 36 years, Manager, Agrani Bank Limited, Maskanda, Mymensingh.

35. Digital governance in the financial sector laws and regulations would be updated compared with the laws of developed countries. - Md. Amir Hossain, 55 years, SME Shop Owner, Dewan Ganj, Jamalpur. Mymensingh.

4.74. Conclusion

This study shows that the penetration of digital technology in Bangladesh's financial sector has fueled high growth in the country's economy over the past 15 years. In addition, digital technology in the financial sector has attracted a new generation of open-minded, modern citizens. The survey also shows that digital governance practices in the financial sector have penetrated deep into Bangladeshi society. People are now more dependent on digital online buying and selling instead of physically visiting, preferring to go to stores and buy goods and services. Citizen awareness of innovative and transformative socio-economic devices is acting as an important driver of the digital financial sector in Bangladesh. Research has shown that due to the relatively cheap price of Android smartphones made in Bangladesh, even people in remote areas of the country have acquired the ability to purchase and use Android smartphones.

People have become accustomed to using rules, and useful tools (such as debit and credit cards, online digital financing, mobile financial services, and digital wallets to transact through the digital financial sector. Citizens have eagerly embraced digital financing services. The convenience of making hassle-free cash payments from anywhere in Bangladesh is clearly highlighted in the survey. The survey shows that almost all people in Bangladesh use digital transactions, especially: Citizens who are more comfortable with digital gadgets for household daily utility bill payments and online shopping. Another reason why people of Bangladesh use this paperless commercial sector is the less time-consuming and lower transaction costs. There are also benefits of faster transactions, faster clearing, deposits, information inquiries, money transfers, and redressal of customer complaints in less time. Respondents' comments — The digital financial sector boosts Bangladesh's revenue. Most respondents to the study agreed that these people will increase transactions in the digital financial sector in the future.

Also, this study examines the future trends of the digital economy sector in Bangladesh taking into account the current digital technological visionary future reality. The survey shows that the current new generation of Bangladeshi citizens think that blockchain and cryptocurrency currency can bring more revolutionary changes in the monetary system of Bangladesh in the future. In this survey, the problems identified by Bangladeshi citizens regarding the digital financial sector in Bangladesh are - failure of uninterrupted power supply in rural areas of Bangladesh, poor Wi-Fi network, low speed and cheap digital gadgets used for digital financial services, use of inappropriate digital handsets as barriers to financial services adoption in rural areas. This investigation has marked, many villagers also described the high service cost of the digital financial sector as a problem. Survey participants commented on the reduction of charges for digital financial transactions. The findings of this study revealed other challenges in the current Bangladesh techno-financial sector are a lack of proper education for the automated economic sector, countering the negative opportunities of illegal money transfer through the digital financial sector, more interested and aware terrorists about the economic sector due to careless use and misuse of digital technology— The biggest challenge is the potential danger of hacker links. In the current context, if these urgent and important problems and challenges can be dealt with very quickly, the digital financial sector of Bangladesh can move forward at a new pace. Finally, the positive and proper use of the opportunities that digital technology has created for Bangladesh in the financial sector will pave the way to address the unknown challenges of digital governance practices in the future.

Chapter -5

Summary of Findings, Recommendations and Conclusion

5.1. Introduction

The foregoing section analyzed the outcome of the survey in this study. This ongoing segment comes up with a detailed and short discussion with regard to findings established figure obtained from the survey. Here, after in-depth research and analysis of the progress of the digital economic sector in Bangladesh and the impact of various measures on digital governance practices, possible necessary steps to solve the problems and challenges are also mentioned. The chapter also discusses the impact of digital technologies on various societal benefits related to the broader productivity, efficiency, and output of the digital financial sector. A detailed explanation of the nature and extent of the contribution of digital technology to financial sector performance for sustainable development, effective productivity, and overall profitability of Bangladesh, opportunities, recognition, and future challenges is highlighted. In addition to gaining knowledge about the digital financial sector, this research can be considered a valuable shield for the future in the evolution of the current complex digital reality.

Most of the digital financial sector customers in this survey confirmed as respondents that, after opening a digital financial sector account, they lost interest in visiting traditional financial sector offices and exchanging cash like the old days. They feel more comfortable with digital transactions and are motivated to practice digital governance. In this study, the new generation of entrepreneurs in the digital financial sector, compared to the older citizen group in daily activities (credit/debit card use, ATM booth usage, online shopping, car ticket purchase, utility bill payment, sending and receiving digital money, etc.) through citizen respondents in financial transactions, the tendency of the new generation of citizens to use the digital financial sector is more observable. Although the sample size of this study is based on a very small size compared to the entire population of Bangladesh. Nevertheless, the results of this study observed very positive side effects on both the demand and supply sides. The important consideration of this chapter is the discussion of the results obtained in simple percentage ratio analysis and the implications of the digital financial sector as indicated by some recommendations. Important limitations of digital governance practices in the current study are also highlighted and some directions for future interested authors, researchers, and students are also provided at the end of this chapter by identifying the challenges ahead.

5.2. Digital Financial Business Enhancement

Bangladesh has earned a reputation as a leading and exemplary model in serving the digital financial sector in today's world. Bangladesh Bank (BB), the main regulator of Bangladesh's financial sector, has been leading this digital financial revolution since 2009 with a strong determination to pioneer the digital financial sector. The digital financial sector of Bangladesh Bank, the leader in the financial sector, is about 15 years old now. In terms of age, Bangladesh's digital financial sector is now bright and youthful. Therefore, the most important objective of this study at this time is to motivate efforts to deepen and strengthen the digital financial sector in the hands of the new digital generation of

Bangladesh. Also, to draw the attention of policymakers and encourage the next generation to ensure easy and cost-effective expansion of digital financial services among the grassroots population of Bangladesh.

Digital financial services have now become more integrated into the mainstream economy as Bangladesh Bank relentlessly implements and expands the current government's digital initiatives. People who have been left behind or at the bottom of society for years are now able to easily enter every digital economic sector. Former Governor of Bangladesh Bank development economist and internationally renowned researcher Dr. Atiur Rahman's strong initiative to transform the digital financial system has led to the creation of a commercially safe, efficient, innovative, alternative, and competitive digital financial sector in Bangladesh. Recently, the number of channels, customers, and beneficiaries of the digital financial sector in Bangladesh has increased more than expected. In all the indicators of this study, the achievement of new innovative capabilities in the know about economic sector in Bangladesh can be clearly observed.

The survey review also shows that after the introduction of digital services in the financial sector, hundreds of crores of takas are being transacted every day in the country. Currently, the volume of these transactions is continuously increasing. Most recently these digital transactions have exceeded thousands of crores of takas every day. Due to this major change i.e. digitalization in the financial ecosystem of Bangladesh, customers in the financial sector of Bangladesh are turning to alternative digital financial sector media such as agent banking, digital apps of various banks, ATMs, and credit cards, etc. All branches of all financial sectors of the country have now come under digital coverage. Customers can transact money as soon as they want. At present agent banking services are being provided in 12 thousand 449 outlets of 8764 agents of 23 banks of the country. According to the Bangladesh Bank, "More than Tk 10000 Crore deposited at agent points. Remittances disbursed more than Tk 25000 Crore. Ninety (90%) percent of digital branches are apart from various good outlets in nature such as ADCs, Plastic Credit, ATMs, Credit, and Debit Cards., Debit Card, POST, DFS, MFS, Electronic Money Transfer BFTN, Call Centers, etc. have been popularly launched and are playing a strong role in establishing digital governance by creating a cashless society."

Researchers commented, "Bangladesh's digital economy is moving strongly in a positive direction. Not only that., but now a new business called digital virtualization has been born. Bangladesh is now the second in the world in exporting virtual digital workforce. Also, in recent times, the development of digital startup businesses in the emerging country of South Asia, Bangladesh, has benefited greatly. The unimaginable services of digital in the financial sector of Bangladesh the reflection of this popularity can be observed naturally. Although it seems unimaginable, it is a fact that Bangladesh has been the best country in the export of garments for a long time. Now Bangladesh has already gained wide recognition in the world as an exporting country in the production of digital devices. Bangladesh is now mass-producing smartphones android gadgets and laptops. These digital devices produced in Bangladesh are being exported to different countries of the world after meeting 70% percent of the country's own digital device needs. Statistics revealed, that “in 2018, Bangladesh earned USD 1 billion in digital technology exports. Currently, exports in the digital technology sector are 1.3 billion USD.”

Therefore, the researchers believe that “The digital currency sector is going to be more sophisticated in the future than it is now, blockchain and cryptocurrency will become the most common medium of financial exchange in Bangladesh. Along with that, Bangladesh's digital financial sector may face more alarming and significant challenges. Hence the customer base of the automated financial sector needs to be further expanded through innovative means of economy through technology i.e. diversification of products and services. Also, ethical governance practices are important in the automated economy to adapt to the various digital changing realities of the future. Adequate security measures should also be strengthened to guarantee the customer's money."

This researcher opined, “Although the use of the digital financial sector in Bangladesh is still limited to providing government subsidies or social security benefits, the scope of these areas should be expanded in the future. It will benefit the real beneficiaries. None of the underprivileged will cheat like in the old days. It is true that the fewer cash transactions in the economy, the less the proceeds will be used for criminal activities. It will also reduce the trend of making illegal money. This is because if digital transactions are done, illegal transactions are easily caught." In this way, if digital governance is practiced in the financial sector, corruption and irregularities will also be reduced in the People's Republic of Bangladesh, known as the Royal Bengal Tiger of South Asia due to the excellence of the financial sector. So, it is time to discourage cash transactions in Bangladesh through digital financial business enhancement.

5.3. Digital Transaction Cost Reduced Slightly

The benefits of automated commercial services are numerous. For example—round-the-clock facilities are generally available on a 24/7-hour basis. There are additional charges for these various facilities. That being said, a digital financial transaction fee is a cost that businesses must pay. Every time you use the digital financial sector for as many transactions as you like, you have to pay a service fee. At present, there are a total of 1,500 ATM booths in various financial sectors for withdrawing and depositing money. There are costs for ATM booth logistics support, human resource service charges, business development fees, promotion and management, etc.

However, a service charge of 14 takas 90 paisa per thousand is usually charged to customers. However, using digital apps reduces costs for telephone companies. App transaction cost is 17-taka 50 paisa. But if you make a transaction by calling data or USSD, it costs 18-taka 50 paisa. In this context, in a discussion survey, customers of the digital financial sector said that the transaction cost of the digital financial sector in Bangladesh has decreased slightly compared to before.

Consumers in the digital area of finance in Bangladesh have now increased the number of transactions through digital devices such as bill payments for various government services, remittances for families, shopping, salaries and mobile recharges, etc. As a result, the demand for cash transactions is decreasing day by day. Meanwhile, it can be seen that the service fee in digital financial transactions has decreased slightly compared to before. According to Bangladesh Bank's report on the information of 13 digital financial service providers, "In October 2022, transactions in this service amounted to Tk 67 thousand 589 crore, in September it was Tk 65 thousand 141 crore. At the same time, total transaction deposits were Tk 21 thousand 49 crores and withdrawals were Tk 17 thousand 681 crores. As a result, 57% percent of the total transactions were deposits and withdrawals. The remaining 43% percent of transactions were digital. Earlier in May 2022, the highest transaction in the digital financial sector was Tk 71 thousand 246 crore." Source: BB.

In this survey (see figure 4.36.28.8.), a majority of 38% of consumers said that the cost of the digital financial sector is 'cheaper' for digital transaction fees, with the second highest number of 26% of respondents saying that, they are actually 'indifferent' to the digital financial sector's costs of digital transaction fees. They don't worry about it, they don't think anything. 22% of consumer respondents said the stated service costs of the digital financial sector were truly 'too expensive' while 14% of consumers commented that digital transaction fees were 'too cheap'. The study also observed that the use of digital technology has reduced transaction costs in Bangladesh. Here, the highest transaction cost is $1.12 (Tk. 90.3) for digital branches, followed by $0.65 (Tk. 52.10) for ATMs, $0.12 (Tk. 9) per 1000 takas. 60). For DFS, MFS, $0.4 (Tk.32.21) for Agent Banking and $0.022 (Tk. 5) for Internet Banking. The study shows that during the period 2003–2019, the cost of all digital transactions, except ATMs, declined slightly. As a result, transaction costs are saved. The distance to financial access points has been reduced as digital financial services are available at the doorstep. You don't have to go to a branch office far away to appear in person like before. Along with saving on travel costs, travel time to access financial services has also been reduced dramatically.

So, this researcher hypothesizes that "The more digital money a customer uses in the digital financial sector, the lower his costs will be. Because paying a bill or making a purchase cost nothing. But every time digital money goes to an agent and is converted into cash, it costs him some commission. In this case, if the shop has a Bangla QR-based 'scan to pay' service, the shopkeeper can easily make cashless payments through a smartphone-based bank account using that service. Then the additional cost will be reduced further." So, it can be safely said that in the coming days, there may be no need to carry plastic cards in the wallet for digital financial transactions. Just want to have a smartphone with you. Such technology-friendly financial services will further reduce costs. Citizens of Bangladesh will become a 'cashless' society through low-cost, short-time services. If citizens are more deeply involved in such a promising digital financial sector, Bangladesh's national development can achieve even more remarkable economic victories in the coming days.

5.4. Efficiency of Digital Financial Sector in Bangladesh

The involvement of all classes of citizens in the financial sector of a country is a prerequisite for sustainable economic development. The digital financial sector has become a key determinant of financial inclusion in the country at large, including the common people of Bangladesh, due to the benefits of improved payment systems, access to basic financial support including lending, etc. Bangladesh's digital financial sector is helping common people to come out of poverty.

This is true for emerging developing countries like Bangladesh as well as for developed countries. However, the reality is that the country's digital financial sector cannot be raised to the desired target level until everyone has a clear understanding skill, and competence of the digital financial sector in Bangladesh about the digital equipment of the economic sector. However, according to Bangladesh Bank, there are currently 61 scheduled banks in the country. These banks have more than 10,000 branches across the country." However, financial sector experts and economists consider the mentioned number of bank branches to be inadequate and insufficient to provide financial services to about 170 crore people. Hence, the researchers consider this as a logical reason as a barrier to reaching financial services to the entire citizens of Bangladesh. Bangladesh Bank has already issued a directive and mandated that "50 percent of the new branches established by the bank should be located in rural areas." Unfortunately, many financial sectors are not willing to invest in setting up branches in rural areas as it is not cost-effective for them. As a result, the instructions could not be properly followed. In this context, it has not been possible to bring the rural population to the desired general financial benefits. Also, for the rural people, especially the illiterate population, going to the traditional old-fashioned branch office to avail of banking facilities was quite a difficult and time-consuming hassle. Because there was a lot of paperwork to go to the office. Because of this, many people have stayed away from banks for so long as they are not willing to bear the additional hassle and harassment of banking. This is the main reason behind the backwardness of financial services for marginalized groups.

But no, the days have changed. Using modern digital technology to take Bangladesh to new and greater heights, which was once a dream, is now a reality! The country has touched new heights of development by introducing cutting-edge digital technologies to improve the commercial and social aspects of our daily lives. 15 years ago, Bangladesh's financial sector went digital. It was the era of button phones. Now the smartphone has arrived. Bangladesh is now in the youth of the digital financial sector. Yet till 2000 in Bangladesh smartphones, and Android digital devices were a luxury. The news of the development is that Bangladesh is now widely recognized as a smartphone manufacturing and exporting country in the whole world. Due to the cheap price of self-made smartphones in the Bangladeshi market, this digital device can now be found in the hands of all the people of Bangladesh including day laborers, rickshaw pullers, laborers, and maidservants. Digital financial sector customers can now open a digital financial sector account by filling in the Digital Customer Information, KYC (Know Your Customer) from the comfort of their homes. As a result, the difficult problem of becoming a customer has been solved. Because of this digital smartphone, now you don't even have to go to agents to deposit money. Money can be easily collected from a bank or card. Transferring and depositing cash from one account to another financial sector account has become very easy.

So, the smartphone is now not just a talking device. An office branch called 'banking' is not only a means of sending money. By using this digital technology called smartphone, all kinds of small and large transactions are being completed in the blink of an eye. For this reason, smartphones have become one of the means of paying civil service bills for all citizens of Bangladesh. Specifically, tax, gas bill, electric bill, water bill, admission fee, payment of school, college, and university fees, shopping, traffic signal system violation case fines, receiving government allowance, vehicle fitness, license, and vehicle ticket purchase through this digital smartphone., insurance premium payment, mobile recharge and religious, social donation, charity, humanitarian donation has become one of the means of this smartphone.

The use of these smartphones and digital services has increased in Bangladesh during the recent pandemic. Garment workers in Bangladesh have been paid for this service during Covid-19. And now most of the government benefits, and allowances are being distributed through this digital financial sector services. Apart from this, installments or savings cards are also being deposited through plastic credit cards. But the most convenient is the smartphone transaction. Now a smartphone has become everyone's personal bank. According to central bank data, “In October 2022, one customer transferred Tk. 19,710 crore to another customer. Purchases were made at Tk 2,953 crores, government allowances were distributed at Tk 44 crores, salaries paid at Tk 2,387 crores and mobile recharges at Tk 666 crores.”

In this survey, respondents were asked about the types of digital devices they use regarding constantly. Almost all the replier of study contributors’ participants (99% of the total) use a smartphone, a gadget, a notebook computer, a digital camera, a tablet, etc. All of them carry an Android device called a smartphone as an indispensable common device (See figure 4.10.RQ.9.).

Distribution of digital device users). For each of them, these digital devices are a very important and essential means of daily life. Especially through this gazette, most Bangladeshis have started realizing the huge benefits of digital financing to make their transactions faster and business more efficient. Thus, the demand for the digital financial sector is increasing. In the data analysis (See figure- 4.10.RQ.9), it can be seen that only 1% percent of the respondent consumers do not use smartphones and the remaining 95% percent of respondents use their own digital devices for financial transactions. According to the survey, 90% of the respondents said that they are quite aware of the digital financial sector.

They also said that automated economic sector services can save time. That is why they have become customers of the automated economy industry. The negative aspects of Bangladesh's digital financial sector have been found in the discussion research. One of them is that "only 10% of citizens have not yet accessed digital financial sector services." (See figure- 4.10.RQ.9.) It is assumed that they are probably accustomed to receiving financial services by attending traditional physical branches. However, they are citizens outside the digital financial sector. They are not proficient in receiving and using digital services. How to engage the large population of non-financial sector services in digital financial sector services? How can the digital financial sector inspire ordinary citizens more? How to make them digitally literate? etc. can now be seriously considered by policymakers. Because the number seems very small in terms of numbers, especially in the field of digital financial sector research, it is a significant and alarming negative number of two digits for this researcher. As this number indicates and suggests that citizens at all levels of the financial sector are yet to be included in mainstream finance, this number can be termed 'alarming' in the context of the recent automation of financial sector governance and the upcoming 4IR, aiming to build a smart Bangladesh of the future.

5.5. Profitability of Digital Payment System

Over the past 15 years, the digital financial sector has had a silent revolution. The Bangladesh Bank, the regulator of the digital economic sector in Bangladesh, has played a positive role in all aspects. Recently there has been further modernization of the financial transaction system in Bangladesh. The digital payment system has arrived. Transactions are being done at home in no time. Bangladesh's financial sector has grown. Now various types of services have increased in the financial sector. Agent banking has also gone to remote rural areas. Thus, the financial sector of Bangladesh is constantly moving forward for cashless transactions. As a result, the common men and women of the village can easily avail of financial services.

