Roundtable Discussion Series-2026
Keynote Paper of Roundtable Discussion of BIBM
Volume No. 11 , Issue No. 6
2026

The Influence of Digital Transformation on Retail Banking: Innovations in Banking Products

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Published by



Bangladesh Institute of Bank Management (BIBM)
Section No. 2, Mirpur, Dhaka-1216

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Published in April, 2026

Published by Bangladesh Institute of Bank Management (BIBM)
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Foreword

As part of the ongoing dissemination of BIBM research outputs, the present research paper contains the findings of the roundtable discussion titled **'The Influence of Digital Transformation on Retail Banking: Innovations in Banking Products'**. The study was conducted in 2024-2025 and the paper was presented in a roundtable discussion held in November 2025. The study was motivated to identify the impact of digital transformation on retail banking in Bangladesh and to recommend to stakeholders, including banks, regulators, and policymakers on navigating the evolving digital transformation in designing innovative retail banking products and enhancing digital service performance to promote customer-centric retail banking innovation in Bangladesh. It gives me immense pleasure to publish and distribute this research output to the practitioners of banks and financial institutions, regulatory agencies, academics, and common readers. I hope this research paper will be a valued resource for professionals, expressly for the banking community for providing excellent retail banking services to customers as well as fulfilling their financing needs in Bangladesh.

Md. Ezazul Islam, Ph.D
Director General, BIBM

Acknowledgment

We would like to extend our gratitude to **Dr. Md. Ezazul Islam**, honourable Director General of BIBM, for his valuable guidance and suggestions that enabled us to complete the study comprehensively.

The research team is grateful to **Md. Shihab Uddin Khan**, Director, Research, Development, and Consultancy, BIBM, for his consistent guidance, as well as for the review and editing of this paper.

We would like to thank the respondents of our questionnaires and the learned discussants of Focused Group Discussion and the roundtable discussions at BIBM, who provided their valuable inputs for the successful finalization of the report. We are also thankful to all our colleagues for their cooperation and support.

Our sincere gratitude goes to our **Field/Research Assistants**, **Ms. Papon Tabassum**, Assistant Senior Officer (General), BIBM, and **Mr. Sk. Md. Azizur Rahman**, Officer (General), BIBM who have facilitated us to get very much useful information from different stakeholders across the country.

Finally, we would like to thank all of those who, directly and indirectly, extended their cooperation in our research work.

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List of Abbreviations

AI	Artificial Intelligence
ADCs	Alternate Delivery Channels
AML	Anti-Money Laundering
API	Application Programming Interface
ATMs	Automated Teller Machines
BACH	Bangladesh Automated Clearing House
BACPS	Bangladesh Automated Cheque Processing System
BB	Bangladesh Bank
BBS	Bangladesh Bureau of Statistics
BDT	Bangladeshi Taka
BEFTN	Bangladesh Electronic Funds Transfer Network
BI	Business Intelligence
BSDW	Bank Secured Digital Wallet
CAGR	Compound Annual Growth Rate
CDM	Cash Deposit Machine
CIOs	Chief Information Officers
CRM	Cash Recycle Machine
CX	Customer Experience
DT	Digital Transformation
EFT	Electronic Find transfer
e-KYC	Electronic Know Your Customer
FCBs	Foreign Commercial Banks
FGD	Focus Group Discussion
FinTech	Financial Technology
FP	Financial Performance
GSMA	Global System for Mobile Communications Association
HV	High Value
ICT	Information and Communication Technology
IT	Information Technology

KII Key	Informant Interview
KPIs Key	Performance Indicators
KYC	Know Your Customer
MFS	Mobile Financial Services
MFSPs	Mobile Financial Services Providers
NFC	Near-Field Communication
NPSB	National Payment Switch Bangladesh
P2P	Peer-to-Peer payment
PCBs	Private Commercial Banks
PFM	Personal Financial Management
POS	Point-of-Sale
PPP	Public-Private Partnership
QR-code	Quick Response code
R&D	Research and Development
ROA	Return on Assets
ROE	Return on Equity
ROI	Return on Investment
RPA	Robotic Process Automation
RTGS	Real Time Gross Settlement
RV	Regular Value
SDBs	Specialized Banks
SOCBs	State-Owned Commercial Banks
SPSS	Statistical Package for the Social Sciences
TAM	Technology Acceptance Model

Executive Summary

The digital transformation of retail banking in Bangladesh has reached a critical juncture, characterized by high institutional ambition but significant structural and human capital limitations. To evaluate this landscape, the study employed a mixed-research methodology, combining qualitative and quantitative approaches. Primary data was gathered through Focus Group Discussions (FGDs) with senior IT and retail banking executives from 27 banks, alongside a survey of 32 participating banks (a 52.45% response rate) and personal interviews with 320 retail customers. This was supplemented by an extensive secondary review of Bangladesh Bank statistics, annual reports, and global industry benchmarks to ensure a cross-sectional and time-series depth to the analysis.

The research reveals that the industry is currently stalled in a "Stage 2: Evolving" phase, where 68.5% of banks have established digital roadmaps but remain hampered by siloed core systems. Notably, 0% of banks have achieved "Stage 4: Leader" status, indicating a widespread ceiling on digital ambition that prevents the adoption of fully integrated, AI-driven operations. While the sector average for digital investment stands at 12.37% of annual budgets, the market is split by a "two-speed" reality: some laggard institutions invest as little as 3%, leaving them dangerously reliant on high-cost physical branches, while others invest up to 27%. This disparity necessitates a targeted digital migration strategy to shift simple transactions away from congested physical branches toward more cost-efficient digital channels.

A significant "perception gap" serves as a major roadblock to customer-centric innovation. While banking executives rate their service quality improvements at a high 4.6 out of 5, customer data presents a much more sobering reality: 48% of users are either actively dissatisfied or indifferent toward digital services. This disconnect stems from the fact that banks often measure success by internal metrics, whereas customers are deterred by fundamental operational failures. System unreliability and downtime affect 65.1% of users, while cybersecurity fears plague 60.4%. Furthermore, the research identifies a Knowledge and Literacy Gap (23.2%) as the single biggest barrier to mass adoption, particularly among older and rural demographics.

Internal organizational culture and leadership priorities also pose critical threats to transformation success. There is a stark misalignment where 77.8% of executives prioritize strategy and governance, but only 33.3% focus on internal capacity building. This neglect of human capital creates a vulnerability where the workforce lacks the technical fluency required to execute the bank's digital vision. To address these multi-faceted challenges, the study recommends a shift toward collaborative, sector-wide initiatives. These include shared cybersecurity intelligence centers to mitigate high infrastructure costs, mandatory minimum digital investment thresholds set by regulators, and a national digital financial literacy curriculum spearheaded by the government to move the unbanked and branch-reliant populations into the formal digital ecosystem.

The discussion among key industry leaders and regulators highlights a critical need for structural, regulatory, and cultural shifts to transform retail banking digitally in Bangladesh. A primary consensus emerged on the necessity of institutionalizing IT expertise, specifically by mandating IT professionals as Independent Directors on bank boards to fix the current "mindset gap" regarding digital investment. To drive a cashless society, participants suggested aggressive government interventions, such as setting low thresholds for cash transactions. There was also a strong call for fintech-driven inclusivity, particularly through "Nano-lending" and automated account processing, to reach the 40% of households currently untapped by traditional high-cost loan models.