The results of this study found that, on average seventy-seven percent of 77% of the customers used digital financing for both tasks for receiving and sending money transfers. (See figure-4.22.RQ.21). An Average of 12% of the respondents' customers used digital financing to send money only. Apart from these, an average of ten percent (10%) of customers used digital financing for sending, receiving and both tasks, and only 1% of customers used digital financing for sending money only and receiving money through digital fund transfer. The survey also findings showed that most of the customer in total of 33%)of the customers weekly used digital devices for digital money transfers, 25% of the respondents monthly used digital devices for digital money transfers, 15% of the customers daily used digital devices for digital money transfer and 14% of the customer's occasionally used digital devices for digital money transfer and rest of the nine 9% of the customer's seasonally uses digital devices for digital money transfer, only five percentage 5% of the customer's annually used digital device to digital money transfer.

On the other hand, the total number of sent money using digital financial services to customer's family, friends, or relatives and its volume are given in the result of the data. Most of the 91% of the customers made digital transactions to send money using the digital financial sector to the customer's family, friends, or relatives last year. (4.25.RQ.24). Apart from this data also showed 9% of the customers did not send money using the digital financial sector to customer's families, friends, or relatives in the last year. It indicates that digital financial services are still not very popular service among the 9% of valuable customers, but it has huge potential. It is found that, in Bangladesh, about 74% percent of the digital financial sector customer respondents stated clearly, that digital technology has reduced the distance of access points significantly. Moreover, in the case of digital financing customers can do the transactions by smartphone from anywhere in the globe without visiting an access point.

5.6. Customer Satisfaction in the Digital Financial Sector

There are two types of marginal citizen participation to achieve ultimate success in automated services in the economic sector of Bangladesh. There are many older educated people who have no idea about digital technology but are comfortable using the digital financial sector. Again, there are uneducated people who are regular customers of the digital financial sector and are very skilled in digital account management. Thus, it is proved that the digital financial sector is a transaction system where rich and poor customers do digital transactions in the same frame in the same manner. Because financial transactions can be done easily through this digital system. Examples – Sending money, receiving money, loans, savings, insurance, etc. Bangladesh's digital financial sector has developed and marketed all kinds of innovative services for all businesses, big and small, including ordinary citizens. The outcome of this research in this regard demonstrates that 44% of the respondents said that the cost of the digital financial sector is 'cheaper' for digital online shopping fees. (See Figure. 4.39.RQ.28.11.).

The 2nd highest number of respondents, 25%, said they were not concerned about the digital financial sector's costs of digital online shopping fees and were completely 'indifferent'. Only 16% percent of the respondents opined that the cost of the digital finance sector is 'too cheap' for online shopping fees and 15% percent of respondents said that the cost of the digital finance sector is 'expensive' for online shopping fees. On the other hand, a study showed a relationship between digital money transfers and households. Example— Grocery shopping, Utility bill payment, DTH Smart Android TV bill, Wi-Fi bill, Electricity bill, Commuting bill (Example— Railway ticket, Household goods purchase, University, College, School fees, etc.) In this survey, (See Figure. 4.39.RQ.28. 20.), it can be seen that the majority of the respondent's 60% percent said they are very satisfied with the digital financial sector services. They also use the digital financial sector to pay household grocery bills. They use the digital financial sector to flexi loads, electric bills, water bills, smartphone talk time recharges, smart Android TVs, Wi-Fi bills, university and college fees, and religious donations e.g. zakat.

The survey found that on average 15% of respondents use digital financial services for flexi load, Wi-Fi bills, electricity, gas, and water bill payments. 10% percent of respondents are using digital financial services to pay bills for purchase of household goods and an average of 8% percent of respondents are using digital financial services to pay bills. Also, an average of 3% percent of respondents are using digital financial services for utilities — like paying electricity, water bills, etc.

A very insignificant percentage i.e. 2% of the respondents uses the automated economy sector to pay smart TV and Wi-Fi bills and the remaining 2% of the respondents purchase various university tuition fees, books, notebooks, stationery, and other necessary educational materials using the digital financial sector. does However, all customer respondents in this survey are highly satisfied with the services provided by the digital financial sector.

5.7. Digital Driven Approach of Financial Inclusion

Recently in Bangladesh digital financial sector has increased the inclusion of women and rural poor ordinary citizens. The number of active mobile SIMs in Bangladesh is close to 180 million. These mobiles have significantly accelerated the financial inclusion of citizens. People's interest in the digital financial sector has increased within a few years. Currently, low-income families and small cottage industries are benefiting greatly from the digital financial sector. It is to be noted that the Government of Bangladesh implemented the National Financial Inclusion Strategy effective for five years from July 2021 for the purpose of financial inclusion with the highest priority to reach financial services among the large number of citizens who are outside the general financial sector (especially women and poor).

As an example of financial inclusion, the number of digital accounts of women in the country has enlarged by 7% percent over the previous few generations. As a result, the gender gap in digital finance has narrowed considerably. The progress of digital financial services despite the global pandemic is worth noting. Garment workers in Bangladesh have been paid digitally. According to a report by the Bill and Melinda Gates Foundation, "About two million digital accounts were opened in exactly two weeks after this move by the government. Undoubtedly, this is a landmark step in the field of economic inclusion." Automated economic inclusion has accelerated the economic boom in Bangladesh. 25% percent of adults in Bangladesh pay their utility bills through digital accounts, the highest in South Asia.

According to the WB's latest Index 2021, "Rate in the non-bank economic sector and mobile phone financial services among adults in Bangladesh increased to 53%. This rate was 50% percent in 2017. Bangladesh ranks fourth in financial inclusion in South Asia. 43% percent of women in Bangladesh have accounts in the digital financial sector. And among poor adults, the rate is 49% percent. The difference in digital financial sector accounts between men and women in Bangladesh has also narrowed slightly. In 2017, the gender gap was 29% percent in 2021 it has come down to 19% percent. As of late, women account for the digital financial sector at 44% percent and men at 63% percent. According to Findex Database—2021, “Bangladesh has made the most significant progress in paying bills for utility (electricity, water, gas, etc.) services.” According to Findex Database—2021 report, “Bangladesh's digital financial sector accountancy rate in 2021 is among the highest in South Asia. the most Out of a total of 53% accounts, 24% are in the digital financial sector, 14% are in general financial institutions and 15% are in the automated economic industry. The automated area of finance accounted for 9% percent in 2017. On the other hand, the rate of having accounts in financial institutions decreased from 29% percent in 2017 to 24% percent in 2021.”

However, it is also true that despite the positive transformation in the rural economy of Bangladesh due to digital financial inclusion, there are some obstacles to the full implementation of this financial inclusion. Specifically: Digital Literacy, Digital Devices, and Internet Connectivity. If these services are provided free or at a nominal cost to the rural poor, then there can be a greater change in the socioeconomic inclusion of Bangladesh in the coming days.

5.8. Measures of The Digital Finance

Various indicators are used to measure the digital financial payment landscape of the digital financial sector. These are access, utilization, and quality. The digital financial sector is designed to identify various measurable elements of the payment ecosystem that include digital access, adoption, and usage indicators of the digital financial sector over time and differentiate between payment acceptance and payment. It is a digital financial technology that influences the adoption and use of payment solutions.

The use of digital financial technology has already increased in financial transactions in Bangladesh. Currently, the scope of the digital financial sector has increased along with the quality of services. The issue becomes clearer when looking at utility services transactions. In conformity with BB sources, it would be mentioned here that the "Number of utility service proceedings has become greater by more than 1 crore in the last three years and exceeded 1.33 crore in April 2022. The transaction volume of the digital financial sector has increased by more than Tk 1,000 crore to around Tk 1,331 crore." Developing apparatuses for example Blockchain, and AI, are already taking part in major character in the area of finance in Bangladesh.

One condition for building digital financial growth in Bangladesh is a modification for the casual sector towards the inside of the conventional structure. The digital financial sector delivers efficient, cost-effective, and innovative digital financial products and services through an end-to-end technology-based digital ecosystem. Being a technology-driven service, digital financial sector services are available 24 hours a day.

5.9. Productivity of The Digital Financial Sector

The digital financial sector's productivity landscape is showing promise in Bangladesh. The recent digitalization of Bangladesh has not only changed the work of daily life in the office and home but also brought about unprecedented and sustainable changes in the financial sector. Digitalization and globalization have permanently changed the operating environment of Bangladesh's financial sector. Digitization in the financial sector has increased the productivity and efficiency of organizations manifold. On the other hand, digital technology has made it easier to measure this productivity. Now, by measuring the productivity of a company, the productivity of the entire financial sector can be easily measured. Even measuring national productivity has become easier. As digital financial channels are open 24/7, financial institutions (banks, insurance, insurance companies) get the benefit of using the customer's disadvantages, feedback, and skills for their own development and productivity by maintaining communication with the customer on the digital platform.

Mobile phone is the most popular and indispensable digital technology for instant money transactions in Bangladesh. It is very easy to pay various service bills on this mobile phone. According to a recent study, "At present, about three thousand crores of Taka are transacted through this mobile phone every day." The digital native young society has become accustomed to online shopping, using social media. Bangladesh's financial institutions, banks insurance companies have also increased the country's productivity manifold with the help of this digital technology. Already the number of financial sector branches in Bangladesh has increased to 10 thousand 982.

Financial institutions are not just branching but are now serving citizens in alternative ways with the help of digital ATM booths, point of sales or POS technology, internet banking, and various types of digital (credit/debit) cards. In Bangladesh, the financial sector has already got a new face, thanks to agent banking services. Currently, there are 20 thousand agent outlets spread across the country. Now the financial institutions are providing financial services through about 1 thousand 500 branches. Also, in the last few years, the number of customers under this service has increased to about 1 crore 62 lakh. The non-banking financial sector has recently been involved in various digital financial services in Bangladesh such as term deposits and lending. 35 non-bank financial institutions in Bangladesh are providing seamless financial services to citizens through 301 branches. Notable among these are organizations like bKash, Rocket, Nagad, etc. These are popular digital means of money transfer and have become widely known to the common people of present-day Bangladesh. It could be strongly stated, that digital financial services controlled by 'Bangladesh Bank' have now reached the doorsteps of the people of Bangladesh.

Digital financial services would open new doors of career opportunities for many people. In most recent latest buzzword in global finance is “cashless society”. This cashless financial system is based on credit cards, debit cards, digital wallets, and modes of payment to replace traditional methods of payment such as cash or coins. (Research Journal `Analytic steps). Hence, the study (See figure-4.64. R.Q.31.1)., found respondents' opinion on `within next ten years or forthcoming days cash-less economy would be the digital financial service for the next generation’, opinion from the `future trends of the digital financial sector in Bangladesh’, majority respondents’ 43% percent of the digital financial sector customer stated `agreed’, and 24% percent of the respondents stated `indifferent’, 14% percent of replier opine `contradict’. 12% percent of repliers clearly stated `firmly agreed’, and only 7% percent of the respondents stated `strongly disagreed’ on the point of futuristic views, clearly opine `Cash-Less economy would be the digital financial services only for the next generation in Bangladesh.’

5.10. Role of Central Bank in Enhancing Automated Area of Finance

Human society constantly changing. This change is from ancient times. Bangladesh has changed, digital, and developing. The traditional financial sector has changed and is now digital. Preference for digital apparatus in the financial industry of Bangladesh has grown directed toward a significant proportion. To sustain the growth of this country, maintain governance in the financial sector, accelerate the development of rural areas, and also bring the low-income people in rural towns under financial services, Bangladesh Bank played a visionary role 15 years ago. Like a financial adventurer, jump in and start working. The key driver of governance is to boost the status of assistance and speed of decision-making and implementation. To ensure the application of electronic direct democracy in the economic sector in Bangladesh in recent years, the central bank has correctly replaced the basic policy framework of digital governance in all policies related to the financial sector. Bangladesh Bank has invested heavily in technology infrastructure and digitally skilled manpower for electronics direct democracy in the economic sector in Bangladesh.

Economists say – “their important to look for three types of characteristics in transactions. They are citizens involved in transactions, citizens involved in deposits, and citizens involved in loans." There is no substitute for the transparency of digital technology in all types of economic sectors acting as transactions, credit, and deposits. As a regulator of Bangladesh's financial sector, the central bank—' Bangladesh Bank'—has increased its preference of critical automated equipment to provide digital economic services to citizens. As of result, around 3000 crores of Taka are transacted daily through this digital financial sector. Also, citizens of all incomes in rural and urban areas are able to easily access digital financial services. 'Bangladesh Bank' is leading the current Bangladesh GDP growth through the advantage of automated equipment sensible of financial services. The digital financial activities of all financial institutions under the control of 'Bangladesh Bank' have already changed the rural economy of Bangladesh by bringing the backward people under financial services.

Aiming to apparatus automated direct democracy in the economic sector, the central bank has inaugurated Real Time Gross Settlement (RTGS) to settle any transaction through digital technology devices and Electronic Payment (e-Payment) for safe and quick money transfer. Digital technology infrastructure and artificial intelligence were also added. The other steps taken by Bangladesh Bank to enhance digital governance practices in the general public and individual financial industry of the country are summarized as follows- Automated Credit Information Bureau, Automated Check Processing, National Payment Switch, KYC process through BEFTN and RTGS, NID National Election Commission maintained by and linked to national databases.

The industrial revolution is coming soon in Bangladesh. It can be said that the country's financial sector will be completely digital in the coming days. This study's respondents' opinions were asked in the survey questions to get an idea about the paperless digital currency in Bangladesh in the future and to know the wishes and desires of the customers regarding digital financing in Bangladesh in the future. The survey data figure-(4.67.RQ.31.4) presents, the majority of twenty-eight percent (28%) of the respondents stated `agreed'. This result indicates a significant percentage of respondents have a future vision of digital trendy development. As previous highest findings, data figure showed, equilibrium value, twenty-eight percent (28%) of the respondents stated `indifferent'. This finding indicates a significant percentage of respondents had persisted with other problems or hesitation. Nineteen percent (19%) of the respondents clearly opined `disagreed'. This finding indicates that these respondents could psychologically hesitate regarding the use of crypto-currency. Fourteen percent (14%) of the respondents stated `strongly agreed'. This finding indicates they had no hesitation regarding the futuristic belief in to use of crypto currency. Only eleven percent (11%) of the respondents clearly opined `strongly disagreed'. This finding indicates, that these respondents negatively treated this statement about the use of crypto-currency. (See figure-4.67.RQ.31.4).

The steps taken by Bangladesh Bank over the past few years have brought about some notable changes in its efforts to practice governance of the financial sector. The real impact of digital finance can be seen in rural areas. Rural areas have seen the highest growth in digital financial transactions in recent times. Already, digital transactions have had a productive impression on rural life and the economic activities regarding money transfer. The rapid spread of digital transactions has facilitated the financial sector. In rural areas, the positive impact of SME loans, micro-loans, etc. on the rural economy is noticeable. Bangladesh Bank has already introduced important initiatives in digital financial services by introducing agent banking. The crowd of common people of the village has increased in front of the agent banking booth itself.

Agent banking is also playing a strong role in collecting small credit and deposits. Through this, small-scale micro, SME, and housing loans along with fixed deposits have also been started on a small scale. Under the supervision of the central bank, agent banking is working vigorously in the distribution of government aid allowances, collection of service bills as well as in collection of deposits. The impact of the proliferation of the automated economic sector is extremely noticeable within everyday shopping, business—commerce, and living, especially among low-income people. It can be assumed that within a few days card business will be spread across the country through agent banking. It can be seen that rural people are making purchases using "Point of Sales" through cards in rural areas of the country. Not only that, Digital innovation is continuously modifying the landscape of the digital financial system and governance all over the globe. In tune with the global trends on automated direct democracy in the economic sector with the aim of practicing automated direct democracy in the economic sector, the central bank of Bangladesh has recently launched Digital Bank in an effort to increase the access of marginalized people. Which is very promising. (See Appendix-6).

Digital Artificial Intelligence is also being used in Bangladesh's new digital financial journey. Digital currency, digital finance, and virtual finance services may be launched soon. So, it can be said without hesitation, from the point of view of automated direct democracy in the economic sector, that the Bangladesh Bank' is moving in the right direction through digital financial services. Despite all the digital advances in the financial sector controlled and managed by Bangladesh Bank, critics believe that "lack of adherence to Bangladesh Bank's corporate governance (See Appendix-5) is reducing asset quality." In this case, the proper rules of corporate governance (See Appendix 5) are not being followed. That is why the financial sector is facing a serious risk. Because the country's economy is based on the financial sector. So, any collapse in the financial sector will put the entire economy at risk. Which is not desirable under any circumstances."

According to the researcher, to bring back real governance, order, and dynamism in the financial sector, the volume of defaulted loans must be reduced the path of newly defaulted loans must be closed and KYC should be properly reviewed in the case of lending and the loan given should be monitored properly. According to the researchers, despite all the steps taken by the central bank and several financial sectors in Bangladesh and a large portion of the population with low-income people under financial services, extensive reforms are needed to bring them under credit. Most of the people of Bangladesh are still directly and indirectly dependent on agriculture and the rural economy. Therefore, it is not possible to build a sustainable financial sector in a developing country like Bangladesh without credit and deposit services in agriculture and the rural economy.

Therefore, it can be said that in order to strengthen the discipline and governance of the financial sector, it is necessary to reform the existing corporate governance (See Appendix-5) laws and ensure proper implementation of the laws. "Bangladesh Bank" has a huge role as of central bank in this regard. Bangladesh Bank should formulate necessary laws, guidelines, and policies. Bangladesh Bank's supervision, and guidance, over the financial sector, should be increased. Finally, the time has come to integrate more citizens into the mainstream economy by using digital technology to expand universal deposit and credit services. Sensible of the changing circumstances of the upcoming 4IR in Bangladesh, strong coordinated attempts from every individual financial service and authority are urgently needed to leverage digital direct democracy in the economic sector. As it stands, the Central Bank of Bangladesh can encourage private financial sectors to tap into the growing digital landscape with their own well-structured initiatives.

5.11. (i). Issues and Challenges

The state's commitment to building a digital Bangladesh has already been successfully implemented. Automated conversion occurs by changing the technology infrastructure of all the state sectors of Bangladesh. Digital technology machines are now helping the citizens of Bangladesh in all their daily essential tasks. In this, more production is easily possible in a short period of time. It must be admitted that the financial sector is a very important state organ in the way people live their daily lives. The digital development in the financial sector of Bangladesh which was introduced a century ago has now made financial transactions easier and created an open door for financial market management. The results of the use of digital technology sensible of economic service have changed the bright outlook in the growth of Bangladesh.

Digital transformation of Bangladesh's financial sector has led to increased transactions and accelerated economic growth. In compliance with the latest BBS data," Close of the last financial year 2020-21, the per capita income stood at 2591 US dollars". Before this, the per capita income was two thousand 554 dollars. As a final result, this income has recently increased to 37 dollars. According to BBS data, the final GDP growth in the 2020-21 financial year was 6.94 percent. As a provisional which was 5.43 percent. The negative and challenging aspect of this recent report of BBS is that according to BBS calculations, "Even though people's incomes have increased, the benefits of this income have not reached all marginalized people." Therefore, the researchers expressed fear, "by the beginning of upcoming 4IR in Bangladesh, against the new effective innovation potential in the digital financial sector. Various risks and obstacles can be observed.