Furthermore, the experts emphasized that security and literacy are the twin pillars of customer retention; without robust personal data protection and "zero-liability" policies to mitigate fraud fears, mass adoption of banking apps will remain stalled. Challenges regarding Open Banking and Cloud adoption were frequently cited, with calls for clearer regulatory frameworks from Bangladesh Bank that balance data privacy with the need for scalable, localized cloud infrastructure. To bridge the urban-rural divide, discussants proposed collaborative solutions such as government subsidies for tech investments-modeled after the Singaporean approach-and "bundle packages" through mobile operators to increase smartphone penetration. Ultimately, the dialogue underscores that digital transformation must move beyond simple "piloting" toward a synchronized ecosystem where regulators, banks, and the government align on infrastructure, tax rebates for digital users, and national literacy campaigns.

The Influence of Digital Transformation on Retail Banking: Innovations in Banking Products

1. Introduction

1.1 Background of the Research

Digital innovation in retail banking is no longer an option but a necessity. Financial services executives are now tasked with leveraging digital transformation as a strategic tool to guide banks toward achieving their business goals, ensuring that services are instant, accessible, and tailored across various digital platforms. This paradigm shift is driven by changing consumer behaviors, heightened competition from fintech companies, and the imperative need for operational efficiency. Moreover, digital transformation paves the way for innovative financial models, from mobile banking apps to digital mobile wallets, making services more inclusive and accessible to a broader population. As such, digital transformation stands as the cornerstone for banks aiming to remain competitive, increase satisfaction, and unlock new growth opportunities in the digital age.

The key areas of retail banking transformation are customer experience, operational efficiency, data analytics and insights, security and compliance, digital payments and transfers, financial inclusion, Personal Financial Management (PFM) and innovative Services.

The banking sector in Bangladesh has evolved significantly since the introduction of Automated Teller Machines (ATMs) and core banking systems in the early 2000s. Historically dominated by state-owned and private commercial banks with limited retail focus, the sector faced challenges such as low financial inclusion as only about 51.7% of individuals aged 15 and above held an account with a bank or financial institution in 2023 (Transparency International Bangladesh, 2025), high dependency on cash, and operational inefficiencies.

The turning point came with the Bangladesh Bank's approval of mobile financial services in 2011, led by providers like bKash (launched by BRAC Bank) and later others. Financial transactions through MFS are increasing due to their diverse services, ease of transaction, increased transaction limit, opportunities to receive social safety net program allowances, etc. The use of MFS services is gradually increasing to ensure financial inclusion, including social safety net programs, education stipend programs, and salary payments in various offices. These platforms revolutionized remittances, payments, and micro-savings, especially in rural areas where branch banking was scarce.

The COVID-19 pandemic accelerated digital adoption, with internet banking users growing from 2.5 million in early 2020 to over 6 million by 2022, and MFS transactions surging. Regulatory milestones include the introduction of e-KYC in 2020, interoperability among MFS providers, and Digital Bank Licensing Guidelines in 2024, paving the way for branchless digital banks. At present, 13 Mobile Financial Services Providers (MFSPs) are continuing their operations. According to a report of Bangladesh Bank, as of December 2024, the total number of MFS account holders (registered customers) is about 237 million (58.4% male and 41.6% female), of which 37.6% are active accounts. The number of merchant accounts is 1.54 million. In addition, this sector creates a significant number of employment opportunities. According to the Bangladesh Bank, a total of 1.83 million agents are working in this sector. This transformation has boosted financial inclusion, with MFS accounting for a significant portion of transactions (daily averages reaching BDT 53.14 billion, and the average transaction per month is BDT 1647.4 billion for leading providers) and contributing to GDP growth. The amount of remittance received through MFS is gradually increasing, in 2024, Bangladesh received a total of BDT 107.86 billion of foreign remittance through MFS via legal channels.

By 2025, some key aspects of digital transformation in retail banking are: Online and Mobile Banking. Digital transformation has led to the development of user-friendly online and mobile banking platforms. Customers can now perform a wide range of banking activities, such as

checking balances, transferring funds, and paying bills, from their smartphones and computers. Digital transformation has streamlined the lending process, allowing customers to apply for loans and mortgages online. Here, Banks are using advanced analytics to assess creditworthiness and offer quicker loan approvals, making borrowing more convenient for customers. ATMs have evolved to offer more services, such as cash and check deposits, check imaging, and even video conferencing with bank representatives. These improvements enhance convenience for customers. Digital wallets, Peer-to-Peer Payment (P2P) apps, BATCH, BEFTN, and contactless payment methods have become popular, reducing the reliance on physical cash and checks. This shift includes services like the various mobile banking apps. Banks use data analytics to gain insights into the behaviour of customers, identify trends, and offer personalized retail banking products to meet the individual needs and preferences, and help customers better understand their spending habits, savings potential, and investment opportunities, enabling them to make more informed financial decisions. Digital transformation aims to provide a seamless and user-friendly experience. User interfaces are designed with a customer-centric approach, making it easy for customers to access and use banking services. Banks have deployed 24/7 customer care numbers to enhance customer support and streamline account-related inquiries. AI and big data for personalized products, Blockchain for secure transactions, Agent banking outlets exceeding thousands, Digital Nano-loans disbursed via apps, etc. are other examples. Digital transformation often involves changes in compliance and risk management practices to adapt to new technologies and evolving regulations, such as Know Your Customer (KYC) processes in a digital context. Banks are increasingly partnering with FinTech companies to leverage their expertise in areas like payments, lending, and wealth management. They are allowing third-party financial services providers to access bank data with customer consent. This has given rise to new financial products and services, such as account aggregation apps and innovative budgeting tools. Cloud computing is being used for scalability, flexibility, and cost-efficiency in the IT infrastructure of Banks. With the growing threat of cyberattacks, banks have invested in advanced security measures,

including cybersecurity, biometric authentication (such as fingerprint and facial recognition), and multi-factor authentication, to protect customer accounts, data, and financial assets from cyber threats. However, gaps in cybersecurity, digital literacy, and rural infrastructure persist, making this a critical area for research. Though the traditional banking models have been disrupted by digital technologies, forcing banks to innovate rapidly, while digital transformation has improved efficiency and convenience, it has also introduced challenges such as cybersecurity threats, regulatory concerns, and the digital divide among customers. This study seeks to analyze how digital transformation influences retail banking products and services. Though a considerable amount of research has been conducted on digital transformation of banks, the earlier studies reviewed have not specified how digital transformation influences retail banking innovations in the country's banks, which is one of the reliable strategies of contemporary bank marketing, expressly in enhancing customer service.

A critical review of existing literature revealed where the current body of knowledge is deficient, thus justifying the study. Lack of granular, product-specific analysis detailing how digital transformation changes the features and delivery of core retail products (e.g., the difference between a traditional personal loan and an AI-scored digital loan); insufficient evidence linking Digital Transformation (DT) to quantifiable operational KPIs specific to the Bangladeshi context (e.g., quantifying the reduction in branch traffic or the improvement in loan processing time), limited study on the contrasting success factors, challenges, and competitive strategies in banks of Bangladesh and lack of field research on retail customer value creation in Bangladesh. Thus, there is an information gap in determining the influence of digital transformation on innovative retail banking products in Bangladesh. Hence, this study sought to respond to the following questions:

1. How has digital transformation influenced the development and adoption of innovative banking products and services in Bangladesh's retail banking sector?