That's right, in Bangladesh ahead of other sectors in South Asia, the digital financial journey started with a lot of enthusiasm led by Bangladesh Bank. In this financial journey, many improvements and successes have been achieved in the basic financial sector of Bangladesh. But the surprising but true, digital reality is that Bangladesh has been the first victim of cyber-attacks. Therefore, the big risk of digital governance of the digital financial sector - the term 'cyber hacking' is familiar to the people of Bangladesh these days. Background reason: On February 4, 2016, 10 million 10 lakh 1 thousand 623 dollars were stolen from Bangladesh Bank through digital technology hacking. The money was stolen and taken to the Philippines. Apart from Bangladesh Bank reserve hacking, various problems are constantly seen in the digital financial sector. For example, various policy violations including irregularities, fraud, password hacking, and theft of money from ATM booths often appear in negative impressions in newspapers.

Recently Bangladesh has faced various problems and challenges related to "Digital governance in the financial sector". Regarding the reasons for this, economists have admitted in one sentence, “The reason for this is the lack of automated direct democracy in economic service. it's accurate that, this particular infrastructural development for our digital Bangladesh has been done so far, but there is a scarcity of clarity and responsibility informed about essential features of governance. Being accountable requires transparency. The two complement each other. If you leave one and catch the other, you will not get the benefit. So now is the time to talk about, and properly review the complications and dilemmas of digital direct democracy sensible of the financial sector.

This investigation however shows that most of the problems and challenges related to digital governance of the economic service in a developing Bangladesh are mainly technical and psychological. However, there is a need to focus more on maintaining, practicing, and implementing international standard automated direct democracy strategies sensible of local economic service in Bangladesh. There is also a need for digitally literate citizens. This study attempts to find out the challenges relevant to automated economic services in Bangladesh. In this study, this researcher has found several problems and challenges of the automated financial industry in Bangladesh. Challenges can be identified as barriers to the development and enlargement of the automated financial sector in forthcoming smart Bangladesh. If these problems and challenges can be overcome, the current digital financial sector of Bangladesh can become more prosperous, expanded, and strong in the future as more customer-friendly. The issues and challenges are briefly mentioned below:

(i) The Challenge of Electrification; (ii) The Challenge of Digital Gadgets; (iii) The Challenge of Slow Internet; (iv) The Challenge of Digital Financial Literacy; (v) The Challenge of Skilled Manpower; (vi) The Challenge of Operations Management; and ((vii) The Challenge of Cyber Threats.

5.11. (ii) The Challenge of Electrification

According to the study, an uninterrupted 24/7 power supply is essential for Bangladesh's digital financial sector to fully succeed and expand its momentum in the coming days. However, during the endless power crisis across the country in 2009, many may not have been very optimistic about Bangladesh Prime Minister Sheikh Hasina's far-reaching thoughts, dreams, and announcements of change for electricity in the power-deficit country. But to meet the shortfall in power supply, the Honorable Prime Minister of Bangladesh, Sheikh Hasina, formulated and implemented a timely and accurate plan keeping in mind all the impossible challenges. Due to the strong leadership of Prime Minister Sheikh Hasina, the current Bangladesh is going to be called from a 'power deficit country' to a 'power surplus country' globally. According to relevant researchers, Bangladesh will be able to increase the country's GDP by 2% by exporting electricity abroad to solve the country's electricity deficit if the Rooppur nuclear power plant starts producing electricity in the future.

It’s also true that, although there is stable electricity now, it does not suddenly go off like before. However, it is true that the opposite picture can be observed in the rural areas of Bangladesh. The electricity supply is mostly shut down in the village due to various reasons. The researcher has informed that one of the reasons behind the non-practice of governance is mismanagement and corruption among the staff related to rural electricity e.g. BREB. Rural Electrification BREB is often reported in newspapers. Therefore, this researcher believes that it is essential that the relevant authorities take quick action in this regard to take the initiative to cancel the middle-owned rural electricity system BREB in order to provide uninterrupted electricity service to the rural population like the city. However, during this study, it was observed that load-shedding often occurs in reality. It is seen that although the village citizens get electricity occasionally, they are not getting the benefit of uninterrupted electricity. Outside Dhaka, people are suffering from load shedding in various villages, unions, upazilas, and districts. Even when charging the battery of a digital device, the power is not stable. Sudden and frequent load shedding is causing damage to digital technology infrastructure.

80% of the citizens of Bangladesh live in villages. BREB provides electricity to all villages in Bangladesh. 55% percent of electricity consumers are under them. But the citizens of the village suffer from load shedding. It is clearly evident that BREB may not be responsible for rural electrification, like many sectors in Bangladesh, lacks ethical practices, lack of governance practices in customer service. But to face the challenges of 4IR, it is essential to have uninterrupted electricity in the villages to run the digital technology. Therefore, it can be confirmed that to sustain socio-economic development through digital technology, it is essential to provide 100% uninterrupted electricity and practice and maintain digital governance.

5.11 (iii) The Challenge of Digital Gadgets

The biggest source of economic growth in Bangladesh is the rural economy. Because most people live there. This survey found that there are numerous active citizens of the rural digital financial sector who have great potential to develop the digital financial sector. With a little digital financial support, these people can become the powerful innovative hands of micro-entrepreneurs. But in reality, most of the citizens of the city of Bangladesh get various modern services and facilities of the digital financial sector, about 80% percent of the people in the remote villages still remain outside those modern facilities and services. One of the reasons for this is the lack of good quality digital gadgets among the villagers. But if the village people get the opportunity to use good quality digital gadgets, then they have no difficulty in getting all the benefits of digital financial services at their fingertips. That's why the modern version needs the help of good quality digital android technology.

Although digital devices are now produced in Bangladesh, the price of digital gadgets has become a bit cheaper than before. However, this price is beyond the reach of the villagers. So, it can be seen that most of the people in rural areas are using low-cost 2G button phones. Usually, these low-quality mobile phones are used only for making calls. However, in this study, the researcher himself recently went to the rural areas and noticed that even though the new generation of the village has smartphones these days, they are low-quality and low-priced smartphones. Most are second-hand smartphones. These are comparatively cheap and old versions and these handsets are being collected and used by the young citizens of the village at a low price due to the convenience of the online buying and selling market. However, the RAM and RAM speed of these smartphones are relatively low. So due to these slow speed issues, problems arise while downloading and installing apps with various benefits of the digital financial sector on these smartphones. So, the village people are forced to spend time and effort to physically visit the agent to get digital financial services.

In order to solve these problems, initiatives can be taken to provide modern and accurate smartphones specially made in Bangladesh (purchased in installments) to the rural population by properly identifying them based on NID numbers with transparency. In this way, the underprivileged rural people of the digital financial sector can be included in the digital financial sector across the country. As a result, the use of the digital financial sector can also bring about excellent dynamics across the country. So, if the village citizens are provided with good quality digital gadgets at a fair price, then the smartphone can become a separate personal bank for the rural citizens of remote villages like farmers, laborers, potters, blacksmiths, etc.

5.11. (iv). The Challenge of Slow Internet

The whole world has now become dependent on digital technology and the internet. Every day we spontaneously use online digital technology. These daily necessities have become an essential part of life. In accordance with statistics of the WB, "If a country has 10% broadband internet users, its national economic growth or GDP will increase by 1.3%." Digital native recent government of Bangladesh is devoted to boosting the standard of life of the nation of Bangladesh and bringing services to people's doorsteps. The current government has digital-friendly approaches. Despite the challenges, planned initiatives for the digital transformation of citizen services are undertaken. The government has taken multifaceted practical steps called 'Digital Vision' to ensure citizens' access to digital financial sector services.

According to recent information from BTRC, the "quantity of digital device internet users in Bangladesh is 110.9 million considerable." However, researchers found that Bangladesh is at the very bottom in terms of internet connection! Speed test Global Index has revealed various internet speeds. It can be seen there, that the position of Bangladesh in mobile internet speed is 135th among 139 countries at the global level. But Qatar is ahead of all with an average of 18 Mbps. According to the information of the same company, the number of subscribers of broadband internet is more than 1 crore. Bangladesh's position in the list of broadband internet services is 99th among 180 countries! This update of last year's Speed Test Global Index results from November 2021 to November 2022 has been released online recently.

This researcher acknowledges that rural social dynamics in Bangladesh have changed significantly over the years due to various factors including digital technological advancements, economic changes, and social impacts. In this survey, the majority 91% percent of the respondents said that they have used digital financial services for their transactions. They have sent money to family, friends, and relatives using digital financial services in the past 2022. This research result indicates that digital financial sector services are still not very popular with 9% percent of Bangladeshis, but the digital financial sector has huge potential. (See figure (4.25.RQ.24).

The fifth-generation internet or 5G (5G) cellular telework technology was launched in Bangladesh on December 12, 2021. But in the meantime, discussions can be heard among the citizens of the village, and mobile and broadband internet has become slow. A survey revealed that 54 percent of the country's rural households do not have access to the internet. This study shows that buffering occurs while watching video content even after receiving mobile 4G. The net keeps spinning. The document takes a long time to upload. Due to this slow speed of internet in the village, the rural small entrepreneurs of the economic sector and the citizens and businessmen appertaining to the financial sector are in irony. Entrepreneurs have to spend extra money to provide services to service seekers by purchasing mobile data personally. Retention of clients has become a major challenge for freelancers living in villages as they are unable to deliver work to foreign clients at certain times due to slow internet. Many ISP institutions based in different neighborhoods have been established in the village. They are not able to provide any service as promised to the customers. Especially if there is a Zoom meeting online, you are afraid that the connection will be disconnected again. Many are using mobile data to retain foreign clients. On the other hand, the project of pulling optical fiber up to the Union government has not been completed even today.

During this study, it was observed that poor internet connectivity in rural areas made it difficult for rural people to access the digital financial sector. In terms of access to digital financial services in this study, respondent customers living in villages reported that entrance to the digital economic sector is tough due to poor slow internet in rural areas. However, the digital financial sector is popularly appreciating respecting means of development and social welfare improvement in the country as uninterrupted internet services increase access to the digital financial sector. This researcher also observed that one person is getting the benefits of the digital financial sector due to being in the capital, while another is not getting the same benefits sitting in the village. This variation and disparity in the availability of broadband internet only due to differences in geographical location is very noticeable in today's digital Bangladesh. Uninterrupted internet access in cities and isolated internet access in rural areas can be interpreted as inequality. The unequal distribution of the digital financial sector due to urban and rural geographical location is holding us back a long way. This researcher personally feels that high-speed internet should be equally as important as having paved roads in villages in the digital age to practice automated direct democracy in the economic sector.

Although the government has an automated vision, the government has provided internet by spending crores of rupees. But that great work is not being implemented. Bangladesh can easily develop more infrastructural development if the rural population of Bangladesh is ensured access to the internet. As the fourth industrial revolution in smart Bangladesh in the coming days, technology products (software) and technology-based virtual services will be the main tools of Bangladesh's export trade, to eliminate the disparity of net speed between cities and villages. Bridging the technology gap connecting village and town territory is imperative to build a smart Bangladesh and become a middle-income country in the future. High-speed internet must reach the village level quickly. As a result, village-leading Bangladesh will be able to connect the people of the whole economy more to the digital financial sector. Policies need to be formulated and implemented to address these challenges to ensure digital governance in the financial sector.

5.11. (v). The Challenge of Digital Financial Literacy

Digital technologies have continuously changed the landscape of the financial sector globally. The utilization of automated technology in the financial sector has created an expansive field of innovative dreams for the digital generation as well as citizens and researchers. Without digital financial literacy, education, skills, and decision-making ability in money-related matters and work are very weak. As it includes the adverse influence on the growth of the individual, it also has an anti-clash about the economic sector in advance of the entire country.

Consequently, illiteracy, and incompetence sensible of automated financial industry make the incompetence till entire life of a person in the digital era. In order to remove the illiteracy related to this digital financial sector, creating videos based on digital apps for the general public and promoting simple educational programs related to the digital financial sector on digital media (such as TV channels, Google, YouTube, and social media) is an urgent need. Even though many people in Bangladesh are not educated, they are very familiar with and use the digital financial sector terms such as send money, receive money, cash out, cash in, ATM, online, internet, flex iLoad, data, GB, MB, etc. These digital activities are essential to meet daily needs, so they are learned to see and use them.

In this context, the results of this research show that 32% percent of consumers in the digital financial sector say they have a different opinion. 28% agreed with this question. 18% percent strongly agreed with this. 12% clearly disagreed and in the coming days, the people of Bangladesh will have to learn from their own innovative experiences and improve the financial sector. These initiatives have achieved the most success in connecting the common citizens of Bangladesh to the digital financial sector journey. Those success factors were well understood: based on that, the development of the digital financial sector should be paved.

However, digital financial transactions are an important adjunct to life in the digital age. This digital education helps individuals adopt financially responsible plans in life. Citizens benefit from managing their retirement pensions etc., with expertise in this digital financial sector.

5.11. (vi). The Challenge of Skilled Manpower

Digital devices in Bangladesh have opened new doors which is unknown to the citizens. Citizens are able to improve their quality of life through these digital skills. This development of digital innovation power is an important adjunct to human capital in the present era. But although it is unpleasant, it is true that there is a clear shortage of skilled manpower in digital technology maintenance, repair, and expansion work in Bangladesh today. Relying on foreign 'experts' to keep systems running in the digital financial sector.

Bangladesh's digital financial sector will be further developed in the future to keep pace with the digital technological advancements in the financial sector of the developed world. Almost all crucial affairs in all current digital financial territory in Bangladesh are to develop digital skilled manpower. To operate a sustainable digitalized financial sector in Bangladesh, there is a need to focus on the sustainable development of digital infrastructure. New skills must be mastered for the practical application of new digital technologies. For this reason, local technical experts, hardware and software engineers; Digital skilled manpower should be increased by creating digital technology management experts. It is to be noted that- Father of the Nation, Bangabandhu Sheikh Mujibur Rahman said during the inauguration of the week-long festival organized on the occasion of the first convocation of the BUET, after inauguration on March 15, 1973, "Only scientific and technical education can be helpful in building the country quickly." Bangabandhu declared very clearly. He said, "His government will put more emphasis on scientific and technical education than general education." He said, "I don't need a clerk in present-day to Bangladesh, I need a craftsman to build a country well educated in modern scientific education.", (16 March 1973).

According to this researcher, we do not have the option of creating a sufficient number of technologists, or digitally skilled manpower. The new generation of Bangladesh should be developed with practical education in digital technology. Otherwise, the 'Smart Bangladesh' of the future will remain highly dependent only on foreign manufacturers and experts. In order to truly practice and implement automated direct democracy in the economic territory e.g. smart county of the future, it is necessary for the government to adopt a long-term plan with sincerity in this regard.

5.11. (vii). Challenges of Operations Management

The digital financial sector is an eco-friendly business. Despite numerous challenges faced by the NBFI or digital financial sector, the sector has to depend on its potential customers to survive and thrive. This 'trust' of customers and investors not only takes into account the 'promise of benefits and returns' of the digital financial sector but also how businesses are run and whether they will survive in the long run. Striving for ethical governance with a view to increasing customer confidence is essential for management development in this sector. Because, in a 'customer-centric' financial system like the digital financial sector, customer trust always comes first.

In this survey, we asked about Mobile Financial Services Regulation 2022. I asked how consumer-friendly is the use of digital payments for goods and services in Bangladesh. In the data figure (See: 4.71.RQ.32.4.), a maximum of 48% of the respondents clearly stated that they see digital controls as customer-friendly responsible guardians and 'agreed' to the question - Yes, digital financial Regulation of Services The use of digital payments in goods and services is completely consumer friendly. The results of this research indicate that consumers of the digital financial sector, a large proportion of respondents have full confidence and trust in the policies of the digital financial sector at all times. However, 23% of the survey respondents commented that they do not think anything about the regulation of digital financial services. They rated it as 'indifferent'. This result indicates that these respondents may have other mixed views on this issue.

It should be noted here that the Bangladesh Bank regulates, implements, and controls digital financial sector activities in Bangladesh. Monitors and manages. That is why Bangladesh Bank has corporate governance guidelines. (See Appendix 5). There is a need to develop a new digital financial sector policy to strengthen corporate governance in the digital financial sector to prevent fraud and theft in the current financial sector. Finally, it can be briefly said that it is very important to improve the service quality of the financial sector through the practice of digital governance and ethics mandatory for the digital financial sector in Bangladesh.

5.11. (viii). The Challenge of Cyber Threats

Digital transformation of Bangladesh's mainstream financial institutions has facilitated bringing financial services to people's doorsteps using low-cost, simple, and sustainable technologies, but the digital financial sector faces various digital technological risks, including the risk of cybercrime. “We are living in a globalized world. Cyber hacking is a common phenomenon in the current age. All countries of the world are now dealing with cyber threats. The foreign hackers took away 101 million US dollars from Bangladesh Bank's reserves in February 2016. Twenty million USD was returned to Bangladesh from Sri Lanka following an intervention by BB as well as a spelling error in the payment instructions. Another 17 million USD were recovered from the Philippines later on.” (The Daily Asian Age. 03 October 2019. Article by Sheikh Anwar.).

Monitoring cyber fraudulent transactions and cyber risk management in the digital financial sector has become an important issue in providing digital innovative financial services since the heist of Bangladesh Bank's reserves. Hacker groups often take control of financial sector websites, servers, and transaction systems. The financial sector is a significant target of cyber threats. Cybercriminals attempt to exploit digital technological vulnerabilities to gain access to sensitive digital data. In particular, the digital financial sector steals sensitive data and then misuses it. Hence, the most important risk and concern for the current digital financial sector is cyber threats. cyber threats cause devastating financial losses to consumers and the financial sector. Customers and merchants are unable to make their transactions, and unable to access normal accounts. These disruptions erode confidence in the financial sector and lead to financial instability. Many times, consumers unwittingly share various data such as name, phone number, and email address regularly across various online platforms. The fear of cyber hacking has intensified in Bangladesh after the personal information on national identity cards was leaked. For this, the financial sector has developed additional precautions. Bangladesh Bank has also increased surveillance.

The CIRT report revealed that the financial sector of Bangladesh remains a top target for cybercriminals. According to CIRT, in 2019, three million dollars were stolen from the cash machines of three private banks in the country with cloned credit cards. In 2014, Tk 2 crore was stolen from Somali Bank and transferred to an account in Turkey. Information about cardholder information of various banks in the country has been leaked on the dark web. Apart from this, the report also highlighted the fragile situation of the security infrastructure of the financial sector. CIRT asks to be careful in the financial sectors so that transactions are not done through fake accounts.

The digital financial sector in Bangladesh cannot take steps to protect against cyber hacking due to a lack of policies, financial facilities, and adequate manpower. It has been observed that young workers without senior job experience are not hired in the financial sectors, while young people are involved in cyber hacking and preventive work. Therefore, young workers skilled in digital technology are needed. On the other hand, skilled tech workers are not willing to join junior ranks. As a result, skilled cybersecurity personnel are absent in the country's financial sector due to complex recruitment policies. It may be noted that the BIBM investigated research last year (mid-2022) on cyber risks in the digital financial sector. " Higher than 36% of Bangladesh's financial sector is at high risk of cyber-attacks," the research report said. In this regard, lack of investment in strengthening security systems, lack of skilled personnel and awareness of bank authorities and customers is blamed."

The results of this survey revealed that thirty-two (32%) percent of the respondents opined that preparedness to address digital vulnerabilities in Bangladesh's digital financial sector is very low. Twenty-two (22%) percent of respondents commented that they do not think much about security issues in the digital financial sector and rated them 'indifferent'. An average (21%) percentage of respondents 'strongly agreed' that there is an urgent need to enhance cyber security in the digital financial sector. And the average survey response rate (20%) percent said they had no opinion on strengthening cyber security in the digital financial sector, rating them 'disagree'. Only five (5%) percent of consumers or respondents in the digital financial sector clearly opined from a governance perspective — cyber threats are not likely and cyber security is not required to be enhanced as digital financial transaction thresholds are very low in Bangladesh. Respondents disagreed on enhancing cyber security in the digital financial sector. (See figure-4.53.RQ.30.3.).

5.12.1. Policy Recommendations

Recently in Bangladesh, there has been great progress based on digital technology in the financial sector to build a digital economy, to establish accountability and transparency in the activities of the digital financial sector. A strong foundation of digital infrastructure was created in Bangladesh 15 years ago. Considering the situation before 2009, it can be said that Bangladesh's progress in implementing digital governance in the financial sector is not insignificant compared to other South Asian countries. In one word, Bangladesh has come a long way in establishing digital governance in the financial sector. Observing the current rank, position, and digital developments of Bangladesh in the financial sector of the world, it could be declared that the state gripped many initiatives for the rapid development of automated direct democracy. In the future new automated apparatus, Artificial Intelligence (AI) will be widely used. It is clear from this study that there are several issues and challenges to improving automated direct democracy in the area of finance in Bangladesh. Initiatives can be taken to address the issues to smooth the journey ahead for Smart Bangladesh. Therefore, this study recommends the following policy.

5.12.2. Policy Formulation and Evaluation

Digital technology is changing rapidly. Advanced digital technologies are widely used in the exercise the automated direct democracy in developed countries. Because the implementation of automated governance in the financial sector reduces costs and corruption, digital financial information ensures transparency and accountability in administrative processes and security. After the triumphant execution of `Automated Bangladesh' in 2021, now it is time to realize the Sustainable Development Goals 2030 (SDG implementation) and the vision of 'Smart Bangladesh' by 2041 and the goal of the fourth industrial revolution. Hence it becomes necessary to look at how to achieve further improvement and prosperity in the financial sector of the country. Old policies need to be adapted to accommodate the current changing nature of digital reality and build a digital economy in Smart Bangladesh. This study shows this particular customer of the digital financial sector is facing various problems as the channel platform of the digital financial sector is not integrated into our country.

For example: As the digital payment platforms are not unified, cross-platform payment or money swaps cannot be done. Individuals need to register on several (instead of one) platforms to get different services. i.e., you need to have a Tele talk Bangladesh Ltd sim to pay for the Primary School Certificate (PSC) examination fee, a Rocket DBBL Mobile Banking account to pay for the BCS examination fee, and a bKash account to pay for bus tickets, and a Nagad account to pay for COVID-19 test in BRAC Bank Limited ATM Booth and so on. These are very annoying to the digital financial sector customers. So, this system should be like this, if you pay for a bus ticket from your Nagad account, bKash will get a commission. To tackle this problem, Bangladesh Bank has recently developed a platform for inter-transaction called 'Binimoy'. A maximum of 25 thousand takas per day can be sent from bKash and Rocket numbers through this platform. Five transactions can be made per day. Mobile banking service apps may need to be updated after registration. According to the Bangladesh Bank circular, sending money from mobile banking to mobile banking using exchange platforms such as bKash to Rocket costs Tk 5 per thousand. The cost of sending money from mobile banking to the bank is Tk 10 per thousand. The cost of sending money from mobile banking to the payment service provider's e-wallet has been fixed at Tk 5 per thousand.

It has been observed that some specialized financial sectors of Bangladesh enjoy the benefits of government work transactions. For example, the medium of government digital financial transactions (such as salary allowance, utility bill payment, Padma bridge toll payment, Metro rail ticket purchase, tax, tender quotation money, freedom fighter allowance, and even welfare allowance sent by the prime minister, etc.) is determined by the government itself. Government work refers to the payment of government transactions through the digital financial sector of development or cash. Thus, because the government is very focused on a specific financial sector, competition, discrimination and distortion of the automated financial territory market are taking place because of the facilitation of use of the specific digital financial sector. Given such exclusive access to a particular digital financial sector, these specific digital service providers become less focused on innovative development initiatives in the digital financial sector market. As a result, they become inefficient and corrupt.

Therefore, in the current context, to make the digital financial sector of Bangladesh more prosperous, creative, and customer-friendly, all companies should be given a policy opportunity to enter the competition. Only then can Bangladesh's digital financial sector become committed to providing better services. In the current situation, Bangladesh Bank can revise and add existing policy tools to create a competitive new financial market without discrimination by evaluating the policies of discrimination in the digital financial sector.

5.12.3. Digital Transaction Costs to be Rationalized

It is true automated apparatus transformation in the area of finance is recognized as a part of the incentive subsequent ongoing development and development of Bangladesh. Digital financing often offers lower fees than the traditional financial sector or doesn't charge any subscription fees at all as they have lower fixed costs so they can be cost-saving for customers. On the vendor side, and financial sector side, there are fewer operational costs involved in digital financing and the number of staffs required is much lower. In recent years, the digital financial sector has been investing more in digital financial technologies like ATMs, agent financing, and online virtual financing Apps are also inspiring their customers to use these digital technologies. Digital financing is a place of much reliance and trust for financial transactions among the vast marginalized age-old population who are without resources and unable to enter conventional areas of finance. This, along with the benefits of low-income people, large corporates and multinational organizations are also benefiting through digital financing. However, there is dissatisfaction among citizen consumers due to the high rates charged for most digital financial services in the financial sector. Charges for transfer of money, especially cash out or cash withdrawal, are Tk 18 to Tk 20 per thousand.

This study finding, majority twenty-four percent (24%) of the respondents give the highest seven (7*) stars score, considering low transaction costs, eighteen (18%) percent of the respondents give (3*) stars score, considering low transaction costs, and fourteen (14%) percentage of respondents give two (2*) star score, considering low transaction costs. Only twelve (12%) percent of the respondents gave a four (4*) star score, considering low transaction costs, and eleven percentage (11%) of the respondents gave one (1*) star score considering low transaction costs. Six percent (6%) of the respondents give a five (5*) star score, considering low transaction costs, and four (4%) percentage of the respondents clearly stated cost of the digital financial sector is `cheap'. Another four percent (4%) of the respondents describe `indifferent' on the point of cost saving, lower rate, Only three (3%) of the respondents stated `very cheap on the point of cost saving, lower rate, and another three respondents (3%) of the respondents give six (6*) stars score, considering low transaction costs, e.g. cost saving (Lower rates, transaction fees), and only one (1%) percentage of the respondents stated about cost of digital financial sector are expensive.

(See figure 4.30.RQ.28.2). For the purpose of facilitating balanced growth of Bangladesh’s digital financial sector and creating a trusting environment, the transaction fee of the digital financial sector should be reduced and re-determined according to the financial capacity of the people of the village due to logical reasons. Lowering digital financial service charges will enable more citizens in rural Bangladesh to return to the mainstream of the financial sector.

5.12.4. Diversified Digital Financial Sectors Products

According to the outcome of this research, feasible suggested a particular success regarding the digital financial sector established on the Wi-Fi internet today can be observed more in the following areas. For example, the digital financial sector is widely used in various personal and commercial funding services, including home equity installment loans, plastic credit cards, savings certificates for life and wealth security e.g. insurance for urban and rural household customers.

With the help of today's changing digital technologies, the micro entrepreneurs and startup owners in the villages are taking advantage of the digital financial sector to innovate and market digital new products in their businesses. Although there is widespread trade as a result of the success of these diverse digital economic innovations in the area, this researcher observes that in many cases, financial institution loan assistance is not easily matched without lobbying by pressure groups, despite urgent needs. Therefore, keeping in mind the success of the industrial revolution in future Bangladesh, the scope of digital financial and commercial sector activities needs to be assessed. Ethics and governance practices need to be strengthened in the digital financial sector. In addition, customer confidence should be increased and customer businesses should be supported with financial credit for market expansion of various innovative products. In this way, the new entrepreneurs of the digital financial sector, the new generation of commercial customers should be inspired by diversified income generating activities. For this reason, appropriate action strategies should be adopted at the present time.

5.12.5. Increase Access to Wi-Fi

Necessary measures are needed to be taken to increase the access to Wi-Fi internet for rural general people. The cost of Wi-Fi internet bandwidth needs to be reduced in order to increase access to Wi-Fi internet.

5.12.6. Fraud Analytics/BI Software

The digital financial sector needs to use anti-fraud digital software to identify genuine customers, maintain fundamental ownership and quality of deposited assets, detect suspiciously, reverse digital financial transactions, or verify authenticity. which will automatically inform the concerned responsible executive about financial irregularities. In this way, if digital governance is practiced in digital financial transactions, it is also possible to prevent illegal transactions, financial fraud, money laundering, and militant and terrorist financing in the financial sector. That's why every digital financial sector of

Bangladesh needs to take the initiative to purchase authentic software including digital software and use it properly.

5.12.7. Provide Interactive Voice Response (IVR) Menu for Easy Digital Financial Sector Operations

Now, thanks to smartphone apps, cash is always at hand. No need to physically visit banks for money needs. There are separate apps for shopping, food, doctors, and transportation. There are numerous digital apps in the digital financial sector as well. Everyone alongside automaton or Apple Inc. iOS smartphone or another mobile operating system could download and make use of these apps from Google. These apps are available in both Bengali and English versions. Bill Pay, QR Payment, Merchant Pay, Remittance, and Check Book are all at your fingertips due to these apps. Nowadays there is no need to physically visit banks for transactions, or account opening. Instead of digital information-based authentication in the field of transactions, in the digital financial sector in the future, it may be suggested to take the help of sophisticated technical authentication such as voice identification, voice synthesizer application apps, interactive voice response (IVR) menu, or voice biometrics solutions. In this, the illiterate customers of the rural digital financial sector will also get easy financial transaction facilities.

5.12.8. Reduce Gender Inequality in Automated Area of Finance

Basically, the automated economic sector works to connect citizens (male and female) outside of the institutional banking services to digital interface-based transactions and alternative means, but this study shows a wide difference between male and female customers in the automated economic sector. as it may be seen, most of the women in the village still do not own their own digital devices. Due to this, women customers are much less than men in the digital financial territory in Bangladesh and women in the nation are far behind in the services of the digital financial sector. A joint research report by the UNCDF and Micro Save Consulting also clarified that "69 percent of the country's women are still excluded from the services of the digital financial sector. In this study titled "Challenges of Digital Governance in the Financial Sector in Bangladesh”, the results of the survey found only (38%) percent of female respondents using the digital financial sector while sixty-two (62%) percent of male respondents. (See Figure 4.3.RQ.2).

This study also shows that while urban women have a good rate of use of the digital financial sector, rural women are lagging behind. Hence there is a huge potential to expand the digital financial sector among women. Especially women whose husbands or guardians live abroad, have to make transactions. As a result, there is an opportunity to bring them under the services of the digital financial sector. In addition, recruiting more female digital financial sector staff, and agents may help increase the comfort levels of female clients. Now in government organizations, for example, various types of concessions are given to women service recipients. If the digital financial sector is made more women-friendly; Or if more discounts are given, there will be more interest in the digital financial sector among women and the sum of female users in the digital area of finance in Bangladesh will increase.

5.12.9. The Use of Upgraded Quality Smartphones is Required in Villages

This study found, that most of the citizens of the city have access to various modern services and facilities of the digital financial sector, but about 80% percent of individuals in village remote territory in Bangladesh are still out of those services. The biggest origin of Bangladesh's economic growth is the rural economy. Most of the people live there. This study shows that numerous working people in villages have great potential to develop in the financial sector. With just a little digital financial support, the hands of these people can become the hands of small entrepreneurs.

But if you want to get good quality financial services, you have to take the help of good quality digital technology. Although digital devices are now being produced in Bangladesh, the cost is high and most people in rural areas are seen using low-cost 2G phones. So that only calls can be made. This survey also found, that nowadays, the new generation of the village has smartphones in their hands, but they are cheap and old versions, so they have low RAM and ROM speed. These speed issues occur problems while downloading and installing digital financial sector apps on those phones. Village people therefore physically attend the agent spending time and effort to receive digital financial services. In this case, if initiatives are taken to provide modern and proper quality smartphones at affordable prices for rural people, there will be excellent dynamics in the digital financial sector. From farmers in remote villages to people of all walks of life, the mobile phone will then become a bank itself.

5.12.10. Training of Digital Financial Sectors Officials

The digital financial sector officials should be trained to provide good service delivery. Generally, employees of the digital financial sector sincerely listen to the problems of the customers and accordingly take practical steps to solve the problems. As this study shows, many agents and workers in the digital financial sector are not properly trained to provide services. They are not able to answer customer queries and sincerity in service delivery is also not seen in many cases. There are allegations of financial fraud and dishonesty against many of them. Therefore, training is required to make use of the positive environment that has been created as a result of multifaceted initiatives in the digital financial sector in Bangladesh to move forward more effectively in the future.

Digital technology has added to the economy along with development and created new employment opportunities in the digital financial sector. Therefore, it is necessary to develop a young skilled workforce in the coming days, to get better results in the financial sector using new digital technologies. There is no alternative to training to boost the standard of work through the digital financial zone in the coming days. Training is a planned activity. Training of employees in the digital financial sector results in changes in required knowledge, skills, and attitudes. Also, training is needed to develop and raise awareness of human qualities. According to social scientists, economic disparity may increase if training opportunities are not widely extended to all sections of society.

So as to ensure sustainable financial development in forthcoming smart Bangladesh, employment opportunities in the digital financial sector must be created by providing appropriate skill development training. For this reason, the new generation should be developed with adequate and correct skills and the new technology applications should be used. Without quality training, this goal cannot be achieved. Bangladesh's digital financial sector needs to create an incremental economic awakening to overcome the challenge. Policymakers of the digital financial sector can help the expansion of the digital financial territory through the process of training and adopting policies based on this reality perception, monitoring, review, and analysis.

5.13. Limitations and Direction for Future Research

The world is moving towards a fast, digital, and dynamic smart civilization and digital financing is a technology that is keeping in line with it. In this study, the reality of digital direct democracy practices in economic zones has been clearly and precisely monitored in the research. Digital technology in the financial territory of the present-day country has reached such a point that it has become a unique and indispensable tool for survival in the daily life of the present human civilization. This digital financial driving force is significantly empowering Bangladesh to address development constraints. In the current financial sector, the society and the state of Bangladesh are moving forward towards prosperity with the benefit of modern digital technology. In this survey, a strive was achieved to discover all challenges in practicing governance of the digital financial sector in Bangladesh, as well as to bring out the positive aspects of the digital financial sector as well as the negative aspects. The study also identifies the issues and challenges of the digital financial sector and describes them appropriately.

The study identifies the factors that have worked to drive the adoption of the digital economic industry in Bangladesh. A research review concentrated a broad-based digital finance has been completed. In particular, the contexts of citizen awareness about the digital financial sector, high spending in the automated economic sector, and the reality of digital governance practices are clearly and precisely monitored. Although the present study has identified the wide demand, acceptance, and potential future influencers of the digital financial sector, the identified factors alone are not sufficient for the research findings. There are also other factors that clearly need to be further monitored in future studies. This research indicates, that there is great potential for expanding the digital financial arena among the rural poor of Bangladesh in the future. However, there are various socio-social and technical constraints in the village.

Issues and challenges identified in this study regarding digital governance in the financial sector include lack of uninterrupted power supply in rural areas of Bangladesh, slow internet in rural areas, shortage of quality digital devices in rural areas, poor digital literacy among rural citizens, etc. Due to these problems, the benefits of the digital financial sector are still not being adequately disseminated to the general public. Therefore, to implement the government's commitment, it is necessary to make administrative reforms in the digital financial sector to make citizen services more accessible and faster. The study shows that rural citizens are yet to be fully benefited by the digital financial sector. Despite these problems and challenges, the research shows that there is a lot of potential for digital financial sector services to empower rural women in Bangladesh. It is expected that the authorities will take urgent initiatives to solve the problems by taking into account the issues related to the digital financial sector described in this study.

This study also has some unavoidable and significant limitations. For example, the task of collecting data is identified as the most important problem. Note that during the course work this study due to the pandemic Covid-19 social distancing and lockdown restrictions were imposed on all of Bangladesh. Due to this, it was not possible to complete the work of survey data collection by being physically present. Instead, all the technical work of the primary data survey has been completed by sending the questionnaire to the research respondents through digital email and collecting the answers. Another limitation is the funding of this research: Although this study required broad-based citizen input. However, due to the severe financial crisis, it was impossible to collect public opinion and data on a large scale nationwide. Despite these limitations, the problems found in this study are important and it can be expected that those problems will be clearly implemented by the relevant authorities. Based on this research some suggestions, and recommendations are also given for the policymakers and service providers of the digital financial sector. On the eve of the forthcoming Smart Bangladesh and the upcoming fourth industrial revolution in digital Bangladesh, this thesis will undoubtedly pave the way for more research. It also needs further future study with more variables such as service quality, trustworthiness, brand performance, etc., on the digital financial sector and helps inspire future researchers to research this concept.

5.14. Conclusion

The outcome of the adaptation and capability of the citizens of Bangladesh in digital technology during the course of the last 15 years, Bangladesh has truly reached a new height of digital excellence. Bangladesh's digital financial sector has created opportunities for citizens to develop intellectual practice and creativity. Bangladesh is advancing economic development rapidly by applying digital innovative technology. The phenomenal expansion of android apparatus in the economic sector has been given birth directed toward a new sector the `digital financial sector’ in Bangladesh which is now developing rapidly. Another name for this is the digital economy. Due to the ever-developing globalization process, the scope of Bangladesh's digital financial sector is steadily increasing. Digital governance of the financial sector has made all financial services accessible to the masses at affordable prices. Currently, in Bangladesh, 4IR instruments 5G and AI are being widely used in the digital financial sector to serve citizens. The introduction of 5G has created new opportunities considering the blooming of digital basic structure through financial territory and employment for a large population of Bangladesh. New digital financial services are being connected rapidly under the close supervision of 'The Bangladesh Bank', the policy-making institution of the digital financial sector. Bangladesh Bank is providing various services online including treasury challan. As the digital financial sector is managed efficiently, transparently, and with a reliable technological digital governance system, the government is using the digital channels of the financial sector to disburse huge sums of money to citizens to expand state social security programs to ensure transparency and accountability. Digital Bangladesh's financial sector has already achieved significant progress through the use of modern automated infrastructure and practice and the expansion of digital governance. Therefore, digital governance is a breakthrough phenomenon in financial sector activities in Bangladesh. This digital governance of the financial sector holds multifaceted promise for developing emerging economies like Bangladesh. Bangladesh has already made a strong position in the development index due to the multidimensional adoption of digital mechanisms in the economic sector. Therefore, learning from this model and the success of automated direct democracy practice in the economic sector of Bangladesh, this concept is straightaway practiced by 17 countries of the world including the Philippines, Turkey, and Somalia beyond the borders of the country.