2. What are the key digital innovations influencing retail banking (e.g., mobile wallets, digital lending, e-KYC, and AI-driven services) and how do they differ from traditional products?
3. What impacts do these innovations in retail banking have on customer experience and satisfaction, financial inclusion, operational efficiency, and bank profitability?
4. What major risks and challenges (e.g., regulatory, cybersecurity, and infrastructural) hinder the full potential of digital transformation in retail banking?
5. How can policymakers and banks address these challenges to sustain innovation in the future?
6. How do banks use digital transformation as a competitive advantage in the retail banking industry?

On the above background, the study aims to contribute to the existing body of knowledge by offering an in-depth analysis of how digital transformation is reshaping retail banking products and services. By examining the benefits, challenges, and future trends, this research will help banks and policymakers make informed decisions in the evolving digital banking landscape. The study will also benefit the regulators to realize the opportunity in which digital transformation in retail banking products can affect the banking industry's performance, ways to connect customers, and promote more innovative retail banking practices in the industry to improve the overall economy of the country.

1.2 Research Objectives

The main objective of the study is to examine the impact of digital transformation on retail banking in Bangladesh. Thus, the specific objectives of the paper are:

- To identify key technologies driving change of digital transformation on the offering of changing and innovative retail banking products in Bangladesh;

- To assess the influence of digital transformation on the operational efficiency of banks;
- To evaluate the impact of the digital transformation of retail innovative banking offers on customer satisfaction.
- To explore the challenges and risks faced by the banks in this transformation in the industry, and
- To recommend to stakeholders, including banks, regulators, and policymakers, on navigating the evolving digital transformation in designing innovative retail banking products and enhancing digital service performance to promote customer-centric retail banking innovation in Bangladesh.

1.3 Scope of the Study

The study focuses on retail banking business in Bangladesh, covering commercial banks, MFS providers, fintech, and emerging digital transformation in banks, by covering data from 2010- 2023. It includes key innovations such as mobile banking apps, digital wallets, agent banking, online lending, e-KYC, etc. Geographically, it encompasses urban and rural areas, highlighting financial inclusion aspects. The time scope is up to November 2025, incorporating recent developments like digital bank licenses and e-KYC enhancements. Discussion points have been raised depending on analyses accomplished through literature review, as well as information, opinions, and comments collected from survey data, Focus Group Discussion (FGD), and Key Informant Interview (KII).

1.4 Methodology

To conduct the study, a mixed research method, incorporating both quantitative and qualitative approaches, was employed. The study described the current digital landscape and analytically evaluated the relationship between digital adoption and product innovation/performance in banks. To fulfil the study's objectives, descriptive research in the form of a survey is undertaken.

Secondary information was utilized to understand the research problems, as well as to provide context for the research questions and to review the current status of digital transformation of retail banking products. Additionally, the study reviewed available literature, research papers, guidelines of Bangladesh Bank, reports from Bangladesh Bank (e.g., MFS statistics, quarterly financial stability reports), academic journals, industry reports (e.g., from The Daily Star, Financial Express, and global sources like Statista and GSMA), books, Annual Reports, IT strategy documents and websites of all the banks in Bangladesh to collect secondary information.

The study targets individuals directly connected to the IT department of banking sector, including Head of Information Technology (IT), related personnel from the IT Department, Chief Information Officers (CIOs) and the Head of Retail Banking Department or related personnel from the Retail Banking and bank customers who actively use digital banking platforms, and industry experts such as fintech professionals and academic researchers. To understand the digital transformation of the innovative retail banking policies and procedures and perceptions of digital transformation by bankers, a qualitative research technique of a Focus Group Discussion (FGD) was conducted involving the Head of Information Technology (IT)/ related personnel from the IT Department, Chief Information Officers (CIOs) and the Head of Retail Banking Department/related personnel from the Retail Banking Department of 27 Banks. After refining, categorizing, and comparing the information with relevant literature, this was used as a guideline to develop the content of survey questionnaires for the survey. After the initial development of the survey instrument, we conducted a pre-test of the questionnaire with 45 bankers as well as 30 users to confirm the content validity. In this way, the final structured questionnaire was designed for the banks and dispatched to the respective departments in 61 scheduled banks, including State-Owned Commercial Banks (SOCBs), Specialized Banks (SDBs), Private Commercial Banks (PCBs), and Foreign Commercial Banks (FCBs) in Bangladesh. Using a purposive sampling method, the study ensures representation across customer demographics

(age, education, and income), and geographical regions (urban and rural). This study used the personal interview survey method to conduct surveys/interviews with bank executives and customers. Surveys targeting retail banking customers were conducted to assess their experiences with digital banking, to gauge usage rates, purposes of use, influencing features, satisfaction, barriers and changes preferred for innovative retail products. And interviews with banking professionals were conducted to understand strategic decisions related to digital transformation, transformation progress, digital products, channels, infrastructure, as well as benefits, impacts, and challenges of digital transformation in their banks.

Data were collected between September and October, 2025, using a combination of online and in-person distribution methods. In-person data collection was conducted in bank branches, universities, and public service areas, while online surveys were disseminated via Google Forms and mail to reach digitally active populations. Respondents were briefed on the purpose of the study, and participation was voluntary. Informed consent was obtained from all participants prior to data collection. Respondents were assured of confidentiality, and no personally identifiable information was collected. Data were stored securely and used exclusively for academic purposes.

In this way, the study collected the necessary data through a self-administered questionnaire of 35 banks in Bangladesh. Finally, a total of 32 responses (response rate of 52.45%) were retained for the subsequent analysis, as the rest of the responses were discarded due to missing data and incomplete information. Apart from these, surveys have been conducted through personal interviews of 320 customers having retail banking services to get information and opinion on the digital transformation of retail banking products with a different set of questionnaires.

The questionnaire included a mix of closed-ended questions, such as multiple-choice options and Likert scales, and open-ended questions for detailed feedback, enabling a comprehensive analysis of the influence of digital transformation on innovative retail banking product in the banking industry.

Descriptive statistics were predominantly used for data analysis, like frequencies, percentages, means etc. Analysis of innovations, impacts, and challenges, account growth, adoption rates, innovation success factors, and strategic priorities etc. using tables and charts. Cross-sectional analysis based on current data, supplemented by time-series data, was available. SPSS version 27.0, and Microsoft Excel 2017 were employed for data analysis.

1.5 Organization of the Study

The contents of this report are divided into six sections. Section-1 covers the introduction of the study. Section-2 describes literature review on the digital transformation of innovative retail banking products. Section-3 represents the current digital infrastructure of Bangladeshi banks. Section-4 presents the findings from examining the influence of digital transformation on innovative retail banking products offered by the banks of Bangladesh. Finally, Section-5 raises some Issues for discussion in the roundtable meeting with suggested measures for improvements and best practices of innovative retail banking product through digital transformation in the banks of Bangladesh.

1.6 Significance of the Study

This research will provide valuable insights for banking institutions, policymakers, and customers by highlighting how digital transformation is shaping retail banking. Banks can use the findings to enhance their digital strategies, improve customer experience, and mitigate risks. Policymakers can use the research to develop regulations that balance innovation and security in digital banking.

The expected outcomes of the roundtable discussion study are the identification of key digital transformation trends in retail banking; insights into how digital banking services improve customer engagement and convenience; evaluation of risks and challenges banks face in implementing digital innovations; and strategic recommendations for banks to leverage digital transformation for competitive advantage.