To make Bangladesh a poverty-free and high-income country, more innovation-based digital economy transformation is needed. Knowledge of science and technology innovation, research, and transformation capabilities are essential components of automated finance. to make all development of the automated financial sector of Bangladesh more sustainable and faster, it is necessary to create skilled human resources suitable for the upcoming fourth industrial revolution. Also, digital governance practices and services should be extended to all citizens through digital technological development in the financial sector. Also, new business entrepreneurs are needed for the further expansion of the digital economic sector. For this reason, furthermore providing education and training to create creative entrepreneurs and innovative initiatives of the emerging new generation should be promoted under the financial assistance of the digital financial sector. The need of the hour for the young generation to bring all kinds of digital governance practices and services in the financial sector to the cloud. There is no alternative to creating timely policies to pave the way for the balanced progress of Bangladesh's economic territory as a consequence establishment of reliable management supervision and control of digital governance practices.

5.15. Support

The study ignores each and every sponsorship of the external financial sector or any other institution.

5.16. Well-Informed

The respondents were informed about the study well in advance of taking the survey to collect data for this study.

5.17. Data Access Statement

Most of the data in this research is collected from third parties. Hence the issue of sharing is not applicable here.

5.18. Confirmation

Any review or opinion of any researcher or author to improve the quality of this research will be received with sincere thanks from the author.

5.19. Disagreements

The authors have no copyright disagreements or declared no wars of words.

5.20. Clause

This research does not reflect any opinion of any financial sector or any institution. Everything that is described in the research from the beginning to the end of the research is only a reflection of the researcher's own ideas and opinions. Therefore, the findings, reviews, suggestions, conclusions, etc. obtained in this study are entirely the researcher's own.

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Appendix- 1

Appendix- 1

Case Studies

Citizens of all over the Bangladesh are getting various civic benefits of the state including the financial sector instantly at their doorsteps by using the services of the digital financial sector. This has greatly encouraged different types of people in remote areas to enjoy these digital financial services more. Digital financial sector platform has created huge popularity among financial sector customers in Bangladesh as citizens do not face any problem in getting services effectively in minimum time through digital governance practices in the financial sector.

In the context of recent triumphs of the digital financial sector, this researcher has taken and conducted ten (10) extensive case studies, individually and face-to-face with diverse customers of the digital financial sector from direct physical presence across the country. Through these case studies, an attempt has been made to understand the perceptions of consumers regarding governance practices in digital financial services in Bangladesh. It may be mentioned here that; The comments and expressions expressed by these consumer respondents in the digital financial sector have drawn attention to some admirable psycho-statistical and behavioral embellishments. A summary of the analytical results of this particular interview-based investigation work is recycled in the light of the discussed 'case study' report. Presented below are ten (10) short case studies that this researcher wrote after personal interviews with customers in the digital financial sector.

Case Study – 1

Ahsanul Kabir Dalim, a 45-year-old post-graduate from Bogra Government Azizul Haque University College, is currently engaged in agriculture. This highly educated young man in Sonatola of Bogra district has acquired a wide reputation in the area by cultivating innovative varieties of crops on the lease of other people's land and delivering products to customers through couriers taking online orders across the country. Everyone in the surrounding area knows him as an 'innovative agricultural entrepreneur'. Many unemployed youths in his neighborhood have now engaged themselves in this 'innovative agricultural entrepreneur' profession. Mr. Dalim says, “I order seeds and seedlings of different varieties of foreign vegetables, fruits, etc. online. Prices are posted online. Send money through digital virtual communication. Seedlings and seeds come to my home address.

This digital financial sector gave me access to my financial accounts anywhere. All my problems are solved. Meanwhile, I use Wi-Fi internet at my home and run Google, Facebook, YouTube, etc. However, I live in a rural area where local citizens are unable to take advantage of the digital financial sector due to a lack of education. They are unable to integrate into the mainstream financial sector. Even in the digital age, money is deposited in the `Sinduk’ (A box with a key made of strong wood. Used in Bengali houses for storing money.) of the home. The financial sector is not used for money transactions.” He further said, “The problem of our village is the electricity problem. As my house is in a very poverty-stricken area away from Bogra district, load shedding of rural electricity often occurs due to various reasons. Besides, when I am away from home during the day and working on my farm in the far field, my smartphone naturally does not have Wi-Fi internet. Then when I need internet, I can easily send my digital money to a specific number and buy a mobile data package. By touching the data connection mode on my digital gadget and changing the network to turn on the data, I can instantly use digital finance and able to receive the required digital financial services. But sometimes I have to go to an agent shop located in a small market near my home for digital financial transactions. Due to this digital Android smartphone in hand, I have been greatly facilitated in making business financial transactions easily."

Case Study- 2

Harunur Rashid, a 45-year-old graduate businessman, lives in an area called Sanandbari Bazar, Charamkhawa Union, Dewanganj Upazilla, Jamalpur District, Mymensingh Division. He usually pays for various goods and services through the digital financial facility account. However, he said he is in difficulty as his area has no WiFi broadband internet facility. In digital Bangladesh, people like him in remote areas are deprived of the benefits of universal digital citizenship due to the lack of access to online internet.

He said, “I always buy mobile data package on my smartphone and use it online. In my free time from work, I enjoy browsing social networks such as Facebook, YouTube, etc. Now I can easily pay digital electricity bills through my digital smartphone. No need to go to the bank to pay these bills and stand in a long line. But a few years ago, I had to go to the city bank branch office of Dewanganj Upazilla Sadar several times to pay government service fees, and government bills for various civic benefits. Now that era is no more. As everything in the country is going digital, we are now very much benefited as payment of all the above-mentioned civic service bills is now possible through this smart gadget in our hand." There are Android digital gadgets everywhere.

In Bangladesh, this android gadget, smartphone has now become a fruitful and useful tool like the strong hand of the working people. Even from this remote village, I am able to complete transactions on my smartphone whenever I need to use digital financing. I purchased a mobile data bundle online as per my convenience and affordability for round-the-clock internet usage. Like before, I don't have to go to local shops late at night or at untimely times to purchase talk time and flexi load of this smartphone. Through the digital financial sector, I purchase almost all types of products and services for daily use in my home, including call time, data, and even online shopping. Yet for people in remote rural areas like me, there is one enduring woe in this digital age at my locality—the “lack of access to Wi-Fi broadband internet service”.

Case Study- 3

Razu Ahmed, a 36-year-old primarily educated vegetable shop owner at Haragachh, Kaunia, Rangpur district, expresses his sorrow- “I am the only person who earns money to sell my vegetables to support my six family members. Although once digital Smartphone was a luxury, now this gadget is very cheap to purchase, because digital Smartphone is now produced in Bangladesh. I have a Smartphone also, but no Wi-Fi. The cost of mobile data is high for a low-paid individual just like me. I do not have any financial record in the conventional financial sector or digital financial sector at all."

Case Study – 4

A 58-year-old, graduate SME businessman named Sheikh Mohammad Fuad. Lives in a village called Kakanhat in a remote area of Rajshahi. On one hand, he is a farmer and on the other hand, he is a fisherman. This is his rural prosperous golden affluent life. He said, "I don't have any financial account. I don't have a bank account in any branch. Opening a financial branch office-based account is very complicated, for example, writing and signing up on bank printed paper forms and providing attested photocopies of sufficient legal documents for identification and recognition.

I don't need to spend so much time opening a bank account. I am now doing transactions in the digital financial sector all the time with my smartphone or using village agent shops. I am now totally free from the hassle of a traditional bank office."

Case Study – 5

Abdul Malek (62), a resident of Zigatola, Notun Rastha (New Road) area of West Dhanmondi, Dhaka, a wholesale grocery shop owner, said - "As a wholesale grocery shop owner, every day the cars of representatives of different companies come to my shop to deliver various goods and take the price of the sold goods in cash. Until now financial transactions had to be done in cash. As a wholesale shopkeeper, I had to go to the bank every morning to collect retail cash for selling goods to retail shops and also for cash transactions. Thus, on the basis of merchandising, I have to maintain an economic transaction relationship with numerous consumers every day. Seen - if any of my customers are unable to pay the product price together in cash due to any reason, the customer asks me to pay the price in a digital financial account. Earlier I did not have any trading account in the digital financial sector.

Now I am managing three digital financial sector accounts e.g. 3 specific channels. I have 3 smartphone sims based on NID. Apart from I also manage several digital financial sector trading accounts from my shop." He commented – "According to me, adoption of digital financial services is not a challenging issue. Rather, many businessmen like me do not waste time unnecessarily as it is very easy to do digital financial transactions through digital smartphones. There is no need to leave the shop and go to branch-based banks in the traditional financial sector for long hours. That is why I praise the 'Digital Bangladesh' initiative".

Case Study — 6

Morzin Begum, Age 50, Address— Bazari Para, Upazila Dewanganj, District— Jamalpur, Mymensingh. This housewife from a remote village in Bangladesh says — "I don't have any financial sector account. But recently I have been accessing a bKash transaction account using my cell phone number to receive remittances from abroad. I receive my younger son's remittances from the Middle East through the digital financial sector. I think it's very convenient. I really like it a lot. Because now I don't have to go to a formal office-based bank located in a city market far away from home for cash. I just go to the Flexi load shop (digital financial sector agent) near my house. Get cash in hand. To me, transactions in the digital financial sector are much easier and hassle-free than transactions in the formal old-model financial sector."

Case Study – 7

Monira Parveen, a 28-year-old primary school teacher in Sunamganj Sadar, Sylhet, said, "I am now using the digital DPS transaction account managed by bKash-IDLC joint venture to save money. Earlier I did not have the opportunity and time to open an account in a bank office to save money." He further said- "When I came to know about bKash -IDLC Digital DPS through bKash app, I found this digital method of saving money easily accessible and more convenient. So now I can easily save some amount from my monthly salary."

Case Study – 8

Farooq, a 26-year-old garment maker, works as a worker in a garment factory located in Gazipur, Dhaka, and lives in that area. He said, "I receive the salary of my garment company directly through the digital economic sector. Again, through the services of this digital financial sector, I send some monthly salary to my mother, who lives in a remote village. My mother went to a known flexi load shop (agent) in the village and collected the cash. Now I don't have any tension like before to send money to my mother every month."

Case Study- 9

Ahmed Faisal, 38 years-old founder of a small IT firm at elephant road, Dhaka. He said, I have no need to go to the formal financial sector physically and has been doing all my financial transactions digital.

Case Study- 10

Faiza, 24-year student of Mirpur Bangla College, remark interesting. It is fantastic digital progress and digital governance service that government provided. I don't need to go financial sector for paying fee etc. Instead of this, I can able to send it via bKash e.g. digital financial service. And feedback was got quick and instantly. It saves me much. That's all awesome digital magic in Bangladesh, she said.

Appendix- 2

Appendix- 2

Research Questionnaire on "Challenges of Digital Governance in the Financial Sector in Bangladesh".

Disclaimer:

The information provided by the honorable respondents will be kept with strict confidentiality and will be solely used for education and research purpose. xposure7@gmail.com Switch account.

Supervisor: Professor Dr. Dil Rowshan Zinnat Ara Nazneen. Name of Student: Sheikh Muhammad Anwar Hossain. M.Phil 2nd part. (Thesis) Registration: HA – 198; Roll # 198; Session: 2019-2020. Haji Muhammad Mohsin Hall. Department of Political Science, Faculty of Social Science. University of Dhaka. E-mail: xposure7@gmail.com. Cell: 01711 73 29 29. WhatsApps: 01711732929. Facebook: https://www.facebook.com/XPOSURE7

Surveyor's Information:

Name of the Student:	Sheikh Muhammad Anwar Hossain
Program:	M.Phil.
Supervised by	Professor Dr. Dil Rowshan Zinnat Ara Nazneen
Department and Faculty:	Department of Political Science, Faculty of Social Science.
Institute:	University of Dhaka
Registration:	HA – 198; Roll # 198; Session: 2019-2020
Hall:	Haji Muhammad Mohsin Hall
E-mail:	xposure7@gmail.com
Mobile:	01711 73 29 29

Respondent's Information: (will not be disclosed by the Researcher)

Name of the Respondent:	
Respondent Cell Number:	
Respondent E-mail:	
Respondent's Address	City/Town: P.S. P.O. District: Division:
Date of the Interview:	
Name of the Interviewer:	
Name of the Reviewer:	
Starting & Ending Time of the Interview:	

* Indicates required question

Survey Questions: Put (√) mark in the most suitable option. You can also put multiple (√) marks of a question.

Section: A [Professional Information of the Respondent]

RQ.01**.** What is your Current Age? *

a) 16 – 25 years
b) 25 – 45 years
c) 45 – 60 years
d) Above 60 years

RQ.02. What is the highest education level you have completed? *

a) Primary
b) Secondary
c) Technical Board
d) University Degree

Others (please specify) ___________________________

RQ.03**.** What is your Occupation? *

a) Public Service.
b) Private Service.
c) Self-Employed/Business/Entrepreneur
d) Unemployed
e) Student
f) Other (please specify) ___________________________

RQ.04. Are you working in Financial Service Sector? *

a) Yes
b) No.

RQ.05. If the answer of question 2 is Yes, what is your position in service? *

a) Senior Management.
b) Mid-Level Management.
c) Management Trainee Officer/Probationary Officer.
d) Officer (non-cadre)

RQ.06. How many years you are working in financial service? *
a) Less than 5 years.
b) More than 5 years.
c) More than 10 years.
d) More than 20 years.

RQ.07. What is your average monthly income? *

a) Tk. 10,000 or less
b) Tk. 10,100 to Tk. 50, 000
c) Tk. 50,100 to Tk. 150, 000
d) Tk. 150,100 to Tk. 300,000
e) Tk. 300,100 to Tk. 500,000
f) Higher than Tk. 500,000

RQ.08. Do you own a digital device or cell phone? *
a) Yes
b) No

RQ.09. How many people in your household have access to a cell phone? *

a) 1 to 2
b) 3 to 5
c) 6 to 10.
d) Above 10

Section: B [Information Related to the Financial Transactions of the Respondent]

RQ.10. Do you use cell phone/Tab for any financial transactions? *

a) Yes
b) No

RQ.11. Do you use `Digital Financial Service' (DFS)'? *

a) Yes
b) No

12. How do you know about digital financial service DFS? *

a) Mass Media (television, radio, newspaper)
b) DFS Agent
c) A Bank directly
d) Mobile operator
e) Bank and a Mobile Operator together
f) Another company
g) Friends or Family

RQ.13. How many times do you use your mobile to digital money transfer? *

a) Daily
b) Weekly
c) Monthly
d) Annually
e) Seasonally
f) Occasionally

How do you receive the money you get from service? *

a) Received in cash
b) Paid into Bank Account
c) A/C Payee Cheque
d) Business/Trader
e) Bearer Cheque
f) ATM/Debit Card

RQ.15. Where do you typically (most often) withdraw money? *

a) At the Bank Teller
b) Automated Teller Machine (ATM)
c) DFS Agent Outlet
d) All of the Above

RQ.16. At what time of day is it most convenient to withdraw money? *

a) Between 6:00 A.M. and 9:00 A.M.
b) During Working Hours (8:00 A.M. to 5:00 P.M.)
c) Between 6:00 P.M. and 9:00 P.M.
d) Between 9:00 P.M. and 6:00 A.M. (next morning)
e) Any convenient time.

RQ.17. What Type of digital financial service do you use? *

a) Credit card
b) Internet banking
c) Mobile Banking (e-wallet)
d) Airtime Recharge
e) Fund Transfer
f) Balance Inquiry / Bank Statement
g) Utility Bills Payment
h) International Remittance
i) Savings
j) Cash Withdrawal
k) Payments for Goods and Services
l) Investment
m) Social Activities/ Entertainment
n) Pension Fund Management

RQ.18. What type of bills do you pay using digital financial service DFS? *

a) Flexi Load
b) Cable TV
c) Internet
d) Utility (electricity, water)
e) School Fees
f) Goods for Home
g) Goods for Work
h) Religious Donations
i) Any other Periodical Payment (daily, weekly, fortnightly, monthly, quarterly, biannual, yearly, seasonal)

RQ.19. What type of fund transfer do you generally undertake? *

a) Send
b) Receive
c) Both

RQ.20. What kind of financial services do you want to see being offered via your cell phone? *

a) Savings
b) Cash Withdrawal at DFS Agent
c) More Bill Payments
d) Purchasing
e) Salary Deposit
f) Pension Fund Management
g) Commodity Dealing / Investment
h) Loans
i) Fuel (car, motorbike or generator)
j) Education/School Fee
k) Vehicle License
l) Retail Shopping Bills
m) Rent Car Payment
n) Entertainment (e.g. restaurant, cinema)
o) Insurance
p) Others (Please specify) ____________________

RQ.21. How often do you make digital transaction? *

a) Daily-once
b) Daily –Several times
c) Weekly-Once
d) Weekly-Several times
e) Monthly-Once
f) Monthly-Several times
g) Occasionally (less than once a month)

RQ.22. In the past six-months, did you send money using DFS to your family, friends, or relatives? *

a) Yes
b) No

RQ.23. If the answer of the question # 22 is Yes, then how will you describe the frequency of your digital transactions? *

a) Daily
b) Weekly
c) Monthly
d) Quarterly
e) Semi- Annually
f) Annually
g) Occasionally
h) Seasonally

RQ.24. Which of the following reason is important for you to consider digital financial service? *

a) Physical Security.
b) Safe Transaction.
c) Low Transaction Costs.
d) Least Probability of Fraud.
e) Saving Time and Energy
f) Wider Acceptability
g) Others ______________________

RQ.25. If you are not the user of digital financial service or mobile financial service (DFS) why don't you use it? *

a) Hacking, Fear to security from fraud.
b) Too costly
c) Not easy to use
d) Not aware
e) No need
f) Do not trust
g) Not available
h) Other (Please specify) _________________

Section: C [Information Related to the Significance of Digital Financial Transactions by the Respondent] *

RQ.26. How would you rate the following benefits of digital financial services? *
One star/Two star/Three star/Four star/Five star/Six star/Seven Star
Rate the following questions on 1 to 7-point Likert scale. Put (√) mark in the suitable star option.