2. Literature Review

This section will review existing literature on digital transformation in banking, focusing on the following themes:

2.1 Evolution of Digital Transformation in Banks

Digital Transformation (DT) in banking is widely regarded as one of the most credible digital developments in the finance sector (Osei et al., 2023). DT is assured to enhance how banks and other financial organizations learn about, communicate with, and satisfy the needs of customers (Osei et al., 2023). Information technology is deeply integrated into all sectors of the economy and society, and banking is no exception (Carbo´-Valverde et al., 2020). Consequently, using digital technology has become an indispensable part of commercial banks' activities in China to create value for customers and sell products (Yongie and Shanyue, 2025). This shift is accelerated by factors such as the fintech business boom in Indonesia since 2018, where the widespread use of digital payments and money has encouraged banks to shift from traditional systems to digitalization systems. As a result of this evolution, commercial banks have launched a range of digital products and services, such as mobile apps, online account opening, e-KYC, real-time fund transfers, and digital payment gateways (Wang et al., 2024).

Key global trends driving this evolution include the digitalization of business processes and customer interaction channels, strongly influenced by changing consumer behavior and competition. This shift involves using Big Data, Artificial Intelligence (AI), and biometric technologies to collect customer information, improve services, and provide personalized services, alongside increased investment in cybersecurity in Russia. Recent innovations include the use of remote identification mechanisms and systems like the National Payment Card System (NSPK) and the Quick Payment System (SBP) for real-time payments 24/7/365. Further technological adoption can be seen in China, where Blockchain technology is applied to the digital yuan; big data is used to screen customers; and AI

is used for outbound transactions. The presence of teller machines and smart point-of-sale machines also indicates the fruition of DT endeavours within commercial banks.

As trailblazers in informatization, commercial banks are proactively or reactively engaging in DT efforts to align with industry trends and address competitive pressures (Wang & Wang, 2022). FinTech is specifically used by commercial banks in scene construction as one of the key tools of DT (Yongie and Shanyue, 2025). The integration of technologies such as cloud computing, AI, and 5G into various scenarios has innovated the financial service model (Khattak & Yousaf, 2021). External factors, including the issuance of government documents and the impact of COVID-19, have also prompted commercial banks to engage in DT, either proactively or reactively (Tian et al., 2022). DT is an ongoing process for commercial banks, presenting a substantial opportunity for gaining a competitive edge (Naimi-Sadigh et al., 2021). By consistently reinforcing FinTech infrastructure, commercial banks can propel DT to enhance widespread data analysis, drive new technology expansion, promote R&D of innovative products, accelerate market share acquisition, and achieve speedy internal operational evolution (Hawes and Chitra, 2016).

2.2 Impact of Digital Transformation and Innovation on Banks

Digital Transformation (DT) has caused a paradigm shift in the banking sector, changing traditional operations and customer engagement (Al-Dmour et al., 2022). This technological advancement streamlines internal procedures and transforms consumer interaction through creative digital platforms (Bueno et al., 2023; Pio et al., 2024). A digital ecosystem that crosses time zones and geographic barriers has been made possible by rapid breakthroughs in Artificial Intelligence (AI), data analytics, and information technology (Zaib & Ourabah, 2023; Singh et al., 2022). Commercial banks are undergoing DT, which includes developing banking software, mobile banking solutions, and FinTech to meet customer demand regarding interest rate liberalization, big data, risk management, and customer relationship management (Indriasari et al., 2022). This change has had a profound

impact on how commercial banks function and offer value to their clients. Due to the evolution of the FinTech ecosystem, which has brought non-banking service providers into the industry, digital business strategy has become the sole business strategy for organizations (Sarker et al., 2025). The use of digital technologies and the public's growing desire for digital services create opportunities for the banking sector to grow both its clientele and earnings (Ngamal and Perajaka, 2022).

2.3 Operational and Financial Impact of Digital Transformation in Banks

Through DT, commercial banks in China have saved service costs, optimized service processes, and achieved differentiated services, enhancing their competitiveness (Yongie and Shanyue, 2025). DT has reduced branch operating costs (Naimi-Sadigh et al., 2021). Reducing the area of business branches has saved rent and reduced the operating cost (Schwanholz & Leipold, 2020). Banks' DT shortens business processing time and reduces the business error rate, thus improving their business ability (Chang et al., 2020). The integration of big data, AI, and blockchain by Chinese commercial banks enables comprehensive data analysis targeting customers and provides a timely detection of potential risks (Yongie and Shanyue, 2025). These technologies significantly enhance management, decision-making, and service capabilities, enabling business management and innovation with greater speed and efficiency while concurrently reducing human resource costs, thereby maximizing Financial Performance (FP) (Yongie and Shanyue, 2025; X. Chen et al., 2021; Zhu & Jin, 2022). Big data assists banks in identifying customers with favorable credit profiles and, through targeted marketing initiatives, can potentially decrease the nonperforming loan ratio, enhancing operational capability and leading to improved financial performance (Chen et al., 2020; Königstorfer & Thalmann, 2020). Evidence revealed that the adoption of technology such as ATM, agent banking, SCRM, and BSDW has registered a positive significant relation with ROE and ROA, as the improved efficiency and the increased availability of services affect bank financial results (Al-Shouha et al., 2024).

2.4 Innovation Capabilities of banks in Digital Technology

Commercial banks demonstrate innovation in digital technology through their transformation processes. Utilizing digital technology, they revamp traditional business processes, enhance customer communication, and elevate product lines and service quality (Yongie and Shanyue, 2025). This shift makes it easier to fund ongoing investments in staff, raise R&D costs, and speed up the creation of new products, which encourages internal innovation in commercial banks (Yongie and Shanyue, 2025). Commercial banks have realized the customization and diversification of products through DT and improved their research development and innovation capabilities (Chang et al., 2020). DT acts as a catalyst, revolutionizing traditional banking models through the integration of advanced technologies (Al-Ansi et al., 2024). The active introduction of innovations becomes an important characteristic of the banking sector and ensures the competitiveness of market participants. All this affects the operational processes and the services provided, which is mainly characterized by the transition to the digital space (Lizovskaya et al., 2019). DT enhances the innovation capabilities of commercial banks (Omarini, 2017). Utilizing digital technology enables commercial banks to innovate, enhance product offerings, and elevate service quality (Yongie and Shanyue, 2025). For example, in China, a one-stop service platform fostered by innovative mediation business channels offers convenience, addresses information asymmetry, and reduces matching costs for mediated business products (Yongie and Shanyue, 2025).

2.5 Impact of Digital Transformation on Customer Experience

Digital Transformation (DT) represents a significant organizational shift in how banks engage with clients, moving from a product-centric to a customer-centric approach (Maulidya and Afifah, 2021). Digital innovations have transformed the customer experience by improving convenience, accessibility, and personalized services, resulting in enhanced customer relationships (Sayed & Sayed, 2020). Banks utilizing digital

offers effectively achieve better client loyalty and retention figures (Ngo and Nguyen, 2016). Consumers are actively using new banking channels to improve their experience, and since a modern consumer can easily switch to competing offers, banks must actively seek ways to increase consumer value (Lizovskaya et al., 2019). This necessity has forced the industry to transition towards being digital to remain competitive, drive efficiency, and improve consumer satisfaction (Chu & Zhan, 2024). When customers report high satisfaction levels, they display greater loyalty and reduce their departure rates, as customer satisfaction is acknowledged as a key driver of customer loyalty (Ndubueze, 2023). Service quality, technology integration, and individualized customer experiences are vital for achieving sustainable banking sector growth (Pakurár et al., 2019).