RQ.27.	Do you find DFS (Digital Financial Service) is Cheap or Expensive? [1= Very Cheap, 2= Cheap, 3=Indifferent, 4=Expensive, 5=Very Expensive.6. Over Expensive. 7. Too Costly]	1 Star *	2 Star **	3 Star ***	4 Star ****	5 Star *****	6 Star ******	7 Star *******
RQ.28.	How would you rate the following benefits of digital financial services? [1=Lowest, 2=Lower, 3=Indifferent, 4. Poor, 5=Higher, 6=Highest, 7=Top]							
	Ease of Use	1	2	3	4	5	6	7
	Cost Saving (Lower rates, transaction fees)	1	2	3	4	5	6	7
	Time Saving	1	2	3	4	5	6	7
	24/7 Access	1	2	3	4	5	6	7
	Physical security	1	2	3	4	5	6	7
	Safe Transaction due to digital SMS Alert.	1	2	3	4	5	6	7
	Wide Acceptance of Digital Money	1	2	3	4	5	6	7
	Probability of Fraud or Hacking	1	2	3	4	5	6	7
RQ.29.	How would you rate the following statements about your digital financial services menu on your digital device or cell phone? [1=Strongly Disagree, 2=Disagree, 3=Indifferent, 4=Agree, 5=Strongly Agree]							
	My mobile banking menu is very easy to navigate	1	2	3	4	5	6	7
	My mobile banking menu is very easy to understand	1	2	3	4	5	6	7
	It is easy for payment	1	2	3	4	5	6	7
	It is easy to transfer money	1	2	3	4	5	6	7
	It is easy to make a balance	1	2	3	4	5	6	7

	inquiry							
RQ.30.	How do you feel about using digital governance in the financial sectors in Bangladesh? [1=Lowest, 2=Lower, 3=Indifferent, 4=Higher, 5=Highest]							
	Overall Trust	1	2	3	4	5	6	7
	You do not have trust	1	2	3	4	5	6	7
	You Trust in banks	1	2	3	4	5	6	7
	Trust in the technology of digital banking	1	2	3	4	5	6	7
	Trust in third party agent (e.g., pay outlet, cash-out point)	1	2	3	4	5	6	7
	Security from hacking or fraud	1	2	3	4	5	6	7
	Neither trust nor mistrust	1	2	3	4	5	6	7
RQ.31.	From Governance point of view, what is your opinion about digital financial transaction? [1=Strongly Disagree, 2=Disagree, 3=Indifferent, 4=Agree, 5=Strongly Agree]							
	The digital financial companies are fully trustworthy.	1	2	3	4	5	6	7
	The transactions are fully secured.	1	2	3	4	5	6	7
	Cyber security threat is minimum.	1	2	3	4	5	6	7
	The Banks and Financial Institutions offering digital financial service (DFS) are fully accountable for their services and transactions.	1	2	3	4	5	6	7
	The digital financial service DFS companies are fully compliant.	1	2	3	4	5	6	7
	Risk factors of DFS Agent (such as: hijacking, mugging, rubbering, assassination, etc.) is very high.	1	2	3	4	5	6	7
	Lack of Financial Literacy of Digital Financial Service (DFS) users.	1	2	3	4	5	6	7
	Continuous and close monitoring by the Regulator.	1	2	3	4	5	6	7

	The DFS companies will be solely liable for any sorts of financial crime, fraud, forgery done by third party.	1	2	3	4	5	6	7
	The DFS providers are highly professional.	1	2	3	4	5	6	7
RQ.32**.**	Within next ten years or forthcoming days which of the following practices will be fully implemented?							
	Cash-Less Economy	1	2	3	4	5	6	7
	Less-Cash Economy	1	2	3	4	5	6	7
	Use of Digital Currency	1	2	3	4	5	6	7
	Use of Crypto Currency	1	2	3	4	5	6	7
RQ.33**.**	Do you think "Mobile Financial Services Regulation 2022" is adequate enough to							
	Ensure the interest of the stakeholders.	1	2	3	4	5	6	7
	Provide adequate safety measure for financial transaction.	1	2	3	4	5	6	7
	Minimize the Operational Risk.	1	2	3	4	5	6	7
	Enforce the Vendors to equip with DFS in receiving the payments of their goods and services.	1	2	3	4	5	6	7

RQ. 34. Respondent's Information: Name, Cell No and Division only.

* The honorable Respondent's Information will not be disclosed by the Researcher.

RQ. 35. Date of the Interview: *

RQ. 36. If you have any additional comments on the aforementioned study that you think the questionnaire does not cover, please feel free to write below:

Thank You Very Much for Your Whole-Hearted Cooperation.

Appendix- 3

Appendix-3

Researcher Sample Digital Mail to Honorable Respondent

This is one of the sample digital letters from researcher to honorable respondent**.**

To
GM Abul Kalam Azad [24]
Executive Director (Ex-Cadre Publications).
Governors Secretariat, Bangladesh Bank.
(He joined Bangladesh Bank in 1992 as an assistant director. He later served in the bank's Research Department, Monetary Policy Department, and the Governor's Secretariat.).

Dear Sir/ Madam

I am Sheikh Muhammad Anwar Hossain, an Evaluation & Documentation Officer at BIBM. I am also a student of M.Phil. (2nd part thesis) at the University of Dhaka. As a part of my primary data collection of research, I am conducting a survey regarding people's preferences towards Digital Governance, on the thesis entitled `Challenges of Digital Governance in the Financial Sector in Bangladesh' for the degree of Master of Philosophy (M. Phil) in the Department of Political Science, Faculty of Social Science, and University of Dhaka.

I would need only a few minutes of your time to fill out a questionnaire that forms a comprehensive part of my research. Your responses are very important in my quest for data collection for preparing my thesis/ research monograph.

Please kindly spare some time from your busy schedule & respond with my valuable feedback to the questionnaire attached along with this mail.

To find the questionnaire please click this digital link

https://forms.gle/AwrfhM1nfXbexX3g8

Please feel free to add any additional comments.

Thank you very much for your kind assistance.

Sincerely Yours.

Sheikh Muhammad Anwar Hossain.

M.Phil. Scholar. (2nd Part Thesis). Faculty of Science. The University of Dhaka.

---

[24] GM Abul Kalam Azad served as the Executive Director of the Department of Communications and Publications and spokesperson of the Governor, Bangladesh Bank.
https://www.tbsnews.net/bangladesh/bangaldesh-bank-appoints-abul-kalam-azad-new-executive-director-435486

https://www.facebook.com/XPOSURE7

Back Archive Spam Delete Mark as unread Snooze Add to Tasks Move to Inbox Labels More 67 of

Please sir kindly spare some time from your busy schedule & respond with my valuable feedback to the questionnaire attached along with this mail.

শেখ মুহাম্মদ আনোয়ার হোসাইন <xposure7@gmail.com> Mon, Mar 27, 5:01 PM Reply
to abul.kalam

Dear Sir
I am Sheikh Muhammad Anwar Hossain, an Evaluation & Documentation Officer at BIBM. I am also an M.Phil. 2nd part student at the University of Dhaka. As a part of my primary data collection of research, I am conducting a survey regarding people's preferences towards Digital Governance, on the thesis entitled `Challenges of Digital Governance in the Financial Sector in Bangladesh' for the degree of Master of Philosophy (M. Phil) in the Department of Political Science, Faculty of Social Science, University of Dhaka.

I would need only a few minutes of your time to fill out a questionnaire that forms a comprehensive part of my research. Your responses are very important in my quest for data collection.

Please kindly spare some time from your busy schedule & respond with my valuable feedback to the questionnaire attached along with this mail.

To find the questionnaire please click this digital link
https://forms.gle/AwrfhM1nfXbexX3g8

& feel free to add any additional comments.

Thank you very much for your kind assistance.

Sincerely Yours,

Sheikh Muhammad Anwar Hossain
M.Phil Scholar, 2nd Part Thesis, Faculty of Social Science, University of Dhaka, & Evaluation & Documentation Officer, BIBM

Appendix- 4

Appendix-4

List of Digital Financial Sectors Institution, which Responded to the Questionnaire

To run the regression models, we used secondary data from 2000-2023 from twenty-one (21) financial sector.

Appendix Table 1: List of the Financial Sector Which Responded to the Questionnaire
Financial sector e.g. State-Owned Commercial Banks (SOCBs)
1. Sonali Bank Limited 2. Janata Bank Limited 3. Agrani Bank Limited
Financial sector e.g. Private Commercial Banks (PCBs)
4. Trust Bank Limited 5. BRAC Bank Limited 6. Dhaka Bank Limited 7. Dutch Bangla Bank Limited 8. EXIM Bank Limited 9. Mercantile Bank Limited 10. Mutual Trust Bank Limited 11. ONE Bank Limited 12. Al-Arafah Islami Bank Limited 13. Prime Bank Limited 14. Jamuna Bank Limited 15. The City Bank Limited 16. National Credit & Commerce Bank Limited 17. Shimanto Bank Ltd.

Financial sector e.g. Specialized Banks (SBs)
1. Bangladesh Krishi Bank Ltd
Financial sector e.g. Foreign Commercial Banks (FCBs)
1. HSBC Bangladesh 2. Standard Chartered Bank 3. Bank Alfalah Limited

Appendix- 5

Appendix- 5

Corporate Governance: An essential mechanism to curb malpractices by Organizations

M. Bakhtear Uddin Talukdar
Assistant Director

I. Background

During the last decades, some debacle and corporate failures both in the developed and developing economies brought considerable attention of corporate governance to regulators, government, think tank, analysts, individuals and other parties. They thought what went wrong? Why a corporation falling apart? What did turn a successful organization into a failure one? All this question made feel all the related parties that there should be a mechanism, a guideline, a roadmap that will protect an organization from falling apart and ensuring the stake of all related parties. Regulators and governance advocates argue that the stock price collapse of such former corporate stalwarts as Adelphia, Enron, Parmalat, Tyco, and WorldCom was due in large part to poor governance (Brown and Caylor, 2004). Corporate governance is a set of control mechanisms through which the suppliers of finance assures themselves of getting return on their investment. Protecting the interest of minority stock holders, ensuring transparency and accountability of managerial activities, appointing independent outside directors to let a look from the outside, reporting the financial activities in a desired manner are some of the basics of corporate governance.

Corporate governance is a set of internal and external arrangements that define and enforce the discipline in relations between managers and shareholders. In the internal side, the company’s policies, strategies, reporting system, board of directors, appointment of independent non-sponsored directors in the board, establishing audit committee, establishing executive committee are vital contrivances to ensure good governance. At the external level, corporate governance comprises market, legal and institutional arrangements that reduce costs of the principal-agent problem. The corporate governance mechanisms are market, institution and legal settings that protect outside investors from opportunistic behavior of managers or controlling shareholders. In the absence of such protection, asymmetries of information and difficulties of monitoring faced by outside investors enable managers to misallocate corporate resources, often at the expense of the long-term performance. Therefore, efficient corporate governance provides better corporate performance, while poor corporate governance leads to bad corporate performance.

II. Bangladesh Perspective:

In Bangladesh, the issue of corporate governance came into light in the wake of stock market debacle in the 1996 by organizing seminars, conferences and discussion by OECD, SEC and other scholars of corporate culture. In March, 2004 Bangladesh Enterprise Institute (BEI) published code of corporate governance for Bangladesh suited for private sectors, financial institutions, State Owned Enterprises (SOEs) and NGOs. In Bangladesh capital market, banking industry is performing better than other 3 industries. Banking sector consists 54% of market capitalization and 57% of total turnover in DSE (December 2006). The credit of better performance goes to the strenuous monitoring, supervision and guidance by Bangladesh Bank; the banks are more transparent in the case of accounting and business activities. Though some banks are performing badly, the scenario is getting changed. Lately, Bangladesh Bank issued a circular where it has restricted the number of board of directors to maximum thirteen. According to the Bangladesh Bank circular the role of CEO and the role of chairman of the board have to be clearly set forth. As per the circular the chairman of the board of directors (or chairman of any committee formed by the board or any director) does not personally possess the jurisdiction to apply policymaking or executive authority, he shall not participate in or interfere into the administrative or operational and routine affairs of the bank. Whereas the CEO will be responsible to implement the policies taken by the board and look after administrative works.

Bangladesh bank has directed the bank to establish an audit committee comprised by the board of directors. Lots of reforms have been taken into consideration by Bangladesh Bank to ensure good governance in the financial sectors except the insurance. As per law, insurance companies have to float shares within 3.5 years of operation. But only 31 companies (both life and non-life) have followed through. The rest 29 companies have fallen behind through operating more than five years.

Insurance industry will have to go a long way, the performance is not satisfactory yet, average board size is much larger than that of other sectors. Though banks have audit committees, the committee mostly chaired by sponsor director. It will be more useful and rational that the audit committee should be chaired by proficient non-sponsor director. A chronology of financial reforms is given:

December, 2002

Instruction has been given by the BB requiring banks to constitute Audit Committee of the Board to assist the Board in fulfilling its oversight responsibilities.

March, 2003

Provision for two independent directors representing the depositors' interest has been included in the amendments to the Bank Company Act.

April, 2003

Number of directors in Bank's board restricted to a maximum of 13 for more effective direction of these banks.

June, 2003

Disclosure requirements of financial information were substantially enhanced for banks as per the Internal Accounting Standard (IAS).

July, 2003

With a view to ensuring proper CG, the responsibilities and accountabilities of the Board of Directors, chairman of the Board of Directors and the CEO of the banks outlined clearly.

September, 2003

No defaulter could be appointed as a Director to any financial institution and if any director becomes defaulter he would be removed from the position.

March, 2004

Proper guidelines provided to ensure transparency and accuracy in the information regarding profits and dividends of the banking companies.

January, 2006

Number of the Board members (5-20), appointment of independent non-shareholder directors, abolishing CEO duality (chairman and CEO are same person), appointment of Chief Financial Officer, Head of internal audit and company secretary, and establishment audit committee.

February, 2006

Banks/FIs have been advised to follow the guidelines by BB regarding the salary allowances and other facilities of the chief executive.

III. Concluding Remarks:

It should be kept in mind that the main objective of good governance is not to deter the growth prospect of the corporations, rather to assist them to grow in a rational and transparent way. In finale, some of the major issues that should be taken care of to ensure good governance are recommended:

a) Developing infrastructural facilities of the total systems. Government, development partners, NGOs, private sectors should work together to build the infrastructural facilities that will ensure maximum availability of information, reducing the asymmetries of information, ensuring the availability of information at minimal cost.

b) Building the awareness among the corporations, public, beneficiaries and other related stakeholders about consequences of the good governance. A platform should be crated where different interest group can post their concerns, issues and updates.

c) International standard for financial reporting system should be incorporated gradually into all corporations, where option for adjustment/tuning up will be kept open for indigenous need.

d) Coordinating different laws, acts, regulations that handle the same category of issues. It has been observed that most of the malpractice cases escaped due to lack of uniformity of laws, rules and acts. A high-powered coronation committee can be formed in this regard, who will align the dissimilarities of existing laws regarding the issues.

e) Forming a central watchdog to dig into the complaint, non-compliance, misrepresentation, malpractices, window dressing and other negative matters. It should be headed by the experts form different streams of expertise and knowledge.

f) Privatization of SOEs has to be implemented gradually and with cautions, as the motive of SOE and the motive of private one differs. To safeguard the benefits of mass people and to be a profitable at the same time, the standard operating procedure (SOP) of the privatized SOE will have to be designed with collaboration of regulatory authorities and watchdogs.

g) The good wishes from the government part are indispensable in this regard.

References:

1) Bangladesh Bank. Annual Report 2003-2004, 2004-2005, 2005-2006

2) Bangladesh Bank. Financial Sector Review Vol II, Number 1, December 2006

3) Securities and Exchange Commission, Order, January 9, 2006

4) Brown Lawrence D. and Marcus L. Caylor (2004). Corporate governance and firm performance. Presented at15th Conference on Financial Economics and Accounting, University of Missouri.

5) Bangladesh Bank, BRPD circular no. 16, July 2003

6) Dhaka Stock Exchange. Monthly Review, Vol 2, Number 12, December 2006

Appendix- 6

Appendix- 6

Bangladesh Mobile Financial Services (MFS) Regulations, 2022

www.bb.org.bd

Payment Systems Department
Bangladesh Bank
Head Office
Dhaka.

PSD Circular No: 04/2022

Date: 15 February, 2022 / 02 Falgun, 1428

Managing Directors/Chief Executive Officers
All Scheduled Banks/MFS Providers/Financial Institutions and Other Concerns

Dear Sir,

Bangladesh Mobile Financial Services (MFS) Regulations, 2022

As per Section 7A(e) and section 82 of the Bangladesh Bank Order, 1972 and Section 26 (cha) of the Bank Companies Act, 1991 Bangladesh Bank has issued a revised regulations titled "Bangladesh Mobile Financial Services (MFS) Regulations, 2022". The new regulations will replace the previously issued "Bangladesh Mobile Financial Services (MFS) Regulations, 2018" and shall come into effect immediately.

The regulations can be collected from the website (www.bb.org.bd) of Bangladesh Bank.

Sincerely Yours,

(Muhommad Badiuzzaman Dider)
General Manager (Current Charge)
Phone: 9530611

Enclosure:
Bangladesh Mobile Financial Services (MFS) Regulations, 2022.

1.0. Introduction

The financial sector in Bangladesh is continuously growing in response to the evolving needs of the growing economy. Rapid expansion of mobile phone users, modernization of payments and financial systems based on IT infrastructure, country-wide reach of mobile network and internet have boost up the opportunities for enhancing Mobile Financial Services (MFS) to offer convenient payment mode which is cost efficient and prompt for the underserved, un-banked/under-banked and low-income group of population of our country. Since the inception of MFS in 2011, Bangladesh experienced a robust growth in number of account holders, volume and amount of transactions in MFS. In order to fulfill the goal of financial inclusion and growing market demand with a view to ensuring customer interest and strengthening the payment ecosystem, initiative has been taken to amend the existing Bangladesh Mobile Financial Services (MFS) Regulations, 2018. With a view to providing an orderly, enabling and competitive environment for optimal utilization of the new windows of opportunity for extension of the traditional financial services, the Board of Directors of Bangladesh Bank (BB), in terms of Section 7A(e) and section 82 of the Bangladesh Bank Order, 1972 and in terms of Section 26 (cha) of Bank Companies Act, 1991 has decided to issue Bangladesh Mobile Financial Services (MFS) Regulations, 2022 replacing the Bangladesh Mobile Financial Services (MFS) Regulations, 2018 issued in July 2018 and its subsequent amendments. Bangladesh Mobile Financial Services (MFS) Regulations, 2022 will be in effect along with the Bangladesh Payment and Settlement Systems Regulations, 2014, Guidelines for Trust Fund Management for Payment and Settlement Services or any other law(s) shall come into effect regarding these regulations.

2.0 Purposes

The purposes of these Regulations are to:

(i) Provide regulatory framework to create an enabling and competitive environment to cater cost efficient and prompt MFS;

(ii) Promote convenient access to formal financial services at an affordable cost especially for the poor and unbanked population segments; and

(iii) Ensure compliance with Anti Money Laundering and Combating Financing of Terrorism (AML/CFT) standards set by AML/CFT rules, regulations, guidelines and instructions issued by Bangladesh Financial Intelligence Unit (BFIU).

3.0 Definitions

Agent/ Retail Agent/ Authorized Agent: An entity authorized by MFS provider to carry out financial transactions for mobile financial services on behalf of MFS provider.

Bank/Financial Institution/Government Entity-led (Bank/FI/Government Entity-led) MFS Model: Subject to the provision of their concerned law/Act, Bank/FI/Government Entity-led MFS is a model where Mobile Financial Services Provider (MFSP) will be a subsidiary of a scheduled commercial Bank/FI licensed by Bangladesh Bank or Government Entity with at least 51% of the share held by the Bank/FI/ Government Entity with control of the board.

Cash-in: Exchange of cash for electronic value (e-money).

Cash-out: Exchange of electronic value (e-money) for cash.

Cross Border Payment Transaction: Cross-border transactions include both outbound and inbound transfers of money between related entities residing or operating in different countries.

Distributor/ Super-Agent: Any third party acting on behalf of a MFS provider to deal directly with retail agents. Generally, MFS providers nominate or select the Distributors/Super Agents in a geography and demography basis. Distributors/Super Agents have an agreement with MFS provider and is liable for nominating or selecting and managing the retail agents. Distributors/Super Agents will only deal with e-money in bulk with MFS provider and sell/purchase the e-money to/from the retail agent.

Distribution Channel: A distribution channel is a chain of businesses or intermediaries through which electronic money passes from MFS provider to Distributors/Super Agents to Agents/Retail Agents to the end users/customers.