In China, DT has enhanced the overall customer experience through the integration of intelligent machines, enabling the substitution of numerous counter transactions with automated processes and this elevates the customer experience, leading to heightened psychological satisfaction (Lee & Lee, 2019; Laursen & Fiacconi, 2021). As customers' time and energy in handling business are reduced, their satisfaction is high, increasing their goodwill and "viscosity" (loyalty) with the banks, thereby improving their Financial Performance (Yongie and Shanyue, 2025). Furthermore, DT not only reshapes service channels but also caters to the increasingly diverse and personalized needs of people, enhancing customer service and increasing customer loyalty (Wang et al., 2023).

Customer satisfaction, which is the overall evaluation of the banking experience, depends on service quality, convenience, security, and customer support (Harb et al., 2022). There is a direct relationship between technological adoption and customer happiness (Ijeoma et al., 2020). Safety services and cloud solutions are becoming more impactful factors for customer satisfaction (Li et al., 2021). Tailored experiences boost satisfaction levels and serve as essential elements for customer retention (Ndubueze, 2023). Customer loyalty emerges strongly from the satisfaction customers experience when banking services are tailored to their personal needs (Ngo and Nguyen, 2016). Service quality is established to have a direct relationship with customer satisfaction

(Ansari et al., 2021). Research utilizes the Technological Acceptance Model (TAM) to evaluate digital banking services, demonstrating that factors like adoption of technology, perceived ease of use, and perceived utility significantly affect user satisfaction (Ahmad, 2018; Rahi et al., 2017). User-friendly interfaces, robust security measures, and accessible features drive customer perceptions and increase their loyalty to banks (Ndubueze, 2023). Customer satisfaction is greatly influenced by personalized services and interactive platforms, revealing the necessity for financial institutions to tailor customer interactions (Duc, 2022). Enhancing reliability and reactivity aspects of service quality improved customer satisfaction in Malaysian digital banking services (Hadid et al., 2020). Security is the highest priority, as customers demonstrate greater satisfaction and loyalty when they feel protected, stressing the need for robust security strategies (Kaur et al., 2021; Ndubueze, 2023). Enhancing digital contact points through a holistic approach results in improved overall satisfaction (Chauhan et al., 2022). Research demonstrates that online banking users report higher satisfaction levels compared to traditional banking customers (Li et al., 2021; Zouari & Abdelhedi, 2021). The digital banking landscape has transformed customer expectations, which requires banks to actively innovate their service offerings to maintain competitiveness (Zouari & Abdelhedi, 2021). However, urban customers secure better digital facilities with good usage, but a gap persists as rural customers still struggle to manipulate technology to their advantage.

2.6 Factors Affecting Adoption of Digital Banking

The adoption of Internet banking is influenced by a combination of demographic, social, psychological, and system-related factors.

Demographic and Socio-economic Factors: There is a positive relationship between a higher educational level, income level, being self-employed, greater use of ATMs, and greater frequency in the use of banking operations with the use of Internet banking (Jiménez and Aguiar-Díaz, 2019). However, age exhibits a negative relationship with the use of Internet banking (Jiménez and Aguiar-Díaz, 2019).

Social and Psychological Factors: The adoption of new technologies in Internet banking is influenced by the individual's social environment, as well as their knowledge and beliefs about what the technology can provide to meet their personal goals (Boateng et al., 2016). Satisfaction, motivation, trust, self-efficacy, and habits are critical factors in determining the intention to use Internet banking (Sharif and Raza, 2017).

System and Design Factors: To encourage more users to utilize online banking, it is necessary to enhance users' proficiency with online banking, update applications, and include a more creative user interface (Koroleva & Kudryavtseva, 2019). Studies reveal that design and dependability have an impact on both loyalty and satisfaction, while privacy and security primarily impact loyalty (Indrasari et al., 2022).

2.7 Challenges and Risks Mitigation of Digital Transformation

Concerns about cybersecurity - including worries about data breach, account hacking, and fraudulent activities - are a deficiency in digital finance (Duggi et al., 2025). The challenges for the banking sector's digital transformation include regulatory complexity, cybersecurity threats, legacy system integration, customer trust and data privacy, technological investment costs, talent acquisition and training, and fintech disruption (Al-ansi, 2024).

Usability stands out as a critical factor because many digital platforms lack user-friendly interfaces, which results in customer frustration (Ndubueze, 2023; Ijeoma et al., 2020). Customers may avoid using digital banking services when interfaces are poorly designed, which negatively affects their satisfaction (Sisay, 2021). The challenge of accessibility persists since many rural customers often lack stable internet connections and the necessary technology for digital banking. The differences between rural and urban clients lead to an increased service gap, which influences overall customer satisfaction (Tien et al., 2021). Financial institutions failing to resolve these issues risk losing customers to competitors with superior digital solutions (Simon et al., 2016). One resistance dimension to the use of mobile financial services is tradition (Chemingui and Lallouna, 2013).

Digital tools have given rise to various worries surrounding digital security, the necessity of becoming digitally literate, the inadequacies of the infrastructure, and trust in technology. Barriers to equal access persist, ranging from rural–urban divides, cybersecurity issues, digital literacy, and customer trust (Duggi et al., 2025). Despite these hurdles, the adoption of FinTech solutions (Stoeckli et al., 2018; Udin, 2023), coupled with regulatory support, continues to drive the growth of digital banking.

The opportunities found in DT include digital innovation, enhanced customer engagement, efficiency and cost reduction, financial inclusion, strategic partnerships, data-driven decision-making, agile and adaptive culture, and ecosystem Integration (Al-ansi, 2024). Banks must focus on creating a banking sector ecosystem that actively develops digital ecosystems, which increases value for the client and allows the banking structure to be at the center of customer experience formation (Lizovskaya et al., 2019). A measurement model for bank website quality suggests checking factors like security, trust, basic services quality, and responsiveness. Furthermore, continuous implementation of DT is imperative for commercial banks to align with advancements in the digital economy and bolster their competitiveness (Zhang et al., 2021).

2.8 Digital Transformation in Banks of Bangladesh and its Challenges

Digital Transformation (DT) has fundamentally altered how banks deliver services in Bangladesh, with the literature highlighting it as a strategic transition influencing operational efficiency, customer engagement, and national financial inclusion. Historically, banking was characterized by manual, branch-based operations (Ahmed & Islam, 2004). The shift began with early electronic banking solutions like ATMs and online portals (Chowdhury & Rahman, 2009), which then accelerated due to improvements in ICT infrastructure, increasing smartphone penetration, and government-led digital initiatives (Mohiuddin, 2017). The rise of smartphones made mobile banking apps a primary tool, and the emergence of FinTech start-ups and the COVID-19 pandemic further accelerated this

transition to contactless and online solutions (Sarker et al., 2025; Sultana & Jahan, 2021).

The sector has implemented various concepts like mobile banking, agent banking, and online banking, making banking virtual and expanding financial access (Pervin & Sarker, 2021; Ozili, 2018). Mobile Financial Services (MFS), provided by entities like bKash and Nagad, are identified as the most influential innovations, enabling millions of unbanked citizens to access financial services through mobile technology (Islam & Barna, 2019; Rouf & Babu, 2023). The widespread adoption of MFS generated competitive pressure, pushing traditional banks to integrate similar mobile solutions (Rahman & Karim, 2020). Bangladesh Bank has played a pivotal role through policies supporting agent banking, interoperability, e-KYC, RTGS, BACH, and NPSB, enhancing the speed and security of digital transactions (Hasan & Chowdhury, 2021). Agent banking, which blends digital infrastructure with local human agents, has achieved remarkable success in financial inclusion in rural regions (Farhana & Momen, 2020). The collaboration or competition between FinTech firms and traditional banks is enhancing innovation and reducing operational costs (Kabir & Sultana, 2022).