Electronic money: Electronic money (e-money) means electronically stored monetary value issued against or as an alternative to legal tender; which can be used as a mode of payment; and is accepted by any person including its issuer.

Equity Partner: An equity partner is an equity share holder of the company, and is entitled to a proportion of the distributable profits of the company.

Financial Institution (FI): Financial Institution means "Financial Institution" defined in Financial Institution Act, 1993.

Government Entity: Any agency, division, directorate etc. under jurisdiction of Executive Division of Government of the People's Republic of Bangladesh.

Government Security: A debt instrument issued by the Government of Bangladesh.

Interoperability: Interoperability refers to the set of arrangements/procedures that allows participants in different systems to conduct and settle payments or securities transactions across systems while continuing to operate only in their own respective systems.

Inward Foreign Remittance: Inward foreign remittance is transfer of foreign currency in Bangladesh by Bangladeshi nationals living abroad via a legal channel (Banks, Money Transfer Organizations and Exchange Houses etc.).

Mobile Financial Services (MFS): MFS refers to E-money services provided against a particular mobile/cell phone number of a client (termed as Mobile Account), where the record of funds is stored on the electronic general ledger. These services can be draw-down through specific payment instructions to be issued from the bearer's mobile phone or through alternative digital process or device by ensuring authenticity of the transaction.

Operational Account: Account maintained by MFS providers with scheduled commercial banks for operational purposes other than custody/settlement purpose.

Oversight: The activities carried out by BB to monitor and analyze the key indicators of MFS as part of the national payment systems, assessing them against payment systems objectives and where necessary, inducing change to promote safety and efficiency.

Parent Bank/FI/Government Entity: One single bank/FI/Government Entity that holds at least 51% of the equity share capital along with controlling voting rights in the board of directors of the MFS providing subsidiary.

Payment Services Provider (PSP): "Payment services provider" refers to an entity licensed by Bangladesh Bank to provide electronic money services to its customers and keep the aggregate balance of the issued e-money to a Trust Cum Settlement Account in a scheduled commercial bank.

Principal(s): Banks and financial institutions licensed by Bangladesh Bank (BB), Micro Finance Institutions (MFIs) licensed by the Microcredit Regulatory Authority (MRA), Insurance Companies licensed by Insurance Development and Regulatory Authority of Bangladesh (IDRA) for which MFS provider is acting as an agent for disbursing loans and in accepting repayments.

Settlement: "Settlement" means the act of discharging obligations by transferring funds between two or more parties.

Settlement Bank: "Settlement bank" means a bank maintaining Trust Cum Settlement Account for the Mobile Financial Services Provider (MFSP).

Subsidiary: A company shall be deemed to be a subsidiary of another company, if that other company controls the composition of Board of Directors of the first mentioned company and that other company holds more than half in nominal value of its equity share capital.

Technology Partner: A technology partner provides technical support to MFS providers.

Trust Cum Settlement Account/Custodian Account: Trust cum Settlement Account (TCSA) means a custody account where the legal tender shall be stored against the issuance of e-money by a Payment Service Provider, or where the legal tender that received from the service recipient of the Payment System Operator or any other authorized entity for maintaining such account, and the balance of the account shall not be used for any purpose other than the approved ones.

Trust Fund: Trust Fund will comprise of any fund held by a payment service participant or any entity authorized by Bangladesh Bank to do so, that creates a liability of the service providing entity to its customers and, or participants.

Valid Identity: The documents determined as per the directive of Bangladesh Financial Intelligence Unit (BFIU) to open MFS account.

4.0 Scope

Bangladesh Bank will allow only scheduled commercial Bank/Financial Institution/ Government Entity-led MFS (Bank/FI/Government Entity-led MFS) in Bangladesh. The provision of these regulations shall apply to MFS providers in Bangladesh. MFS Provider will act as a Payment Service Provider (PSP) as defined in the Bangladesh Payment and Settlement Systems Regulations, 2014. To provide MFS, scheduled commercial bank or financial institution licensed by Bangladesh Bank or Government Entity, will establish subsidiary with bank or non-bank entity as equity partner and take license as PSP from Payment Systems Department of Bangladesh Bank.

5.0 Products of MFS

5.1 BB permits Bank/FI/ Government Entity-led MFS providers as PSP to deliver the following broad categories of payment services in Bangladesh:

(i) 'Cash-in' to and 'Cash-out' from MFS accounts through agent locations, bank branches, ATM, Cards, linked bank accounts and other methods approved by BB;

(ii) Person to Business payments like utility bill payments, educational institutional fees payment, merchant payments, mobile top up, deposits into savings accounts/schemes with banks/non-bank financial institutions (NBFIs), loan repayments to banks/non-bank financial institutions (NBFIs)/non-governmental organizations-microfinance institutions (NGO-MFIs), insurance premium payments to insurance companies and so forth;

(iii) Business to Person payments like salary disbursements, dividend/refund warrant/ discount payments etc.

(iv) Person to Person payments such as one MFS personal account to another MFS personal account with the same MFS provider or another MFS provider as well as the payments from one MFS account to a bank account and vice versa;

(v) Business to Business payments like vendor payments, supply chain management payments etc.

(vi) Online and e-commerce payments;

(vii) Government to Person payments such as pension payments, old age allowances, freedom-fighter allowances, subsidy payments to farmers and so forth;

(viii) Person to Government payments such as tax, fee, levy payments, toll charge, fine etc.

(ix) Disbursement of inward foreign remittances in accordance with 7.6 of this regulation;

(x) Loan disbursements to borrowers, vendor payments etc.

(xi) Other payments approved by the Bangladesh Bank.

5.2 While performing duties as PSP and as authorized agent, the MFS providers will be under direct supervision of BB"s Payment Systems Department (PSD). Whereas, the regulatory compliance of deposit taking, lending and other financial services in which MFS providers will act as agent, will rest with the principal(s) that have engaged the MFS providers as their authorized agents.

6.0 Permissible model for MFS providers

6.1 MFS providers in Bangladesh will be led by scheduled commercial banks or financial institutions licensed by Bangladesh Bank or Government Entity. To provide MFS in Bangladesh, scheduled commercial banks that are already in MFS operation are permitted to continue with the existing license or may form a subsidiary. In case of new applicants, scheduled commercial bank(s) or financial institution(s) or Government Entity shall have to form a subsidiary. The scheduled bank(s)/FI(s)/Government Entity interested to form a subsidiary, for the purpose of providing MFS, shall focus entirely on providing mobile financial services. In case of a subsidiary following models are permitted:

(i) Subject to the provision of their concerned law/Act, one single bank/FI/Government Entity, known as the parent bank/FI/ Government Entity should have at least 51% of the equity of MFS providing subsidiary. Parent bank/FI/Government Entity will also have majority in Board of Directors along with controlling share.

(ii) Subject to the provision of their concerned law/Act, parent bank/FI/Government Entity may conduct the operation of subsidiary alone or may take equity partners from the following business entities:

(a) Bank(s), financial institution(s) and Government Entity;

(b) NGOs, investment and fintech companies (local and foreign incorporated) who have experience of working in financial market except Mobile Network Operators (MNOs).

(iii) MFS provider will act as the primary driver of the products and services, manage customer relationships and distribution channels and mitigate associated risks.

(iv) However, any entity whether it is a bank/FI/Government Entity or a non-bank entity, can hold equity in only one MFS providing subsidiary.

6.2 The minimum paid-up capital requirement of a subsidiary model-based MFS provider is Bangladeshi Taka Forty-five (45) Crore. However, the total capital of a Mobile Financial Services Provider (MFSP) can't be less than Bangladeshi Taka Forty-five (45) Crore at any point of its operation. A further cushion of „capital reserve" equal to the amount of paid up capital will have to be built up

From retained earnings, at a rate not less than ten percent (10%) of annual after-tax profits, to mitigate risks. Loss incurring MFS providers must be required to inject additional capital to maintain the minimum paid up capital requirement. However, in any case, parent bank/FI/Government Entity has to maintain at least 51% of the equity capital. Bangladesh Bank may determine additional capital requirement for an existing or new MFSP depending on the scale of its operation and risk. If so, the MFSP must be required to maintain the capital in its business. Failure to maintain required capital will be subject to penalty imposed by Bangladesh Bank as it deems fit or cancellation of license.

7.0 Approval of application, commencement of business, operational modalities for MFS providers:

7.1

(i)

Scheduled banks, already running MFS operations (with approval of BB) may continue with their existing structure. Scheduled banks, already running MFS operations (with approval of BB) which are interested in forming subsidiary, shall restructure their MFS units as subsidiary company exclusively as MFS providing PSPs, in terms of Regulation 6 of these regulations. More than one scheduled bank, already in MFS operations, cancelling their individual license, may also form a subsidiary setting up one of the banks as parent bank.

(ii)

Scheduled banks/FIs/Government Entity having no MFS operations of their own may join any of the running MFS providing subsidiaries by acquiring equity therein. Besides, two or more scheduled commercial banks/FIs/Government Entities may jointly form a new MFS (with or without non-bank equity participants to begin with) setting up one of the banks/FIs/Government Entities as a parent bank/FI/Government Entity and seek BB‟s approval to provide mobile financial services.

7.2

All applicants complying with Regulation No. 5 of Bangladesh Payment and Settlement Systems Regulations, 2014 or any other law(s) shall come into effect regarding this regulation, will apply to BB‟s PSD with the following documents:

(i)

Details of the services proposed to be offered with tentative implementation schedule.

(ii)

Applicant’s assessment of risks associated with the proposed delivery models for each such service, explanation of mitigation and management of the risks.

7.3

For new MFS applicants, approval will be provided in two phases. At the first phase, no objection certificate (NOC) will be granted to set up the infrastructure. At the second phase, license will be issued to commence the operation. Before launching proposed service, MFS provider will have to seek permission for commencement of business from

BB"s PSD, within one year of getting NOC for setting up a MFS infrastructure, with the following documents:

(i) MOU(s) with MNOs and other technology partners, specimen of Service Level Agreements (SLA) to be entered into with intermediaries in the service delivery chains, including the distributors/super agents and field level retail agents;

(ii) Lists of names and field level locations of retail agent outlets/cash points (to be) appointed by the MFS provider, to be updated subsequently on regular monthly basis;

(iii) MOU with the settlement bank(s);

(iv) Other documents (as required by BB).

7.4 (i) Transactions in MFS will be conducted only through non-cheque limited purpose accounts termed "MFS Accounts" in name of customers, accessible with bearer's mobile phone or through alternative digital process or device by ensuring authenticity of the transaction.

(ii) Minor beneficiary entitled with government/other approved facility through MFS may get the benefit primarily through his/her mother's MFS account. Where necessary s/he may get the benefit through his/her father's or legal guardians MFS account.

(iii) Opening of MFS accounts in names of individual, business and other entity will however require complete observance of KYC and CDD drills as prescribed by competent authority from time to time. Opening of MFS accounts in names of service delivery intermediary at wholesale and retail levels (distributors, super agents, agents, merchants etc.) will likewise require complete observance of KYC and CDD drills as prescribed by competent authority from time to time.

7.5 (i) Aggregate of e-money balances in all MFS accounts of an MFS provider must at the end of the day be in agreement with or be less than the total real cash balances in nominated trust cum settlement accounts of the MFS provider with scheduled commercial bank(s) and invested amount in Government Securities. No loan is permissible against the Trust Fund and/or any other instruments that are derived from the Trust Fund. This shall be monitored by the MFS providers on daily basis and any shortfall shall be immediately reported to the Payment Systems Department, Bangladesh Bank. Banks holding trust funds of the MFS providers are supposed to be entitled with the role of a custodian. The MFS providers may, if necessary, choose other scheduled commercial bank(s) to be their custodian of trust fund which is subject to prior approval from PSD of BB. Balances and transactions at the custodian end must at all times remain separate from and never be co-mingled with other operational accounts of the MFS providers.

(ii) Bank(s) providing mobile financial services without forming a subsidiary but MFS account holders are not under deposit insurance coverage of Bangladesh Bank; **b)** MFS provider under subsidiary model- need to maintain the balance of all MFS account in trust cum settlement

Account and need to invest not less than 25% of the physical cash balance in Government Securities on the basis of calculation on the last working day of June and December each year. Remaining cash balance has to be kept with settlement bank(s).

(iii) Bank(s) providing mobile financial services without forming a subsidiary and MFS account holders are under deposit insurance coverage of Bangladesh Bank, will be waived from investing in Government Securities.

7.6
MFS providers will handle foreign inward remittances only if received through credits in Nostro Accounts of scheduled commercial banks in Bangladesh and pay out the same only in Bangladeshi Taka (BDT) to MFS accounts of the beneficiaries. No outward or cross-border payment transactions shall be undertaken by MFS providers, as these can only be handled by the AD branches of scheduled banks in Bangladesh.

7.7
MFS providers are strictly prohibited to engage in taking deposit and lending from their own funds.

7.8
MFS account holders are free to mobilize balances of their MFS accounts to their deposit accounts with scheduled commercial banks and MFS providers will act immediately on request of customers for transferring balances from their MFS accounts to their deposit accounts with scheduled commercial banks.

7.9
MFS providers will draw up annual accounts and financial statements in accordance with prevailing accounting and reporting standards and submit the ones duly audited by reputed audit firm(s) to PSD of BB within 3(three) months after the end of the accounting year.

8.0 Suspension and cancellation of MFS providers by BB

BB reserves the right of withholding, suspending and cancelling its approval for operation of an MFS provider, if BB deems actions of the accused MFS to be detrimental to public interest. Moreover, BB will take appropriate steps towards protecting legitimate interests of the MFS account holders and other stakeholders of the accused MFS provider.

9.0 Schedule of Charges

The rate of charges realizable from various financial services offered by the MFS providers to their clients shall be set in a competitive, non-collusive manner. Besides, keeping BB"s PSD fully apprised of all rate settings and rate revisions, MFS providers will ensure prominent display of the rates of charges in all their retail agent outlets to inform all customers. Information about all products with schedule of charges should also be available for all stakeholders in the customer care centers and websites of MFS providers.

10.0 Distribution Channel

10.1 (i) MFS shall appoint distributors/super agents under contract adhering to the existing law according to clear and well-documented selection policies and procedures reported to BB"s PSD and shall have clear description of roles and responsibilities of both parties in all relevant aspects. MFS providers may install retail service outlets or appoint delivery agents under contracts adhering to the existing law according to clearly stated roles and responsibilities including business hours for the service outlets, required standards of customer services, rates of commission/fee payable to agents, transaction reporting routines, authorizations for signing, customer interest protection, dispute resolution and settlement and so forth.

(ii) Agents are only allowed to take part in 'cash-in' (i.e. converting physical money to e-money), 'cash-out' (i.e. converting e-money to physical money) and other transaction(s) approved by Bangladesh Bank. To do the 'cash-in' and 'cash-out' customers may need to show valid identity to agents. Any transfer transactions involving third party MFS accounts at the sending or receiving end are prohibited. MFS providers will have to sensitize the agent's properly about AML/CFT risks inherent in their transactions and also to monitor transaction patterns carefully towards identifying possible unauthorized/suspicious transaction activities.

10.2 Entities with extensive networks of service delivery outlets, such as NGO-MFIs, MNOs and Government's Postal Department etc. will inter alia be eligible for engagement as distributors/super agents/retail agents and field level service delivery agents. Agreements with such distributors/super agents/retail agents should include reporting clauses requiring full visibility of transactions of the agent network as well as at individual service outlet level as and when necessary. An agreement with a network already in agency relationship with other MFS providers should include clause requiring clear separation of transactions handled for each MFS provider, avoiding any co-mingling of the e-money of different MFS providers. The distributors/super agents like NGOs, MNOs, and

Government's Postal Department etc. will be able to operate in any geographical location in Bangladesh. However, individual (a person) distributors/super agents are bound to work in a certain limited geographical boundary.

10.3 Criteria of selecting partners and agents by MFS providers should inter alia include:

(i) Inclusivity of Distributors/super agents and Agents;

(ii) Technical competence for and track record of the intended role;

(iii) Financial soundness, business reputation and no record of bankruptcy;

(iv) Standards of security and internal control, audit coverage, monitoring and reporting;

(v) Capability of meeting commitments under adverse conditions;

(vi) A self-declaration that partners and agents do not have a past criminal record.

11.0 AML/CFT and KYC compliance:

11.1 MFS providers shall comply with the provisions of existing Money Laundering Prevention Act, Anti-Terrorism Act and respective Rules issued therein under, instructions and guidelines issued by Bangladesh Financial Intelligence Unit (BFIU) from time to time.

11.2 MFS providers shall remain responsible for authenticity and timely updating of the KYC records as per the instructions of BFIU as and when required.

12.0 Processes to be followed in ensuring authentication of MFS transactions and security

12.1 MFS providers shall follow the ICT Act, 2006 (amended in 2013) and the Guidelines on ICT Security for Scheduled Banks and Financial Institutions, 2010 issued by BB, in addressing ICT security issues in respect of MFS.

12.2 The following properties need to be addressed fully in offering a secure infrastructure for financial transactions using mobile technology:

(i) Confidentiality: Property ensuring that transaction information cannot be viewed by unauthorized persons.

(ii) Integrity: Property ensuring that the transaction information remains intact during transmission and cannot be altered.

(iii) Authorization: Property ensuring that the authentic user has proper permission to perform the particular transaction. It ensures how the system decides what the users can do.

(iv) Non-repudiation: Property that the particular transaction initiated by a user cannot be denied by him/her later.

12.3 All transactions must be authenticated by the account holders using their respective Personal Identification Numbers (PINs) or similar other secured mechanism. MFS providers should ensure that proper protection and security features are maintained in issuing and authenticating the PINs and other secured mechanisms.

12.4 MFS providers shall ensure that proper process is in place for identifying customers while the service is being enabled/executed. Besides the PIN, a suitably chosen second authentication factor would be encouraged to add as an additional security.

13.0 Interoperability

13.1 MFS providers shall encourage linking of the MFS accounts of customers with their existing or new accounts in banks; maximizing access of customers‟ credit, deposit and other financial services through the MFS accounts. MFS providers shall cooperate and work together in promoting interoperability among the providers towards ensuring widest possible access for customers.

13.2 The MFS providers shall design their systems and procedures such that all MFS providers are capable of providing fund transfer service in a completely interoperable way which may include fund transfer from one personal MFS account to another MFS account with the same MFS provider or another MFS provider as well as the payments from one personal MFS account to a bank account with the same bank or another bank and vice versa.

14.0 Risk management and internal controls

14.1 For effective management and containment of the substantial operational risks in providing Mobile Financial Services, the MFS providers shall put in place robust internal governance frameworks with internal control and compliance processes featuring clear description of roles, responsibilities and accountabilities.

14.2 Internal control and compliance processes of MFS providers shall include oversight routines on operations of wholesale and field level retail agents and on customer satisfaction levels.

15.0 Customer, Employee, Agent, Distributor/Super-Agent education and awareness

MFS providers shall develop and pursue sustainable programs for continual heightening of awareness and knowledge about various aspects of Mobile Financial Services among their employees, agents, distributors/super agents and target customer segments to enhance financial literacy and combat against fraud and forgery.

16.0 Regulatory oversight

16.1 MFS providers will be under off-site and on-site supervisions of Payment Systems Department, BB, firstly as PSPs extending mobile financial services and secondly as agents of banks and financial institutions in offering mobile phone-based banking and other financial services.

16.2 MFS providers shall have to follow rules, regulations, guidelines and instructions issued by Bangladesh Bank from time to time.