Modern customers, particularly youth, middle-aged, and educated individuals, prefer digital interactions over traditional branch visits due to convenience, speed, and flexibility (Mahmud & Hoque, 2018; Siddiquee, 2025). Research found a significant positive relationship between service quality and customer experience on overall satisfaction (Bashir et al., 2023). 81% of e-banking users found digital channels convenient (Rahman et al., 2017). Trust, ease of use, perceived security, and service quality are key factors affecting adoption (Hossain & Rahman, 2021). DT has led to profound changes in operational efficiency; automation of back-office processes and digitized loan processing have significantly reduced processing times, minimized errors, and increased productivity (Nahar & Rahman, 2017). Digital services also enhance financial inclusion, support women's economic empowerment, and facilitate remittance flows (Khatun & Biswas, 2020).

Despite the advancements, challenges persist, including Cybersecurity risks (e.g., data breaches, fraud), uneven digital literacy (especially in rural and older populations), infrastructure gaps (unreliable internet), and technical problems (app crashes, delays) (Akter & Uddin, 2019; Siddiquee, 2025). Insufficient IT infrastructure within certain banks and internal resistance to organizational change also pose impediments (Rahman & Taher, 2020). The literature predicts greater future transformation through trends like embedded finance, open banking, digital lending, and biometric verification (Rahman & Sarker, 2023). Recommendations for sustainable growth include investing in robust ICT infrastructure, taking stronger security measures (e.g., 2FA), designing user-friendly applications, and implementing digital literacy initiatives (Siddiquee, 2025). Furthermore, collaboration between banks and FinTech firms is essential to drive innovation and mitigate risks (Siddiquee, 2025).

In summary, the literature underscores that digital transformation has become a defining force in shaping retail banking in Bangladesh. Innovations such as mobile financial services, online banking, agent banking, and fintech integration have significantly enhanced accessibility, efficiency, and service quality. Although challenges related to cybersecurity, infrastructure, and digital literacy persist, the overall trajectory of digital transformation in Bangladeshi retail banking is highly positive and increasingly aligned with global trends. As banks continue to embrace advanced technologies and new business models, the future of retail banking in Bangladesh is expected to be more digital, inclusive, and innovative than ever before.

3. Current Digital Infrastructure of Bangladeshi Banks

3.1 Delivery Channels

The provided data illustrates a dramatic and accelerating shift in the banking sector's delivery landscape between 2015 and 2025, with total channels increasing from 597,760 to over 1.6 million, representing a Compound Annual Growth Rate (CAGR) of 65.0%. This massive expansion is overwhelmingly dominated by the non-traditional channels, with MFS

Agents accounting for a commanding 88.27% of all delivery points by 2025, and their growth rate being 61.99%. The channels experiencing the most explosive growth are the Sub-Branch (CAGR of 1121.37%), CRM (CAGR of 666.93%), and Agent Banking outlet (CAGR of 467.19%), indicating a dual strategy focusing on assisted self-service (CRM), expanded physical presence (Sub-Branch/Agent Outlet), and agency banking. In stark contrast, traditional physical channels show minimal or negative growth; Branch expansion is relatively sluggish at a CAGR of only 10.01%, while CDM (Cash Deposit Machines) units show a sharp decline with a negative CAGR of -59.98%. The true magnitude of this transformation is highlighted by the channel density, where for every single branch in 2025, there are over 12,631 MFS Agents, affirming the retail banking sector's successful transition to a model heavily reliant on digitized, off-site services and agents.

Table-1: Distribution of Delivery Channels

Delivery Channels	Fiscal Year			CAGR	% of Total Delivery Channels	% of Branch
	2015	2020	2025			
ATM	10280	11923	13436	14.32	0.83	118.15
CDM	1324	1527	212	-59.98	0.01	1.86
CRM	126	780	7411	666.93	0.46	65.17
POST	28587	73229	133178	115.84	8.18	1171.10
Branch	9397	10671	11372	10.01	0.70	-
Sub-Branch		393	4800	1121.37	0.29	42.21
MFS Agent	547407	1266795	1436434	61.99	88.27	12631.32
Agent Banking Outlet	639	15977	20557	467.19	1.26	180.7686
Total	**597760**	**1381295**	**1627400**	**65.0**	**100.0**	

Source: Bangladesh Bank and BIBM Survey, 2025

3.2 Total Accounts/Number of Users

The data for the Fiscal Year 2025 confirms a rapid and pervasive digital transformation in the banking sector, with the total number of accounts/users reaching 418.90 million, representing a Compound Annual Growth Rate (CAGR) of 79.9% from 2015. While traditional Deposit (Branch) accounts remain the largest single segment at 169.00 million (40.34% of the total), the overwhelming majority of growth is driven by digital and agency channels. MFS Clients (Mobile Financial Services) constitute the second-largest segment, reaching 145.64 million (34.77% of total) with a robust CAGR of 114.01%. The most explosive growth is observed in channels focused on financial inclusion: Agent Banking Clients grew to 24.41 million users, showing a massive CAGR of 1485.92%. Similarly, self-service and card products have seen significant adoption, with Prepaid Cards (CAGR of 609.08%) reaching 7.04 million and Debit Cards at 43.15 million (CAGR of 123.74%). Even App/Internet Banking accounts reached 11.37 million (CAGR of 172.56%). This data underscores a profound and ongoing shift where the sector's expansion is almost entirely centered on digital and agent networks, far outpacing the growth of traditional branch banking.

Table-2: Total Accounts/ Number of Users

Type of Accounts/Number of Users (In Millions)	Fiscal Year			CAGR	% of Total Accounts
	2015	2020	2025		
Deposit (Branch)	76.22	118.55	169.00	48.90	40.343
Advance (Branch)	9.89	1.14	13.90	18.55	3.318
MFS Agent	0.56	1.27	1.44	60.16	0.343
MFS Clients	31.80	122.93	145.64*	114.01	34.767
Agent Banking Agents	0.00	0.01	0.02	759.70	0.004
Agent Banking Clients	0.10	9.65	24.41	1485.92	5.826
Debit Cards	8.62	21.38	43.15	123.74	10.301
Credit Cards	0.62	1.64	2.95	117.99	0.703
Prepaid Cards	0.14	0.70	7.04	609.08	1.680
App/Internet Banking	1.53	3.25	11.37	172.56	2.713
Total	**129.48**	**280.50**	**418.90**	**79.9**	**100.00**

* Excluding Nagad Source: Bangladesh Bank and BIBM Survey, 2025

3.3 Clearing Transactions through Bangladesh Bank

The transaction data for the Fiscal Year (FY) 2025 confirms a massive acceleration and transformation in payment clearing mechanisms, with a total of 510,061,000 transactions processed through Bangladesh Bank's (BB) clearing systems, reflecting a high Compound Annual Growth Rate (CAGR) of 307.91% since 2015. This growth is predominantly driven by high-volume Electronic Funds Transfer (EFT) systems, with BEFTN (EFT Credit) transactions showing the most explosive growth rate at a staggering 22,993.27% CAGR and reaching a volume of 261,370,000 transactions. The NPSB (National Payment Switch Bangladesh), which facilitates interbank card-based and self-service transactions, is also a major contributor, reaching 145,910,000 transactions with a substantial 333.06% CAGR. Furthermore, RTGS (Real-Time Gross Settlement), used for large-value payments, grew significantly with a 3,425.10% CAGR, reaching 10,960,000 transactions. This data collectively demonstrates the financial sector's definitive shift toward a high-velocity, real-time, and digitized transaction environment, marginalizing traditional paper-based payment methods.

Table-3: Clearing Transactions through Bangladesh Bank

Types of Clearing Transactions	Fiscal Year			CAGR
	2015	2020	2025	
RTGS	8820	2450000	10960000	3425.10
BEFTN (EFT Credit)	4901	66000000	261370000	22993.27
BEFTN (EFT Debit)	32802	4000000	7110000	1372.26
NPSB	7780000	33330000	145910000	333.06
BACPS (HV)	1808400	2055000	9328000	127.12
BACPS (RV)	21019400	16668000	75383000	89.38
Total	**30654323**	**124503000**	**510061000**	**307.91**

Source: Bangladesh Bank and BIBM Survey, 2025

4. Data Analysis and Findings

These sections delve into the culmination of extensive data analysis. It unravels key insights, shedding light on the adoption of digital marketing in the Bangladeshi banking sector, and drawing comparisons with international practices.

4.1 Branch and Branch- Less (ADCs) Transactions in Retail Banking

The survey data indicates that in the retail banking sector, the traditional Branch network remains the dominant channel for transactions, accounting for a substantial average of 69.40%. Conversely, Branch-Less channels, which encompass various Alternate Delivery Channels (ADCs) like mobile-apps and internet banking, handle a smaller but significant average share of 30.59%. This distribution demonstrates that while digital adoption is growing, physical infrastructure is still the primary service delivery mechanism for most banks. However, there is a very high degree of variability among institutions: the reliance on branch transactions ranges widely, from a minimum of 34.45% to a maximum of 96.00%, while branch-less transactions show a corresponding range from a low of 4.00% to a high of 65.55%. This substantial heterogeneity highlights a market where some banks have successfully achieved high levels of digital migration, while others remain heavily dependent on their physical network, underscoring the uneven pace of digital transformation in Bangladeshi retail banking.

4.2 Customer Base that Currently Uses at least One Digital Banking Product

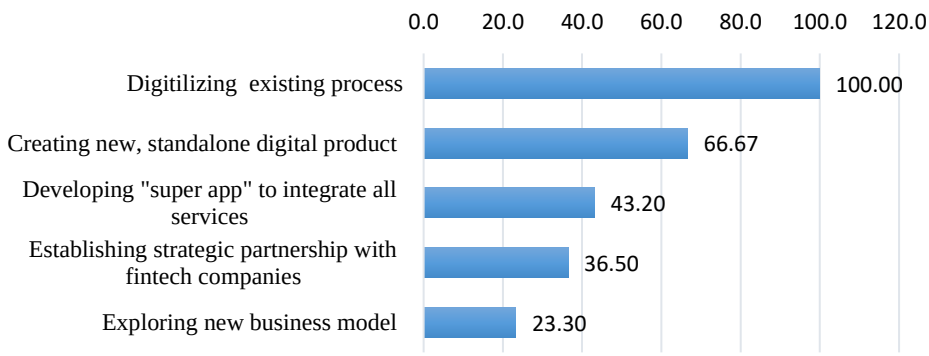
The percentage of the total customer base that currently uses at least one digital banking product averages 24.24%. This indicates that, on average, less than one-quarter of retail banking customers in the studied population actively utilize digital services such as mobile apps, internet banking, or other digitized products. The adoption rate, however, shows significant variance across different banks, ranging from a minimum of a mere 3.00% to a high of 60.00%. This wide range suggests a major disparity in the success of digital adoption strategies, with some financial institutions having achieved substantial

customer migration to digital platforms while others lag significantly in integrating their customer base with modern banking technology.

4.3 Bank's Overall Digital Transformation Strategy

The overall digital transformation strategy of the surveyed banks is heavily centered on foundational process optimization, evidenced by the commitment of 100.00% banks to digitizing existing processes (e.g., moving paper-based forms/documents online) to enhance internal efficiency and customer service delivery. Beyond this core focus, two-thirds of the institutions (66.67%) are simultaneously engaged in creating new, standalone digital products (e.g., mobile-only savings accounts), demonstrating a strong drive toward external market innovation.

Figure-1: Banks' Overall Digital Transformation Strategy (% of Banks)



Source: BIBM Survey, 2025

Furthermore, significant efforts are being made in ecosystem integration, with 43.20% of banks developing a unified "super app" to streamline all services, and 36.50% choosing to establish strategic partnerships with FinTech companies to accelerate their technological adoption. Comparatively, the exploration of entirely new business models (e.g., embedded finance, open banking) represents the least prioritized strategic pillar, being pursued by only 23.30% of the banks, suggesting that while digital methods are being implemented rapidly, the fundamental structure of banking remains largely preserved.

4.4 Primary Objective Driving Banks' Digital Innovation and Transformation Efforts

Based on Table-4, the primary objective driving banks' digital innovation and transformation is clearly focused on optimizing operational efficiency and reducing costs (e.g., via automation), which received the highest average rank of 7.33 out of 10.

Table-4: Ranking Primary Objectives Driving Bank's Digital Innovation and Transformation

Factors (Pillars of Digital Innovation)	Average Rank (1-10)*	Order
1) Optimizing operational efficiency and reducing costs (e.g., via automation)	7.33	**Highest**
2) Meeting/Exceeding customer experience (CX) expectations	7.15	
3) Driving revenue growth and customer acquisition	7.00	
4) Enhancing security, cyber resilience, and risk management	6.33	
5) Promoting Financial Inclusion / Serving the unbanked population	5.80	
6) Improving data analytics and decision-making capabilities	5.70	
7) Gaining competitive advantage / Responding to market disruption	5.67	
8) Improving customer retention and loyalty / Reducing churn	5.50	
9) Ensuring compliance with new regulations (e.g., Open Banking, data privacy)	5.00	
10) Expanding into new market segments (e.g., underserved regions, youth)	4.79	**Lowest**

Note:*10: Highest Rank, 1: Lowest Rank
Source: BIBM Survey, 2025;