16.3 MFS providers shall submit to BB all required statements and information in such formats as prescribed by Bangladesh Bank from time to time.

17.0 Complaint and Grievance Redressal

17.1 BB‟s Payment Systems Department (PSD) and Financial Integrity and Customer Services Department (FICSD) will oversee customer complaints redressal performance of the MFS providers.

17.2 MFS providers shall put in place processes and procedures for prompt handling and redressal of customer complaints and grievances; readily accessible through website and other appropriate information medium.

17.3 The MFS Provider shall maintain a call center to receive and process disputes 24 hours a day via telephone, SMS, IVR and mail. Each of the disputes received by the center must be resolved within ten (10) working days. The MFS provider shall ensure that they are sufficiently equipped to keep track/log of all disputes and review status of each dispute and redressal of the same within stipulated time.

17.4 MFS Customers may have also access to services being provided by Customers Interest Protection Centre (CIPC) of Bangladesh Bank. The aggrieved customer can lodge complaints with CIPC of Bangladesh Bank.

17.5 Dispute at distributors/super agents‟ end will be settled according to the agreement between MFS provider and distributors/super agents. Agent complaints and grievances will be handled by distributors/super agents in the primary level and by MFS providers at secondary level.

17.6 Information materials clearly explaining the roles, responsibilities, risks and liabilities of all parties involved in MFS transactions should be kept readily accessible to all relevant parties.

18.0 Record retention

18.1 KYC, CDD records on Mobile Account holders, wholesale and Retail agents of MFS providers and those of MFS transactions shall be retained for not less than 06 (six) years from the dates of origination, readily reproducible for later references as needed by the MFS providers themselves or by the regulatory and law enforcement authorities.

18.2 MFS providers shall also provide print-outs or copies of relevant transaction records in specific MFS transactions, at the request of the customers or their counterparts MFS providers/banks/FIs/Government Entity etc. within the prescribed preservation periods.

Appendix-7

Appendix-7

Establishment of Digital Bank

Bangladesh Bank
Head Office
Motijheel, Dhaka-1000
Bangladesh
website: www.bb.org.bd

Establishment of Digital Bank

Digital innovation is continuously modifying the landscape of the financial system all over the world. Bangladesh Bank (BB) promotes an enabling regulatory environment allowing innovation to make a robust, efficient and secured financial system. Accordingly, BB recognizes the role of digital platforms and usage of artificial intelligence in driving greater efficiency in the delivery of financial products and services and in widening the outreach of the financial system.

Towards this end, BB has decided in principle to issue license for full-fledged digital banking. Now BB is intending to issue license for Digital Banks (DB) in pursuant to section 31 of the *Bank Company Act, 1991*. The terms and conditions for establishment of DB include (but not limited to):

1. Must be a public limited company licensed under section 31 of the *Bank Company Act, 1991*;
2. Initial minimum Paid-up capital BDT 125.00 (One hundred twenty-five) crores shall be provided by the sponsors;
3. The minimum shareholding stake of each sponsor shall be BDT 50.00(Fifty) Lac;
4. Sponsors' contribution to the share capital of the proposed DB will be required to be out of net worth declared to the Tax authorities. Sponsors' contribution out of borrowings from bank or financial institutions or from anywhere else, even from family members, shall not be acceptable;
5. The sponsors/directors must qualify the Fit and Proper Test (FPT) criteria applicable for the proposed directors of DB;
6. Bangladesh Bank now invites applications for establishing DB through the License Application Portal, web link of the portal is <https://license.bb.org.bd>
7. The amount of BDT 5.00 (Five) Lacs should be paid as a non-refundable application processing fee through the same web portal;
8. The License Application Portal will remain open for accepting applications from 21 June 2023 to 1 August 2023.

For details, please visit the **GUIDELINES TO ESTABLISH DIGITAL BANK** in our website *<https://www.bb.org.bd/en/index.php/about/guidelist>*.

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Appendix- 8

Appendix-8

Digital Financial Services

Basic Terminology

Including Acronyms for DFS Transactions. This Guideline Note was Developed by the AFI Digital Financial Services (DFS) Working Group to Provide Universal Definitions of Key Digital Financial Services Terms. Guideline Note No. 19 August 2016, National Financial Inclusion Strategies: A Toolkit.

GENERAL TERMS

Branches Banking

Definition

The delivery of financial services outside conventional bank branches. Banking beyond branches uses agents or other third-party intermediaries as the primary point of contact with customers and rely on technologies such as card-reading point-of-sale (POS) terminals and mobile phones to transmit transaction details.

Why is banking beyond branches important?

Reliance on existing technology, infrastructure, and retail establishments has significant potential to lower the costs of delivery and reach financially excluded households that cannot be served profitably with conventional bank branches, especially in remote and sparsely populated areas.

Further Explanation

In spite of its name, banking beyond branches is not limited to bank services; it also includes an array of financial services provided by non-banks.

Besides POS terminals and mobile phones, a wide variety of technologies can be used for banking beyond branches, including automated teller machines (ATMs) and near-field communications (NFC).

Digital Financial Inclusion

Definition

The use and promotion of digital financial services (DFS) to advance financial inclusion.

Further Explanation

The essential components of digital financial inclusion are a digital transactional platform, a device used by the customer to electronically connect to this platform and perform financial transactions, the use of retail agents for the customer to transact from, and the provision of a wide range of financial products and services.

Digital Financial Services (DFS)

Definition

The broad range of financial services is accessed and delivered through digital channels, including payments, credit, savings, remittances, and insurance. The digital financial services (DFS) concept includes mobile financial services (MFS).

Further Explanation

In this context, the term “digital channels” refers to the internet, mobile phones (both smartphones and digital feature phones), ATMs, POS terminals, NFC-enabled devices, chips, electronically enabled cards, biometric devices, tablets, phablets, and any other digital system. DFS models usually employ agents and the networks of other third-party intermediaries to improve accessibility and lower the overall service delivery cost.

Electronic Banking (E-Banking)

Definition

The provision of banking products and services, including electronic payments, through electronic channels.

Further Explanation

The electronic banking (E-Banking) concept includes mobile banking, internet banking, ATMs, and POS banking transactions, among others.

Fintech

Definition

The use of technology and innovative business models in the provision of financial services.

Why is fintech important? As the mobile internet has expanded, fintech has exploded, introducing a wide variety of technological interventions into personal and commercial finance. Non-bank institutions providing disruptive financial services can boost financial inclusion initiatives.

Further Explanation

The term is a contraction of “financial technology”. It refers mainly to technological innovations in the financial sector, including innovations in financial literacy and education, retail banking, investment, and even crypto-currencies.

Mobile Banking (M-Banking)

Definition

The use of a mobile phone to access banking services and execute financial transactions. This covers both transactional services, such as transferring funds, and non-transactional services, such as viewing financial information on a mobile phone.

Further Explanation

The term ‘mobile banking’ is often used to refer only to customers with bank accounts.

Mobile banking is a type of electronic banking, or E-Banking, which includes a broad array of electronic banking instruments and channels like the internet, POS terminals and ATMs.

Mobile Financial Services (MFS)

Definition

The use of a mobile phone to access financial services and execute financial transactions. This includes both transactional services, such as transferring funds to make a mobile payment, and non-transactional services, such as viewing financial information.

Further Explanation

Mobile financial services include mobile banking (M-Banking), mobile payments (m-payments), mobile money, mobile insurance, mobile credit, and mobile savings.

Mobile Money (M-Money)

Definition

A type of electronic money (E-Money) that is transferred electronically using mobile networks and SIM-enabled devices, primarily mobile phones. The issuer of mobile money may, depending on local law and the business model, be an MNO, a financial institution, or another licensed third-party provider.

Mobile Network Operator (MNO)

Definition

A company that has a government-issued license to provide telecommunications services through mobile devices. An MNO is also known as a telco. Why are Mobile Network Operators Important? Due to their experience with high-volume, low-value transactions and large networks of airtime distributors, MNOs have been critical players in digital financial services.

Non-Banking Financial Institution

Definition

An institution, different from a bank, that is allowed to provide certain financial services by virtue of the regulatory framework in place. Why are Non-bank Financial Institutions Important? In situations when obtaining a full banking license is costly or burdensome, non-bank financial institutions may enable providers to offer basic financial services to the financially excluded.

Further Explanation

Non-banks usually operate under a license (following a registration procedure) or based on ‘letters of no objection’ from the regulator. One common example of a non-bank financial institution is an MNO or entity established by an MNO to provide a limited range of financial services. Non-bank financial institutions are usually subject to lighter prudential regulations than banks.

BUSINESS MODEL TERMS

Bank-Based Model

Definition

A digital financial services business model, bank-led or non-bank-led, in which (i) the customer has a contractual relationship with the bank and (ii) the bank is licensed or otherwise permitted by the regulator to provide mobile financial services.

Further Explanation

In bank-based models, the bank often outsources certain activities to one or more service providers (such as an MNO) for the transmission of transaction details and sometimes the maintenance of customers' sub-accounts.

Bank-Led Model

Definition

A digital financial services business model, bank-based or non-bank-based, in which the bank is the primary driver of the product or service, typically taking the lead in marketing, branding and managing the customer relationship.

Non-Bank-Based Model

Definition

A digital financial services business model, bank-led or non-bank-led, in which (i) the customer has a contractual relationship with a non-bank financial services provider and (ii) the non-bank is licensed or otherwise permitted by the regulator to provide mobile financial services.

Non-Bank-Led Model

Definition

A digital financial services business model, bank-based or nonbank-based, in which the non-bank is the primary driver of the product or service, typically taking the lead in marketing, branding, and managing the customer relationship.

Payment Services Provider (PSP)

Definition

An entity that provides services enabling funds to be deposited and withdrawn from an account; payment transactions involving transfers of funds; the issuance and/or acquisition of payment instruments such as checks, E-Money, credit cards, and debit cards; and remittances and other services central to the transfer of funds.

Further Explanation

Payment services providers include banks and other deposit-taking institutions, as well as specialized entities such as money transfer operators and E-Money issuers.

Third-Party Provider

Definition

Agents and others acting on behalf of a DFS provider, whether pursuant to a services agreement, joint venture agreement, or other contractual arrangement.

Further Explanation

DFS providers should be liable for the actions of third-party providers acting on their behalf regardless of the third party's legal status and whether they are agents or not. The relationship between the DFS provider and the third-party provider is usually regulated by the main MFS regulator.

E-MONEY TERMS

Electronic Money (E-Money)

Definition

A type of monetary value electronically stored and generally understood to have the following attributes: (i) issued upon receipt of funds in an amount no lesser in value than the value of the E-Money issued and in the same currency, (ii) stored on an electronic device, whether or not it is SIM enabled (e.g. a chip, pre-paid card, mobile phone, tablet, phablet or any other computer system), (iii) accepted as a means of payment by parties other than the issuer and (iv) convertible into cash.

Further Explanation

Regulators often consider interest payments a feature that is unique to deposits. Consequently, when E-Money is considered a payment service, and not deposit-taking, the payment of interest is prohibited. However, some regulators are allowing interest from the trust funds that back up the e-money to be distributed to customers—an innovative regulatory practice.

E-Float

Definition

The total outstanding value of E-Money issued by an E-Money issuer.

Further Explanation

Customer funds backing an E-Float should be subject to fund safeguarding and fund isolation measures.

E-Money Account

Definition

An account held with an E-Money issuer. In some jurisdictions, E-Money accounts may have similar characteristics as conventional bank accounts but are treated differently under the regulatory framework due to the nature of their purpose (i.e. surrogate for cash, or stored value to facilitate transactional services).

Further Explanation

The funds backing the value of E-Money stored in E-Money accounts are usually pooled and held in a bank account or, in some cases, in a special trust account opened at a bank.

E-Money Issuer

Definition

The entity that initially issues E-Money against receipt of funds. Some countries only permit banks to issue E-Money (see Bank-based and Bank-led Models), while other countries permit non-banks to issue E-Money (see Non-bank-based and Non-bank-led Models). Why are E-Money Issuers Important? E-money issuers, particularly non-banks, have become very important; in some contexts, they are a cost-effective way to extend services beyond existing financial services models and channels.

Fund Solution

Definition

Measures aimed at isolating customer funds received against an equal value of E-Money from other funds, which may be claimed by the E-Money issuer or the E-Money issuer's creditors. Why is fund isolation important? Fund isolation, together with fund safeguarding, are the primary means of protecting customer funds.

Further explanation

Fund isolation is usually the regulatory obligation of the E-Money issuer.

Fund Safeguarding

Definition

Measures aimed at ensuring funds are available to meet customer demand for cashing out electronic value. Such measures typically include (i) restrictions on the use of such funds, (ii) requirements that such funds be placed in their entirety in bank accounts or government debt or any other low-risk and liquid financial instruments, and (iii) diversification of e-float among several financial institutions. Why is Fund Safeguarding Important? Fund safeguarding, together with funds isolation, is the primary means of protecting customer funds.

AGENT TERMS

Agent

Definition

Any third party acting on behalf of a bank, a financial institution, or a non-bank institution (including an E-Money issuer or other payment services provider) to deal directly with customers, under a contractual agreement. The term “agent” is commonly used even if a principal-agent relationship does not exist under the regulatory framework in place. Why are Agents Important? Using existing retail outlets as agents, particularly those located in low-income areas, can help drive down the delivery costs of financial services for underserved populations.

Further Explanation

Agents may (if permitted under local regulations) engage sub-agents to carry out activities on behalf of the financial services provider, which may also engage an agent network manager to help select, train, manage and oversee agents. Agents are usually sub-divided into “bank agents” and “non- bank agents”. Bank agents are employed by the banks to provide services on their behalf while non-bank agents are employed by non-bank entities, like telco companies.

Cash Agent

Definition

A type of agent that only provides cash-in and cash-out services. Why are Cash Agents Important? Due to their limited functions in a DFS model, cash agents are usually viewed as less risky and are therefore subject to less stringent regulations than regular agents that perform account opening and loan processing.

DFS Cash Point

Definition

All locations where users can perform cash-in and/or cash-out transactions. Types of cash points may include active cash outlets, such as bank agents, ATMs, MNO agents, and cash agents where DFS services are offered.

AML/ CFT TERMS

Agent Due Diligence (Know Your Agent)

Definition

Any third party acting on behalf of a bank, a financial the measures undertaken by a digital financial services provider to assess potential agents and their ability to carry out agent functions related to the provision of digital financial services. Why is KYA Important? Banks and non-banks perform KYA on agents to prevent abuse and illegal activities and to minimize the risks posed by these third parties. Due diligence measures for agents may be more thorough than those for customers.

Balance and Transaction Limits

Definition

Limits placed on a financial services account, including E-Money accounts, such as limits on maximum balance, maximum transaction amounts, and transaction frequency. Why are Balance and Transaction Limits Important? Limits on financial services accounts may help to reduce the risk of money laundering and terrorism financing and allow KYC rules under a risk-based approach to be simplified. Setting limits also helps to mitigate many of the operational risks involved in the provision of digital financial services.

Biometric Identification System

Definition

A system that facilitates the identification of a person through biometric verification or by evaluating one or more distinguishing biological traits, such as fingerprints, hand geometry, earlobe geometry, retina and iris patterns and voice waves.

Customer Due Diligence (CDD)

Definition

Often used synonymously with Know Your Customer (KYC) measures, CDD generally refers more broadly to the policies and procedures used by a digital financial services provider to obtain customer information and assess the risks of money laundering and terrorist financing posed by a customer, including detecting, monitoring and reporting suspicious activities.

Further Explanation

Although the main purpose of the CDD procedure is to mitigate the risks of money laundering and terrorist financing, in certain situations, CDD may also be used to analyze a customer’s financial standing and overall profile for the purposes of a broader risk mitigation strategy.

Know Your Customer (KYC)

Definition

A set of due diligence measures undertaken by a financial institution, including policies and procedures, to identify a customer and the motivations behind their financial activities. KYC is a key component of AML/CFT regimes. Why is KYC Important? The Financial Action Task Force (FATF) Recommendation 10 requires identifying customers and verifying their identities. However, since poor customers do not always have a form of identification, this can be a hindrance to financial inclusion. FATF recommendations do not prescribe specific KYC measures, so digital financial services providers must develop their own KYC procedures using a risk-based approach that simplifies or enhances requirements based on the risks posed by a customer.

Risk- Based Approach

Definition

The method for complying with AML/CFT standards based on the general principle that, where there are higher risks, countries should require digital financial services providers to take enhanced measures to manage and mitigate those risks. Where risks are lower, and there is no suspicion of money laundering or terrorist financing activities, simplified measures may be permitted. Why is a Risk-based Approach Important? A risk-based approach, conducted through a proper assessment of the risks involved, can often lead to greater financial inclusion. A risk-based approach is relevant for countries that want to build a more inclusive financial system by bringing the financially excluded, who may present a lower risk of money laundering and terrorist financing, into the formal financial sector.

Further Explanation

It is broadly recognized that this approach requires significant domestic consultation and cross-sector dialogue.

PAYMENT TERMS

Cash-In

Definition

The process by which a customer exchanges cash for electronic value.

Further Explanation

Cash-in transactions are usually a credit to the customer's E-Money account.

Cash-Out

Definition

The process by which a customer exchanges electronic value for cash.

Further Explanation

Cash-in transactions are usually a deduction from a customer's E-Money account.

Electronic Funds Transfer (EFT)

Definition

Any transfer of funds initiated through an electronic terminal, telephone, mobile phone, tablet, phablet, computer system or magnetic tape for the purpose of ordering, instructing or authorizing a payment services provider to debit or credit a customer's bank or E-Money account.

Electronic Payment (E-Payment)

Definition

Any payment made through an electronic funds transfer (EFT).

Interconnectivity

Definition

The technical capability to enable a connection between two or more schemes or business models, such as a payment services provider connecting to another payment services provider's digital financial services model.

Interoperability

Definition

Enabling payment instruments belonging to a particular scheme or business model to be used or interoperated between other schemes or business models. Interoperability requires technical compatibility between systems, and can only take effect once commercial interconnectivity agreements have been concluded.

Mobile Payment
Definition
An e-payment made through a mobile phone, tablet, or phablet.

National Retail Payment System
Definition
The complete range of institutional and infrastructure arrangements and processes in a country for carrying out retail payments. This includes payment instruments, participating institutions, payment infrastructure, market arrangements, and the regulatory framework.

Switch
Definition
A payment ecosystem platform that enables payment transactions to be routed from one payment system participant to another, whether within the same network or between different networks or schemes.

DFS TRANSACTION ACRONYMS

B2B

Definition

Business-to-business payment

Further Explanation

B2B payments usually include those made between two companies engaged in commercial activities.

B2G

Definition

Business to government payment

Further Explanation

B2G payments include paying taxes and fees.

B2P

Definition

Business to person payment

Further Explanation

B2P payments include salary payments.

G2B

Definition

Government-to-business payment

Further Explanation

G2B payments include tax refunds, goods and services purchases, and subsidies.

G2P

Definition

Government-to-person payment

Further Explanation

G2P payments include the disbursement of government benefits and salary payments.

P2B

Definition

Person-to-business payment

Further Explanation

P2B payments include payments for the purchase of goods and services.

P2G

Definition

Person-to-government payment

Further Explanation

P2G payments include paying taxes and fees.

P2P

Definition

Person-to-person payment

Further Explanation

P2P payments include both domestic and international remittances.

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