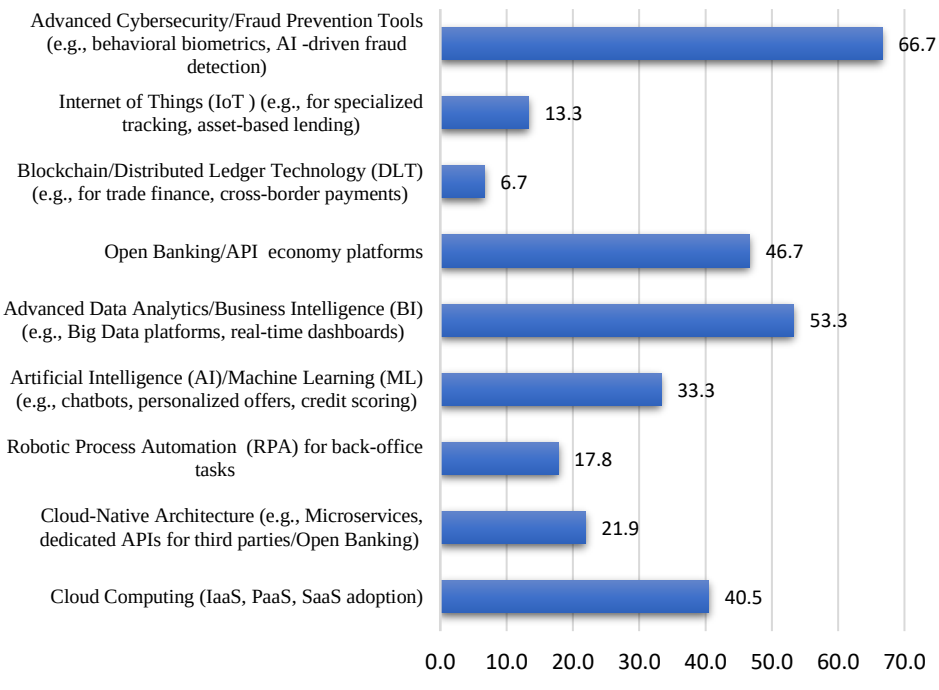
Closely following this is the goal of meeting/exceeding customer experience (CX) expectations, ranked second with an average of 7.15, and driving revenue growth and customer acquisition, which holds the third position with an average rank of 7.00. These top three factors suggest a strategic priority where banks leverage digital transformation to both enhance internal operations and improve market-facing performance. Mid-range priorities include enhancing security (6.33), promoting financial inclusion (5.80), and

improving data analytics (5.70). The lowest ranked factors are ensuring compliance with new regulations (5.00) and expanding into new market segments (4.79), indicating that while important, these compliance and market expansion goals are not the main immediate drivers of the current digital innovation push.

4.5 Emerging Technologies Banks Have Adopted in the Last 3-5 Years

Based on the adoption rates within the last 3-5 years, the banks have overwhelmingly prioritized technologies related to security, data intelligence, and connectivity. The most significantly adopted category is advanced cybersecurity/fraud prevention tools (e.g., behavioral biometrics, AI-driven fraud detection), with a high adoption rate of 66.7%.

Figure-2: Emerging Technologies Banks have Adopted in Last 3-5 Years (% of Banks)



Source: BIBM Survey, 2025

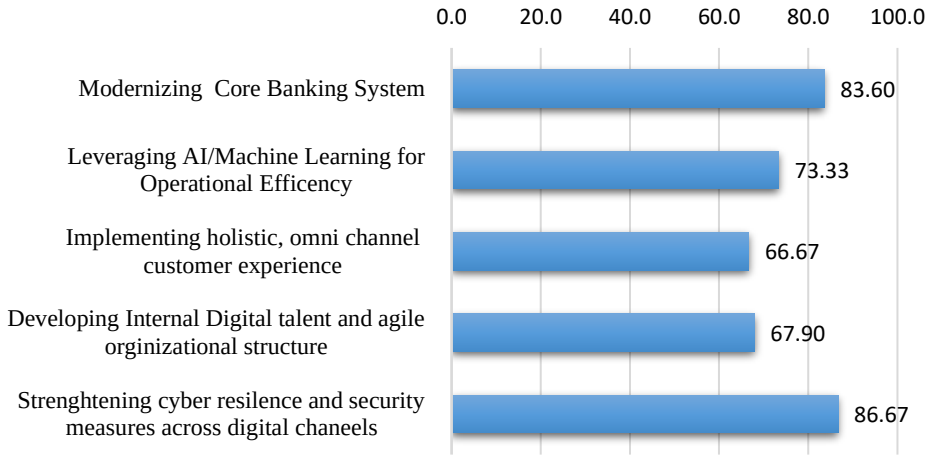
This is closely followed by the integration of Advanced Data Analytics/Business Intelligence (BI) platforms, adopted by 53.3% of the

banks, reflecting a strong commitment to data-driven decision-making. Furthermore, Open Banking/API economy platforms (46.7%) and Cloud Computing (40.5%) have also seen significant integration, demonstrating efforts to build interconnected, scalable, and modern digital infrastructures. While Artificial Intelligence (AI)/Machine Learning (ML) stands at a notable 33.3% adoption rate, less mature and specialized technologies like Blockchain/Distributed Ledger Technology (DLT) (6.7%) and the Internet of Things (IoT) (13.3%) have seen the lowest level of adoption in core operations to date.

4.6 Planned Digital Transformation Efforts of Banks over the Next 3 Years

The planned digital transformation efforts of banks over the next three years indicate a concerted focus on modernizing foundational technology and strengthening security. The top priority for the majority of banks (83.60%) is modernizing the core banking system, which directly supports the highest immediate objective of optimizing operational efficiency and reducing cost. Following this, a very high percentage (86.67%) plan to strengthen cyber resilience and security measures across digital channels, reflecting a proactive approach to mitigating risks in an increasingly digital environment. Furthermore, over two-thirds of the banks are prioritizing advancements in intelligence and customer interaction by Leveraging AI/Machine Learning for Operational Efficiency (73.33%) and Implementing a holistic, omni-channel customer experience (66.67%). Finally, recognizing that technology requires people, a significant 67.90% of banks are planning to invest in Developing Internal Digital talent and an agile organizational structure, ensuring the human capital is in place to execute the technological transformation.

Figure-3: Planned Digital Transformation Efforts over the Next 3 Years (% of Banks)



Source: BIBM Survey, 2025

4.7 Bank's Current Maturity Level of Digital Transformation

Based on the data provided by the bank, the current level of investment in digital transformation, as a percentage of the total annual budget, averages 12.37%. This figure represents a moderate yet significant allocation of resources towards modernization efforts. However, the investment commitment is highly inconsistent across the sector, characterized by a substantial range: the minimum reported investment is a mere 3.00% of the total annual budget, while the maximum reaches 27.00%. This disparity highlights a segmentation within the banking industry, where a small group of institutions is pursuing aggressive, high-investment digital transformation strategies, while the majority maintain a cautious, measured approach to funding their shift towards digital operations.

4.8 Overall Digital Transformation Progress/Maturity of Banks

The current digital maturity of the banking sector is heavily concentrated in Stage 2: Evolving (In Progress), which accounts for the vast majority of institutions at 68.50%. Banks in this stage are characterized by having defined digital transformation roadmaps and a primary focus on improving

customer-facing channels, such as mobile and web platforms, alongside piloting new technologies like RPA and AI.

Table-5: Overall Digital Transformation Progress/Maturity of Banks

Level	Definition / Criteria	% of Banks
Stage 1: Foundational (Just Started)	Digital Transformation efforts are scattered, largely focused on digitizing paper processes, with limited change to core systems or customer-facing channels.	12.40%
Stage 2: Evolving (In Progress)	Strategic Digital Transformation roadmaps are defined. Focus is on improving customer-facing channels (mobile/web) and piloting RPA/AI, but core systems remain largely siloed.	68.50%
Stage 3: Advanced (Integrated)	Significant investment in core modernization (e.g., cloud migration, microservices). Digital channels are fully integrated, and AI/ML are used for some personalization/automation.	19.10%
Stage 4: Leader (Mature & Disruptive)	The bank operates as a truly digital entity. Processes are AI-driven, data is fully leveraged, and the bank is actively exploring new digital business models (e.g., BaaS, embedded finance).	0.00%

Source: BIBM Survey, 2025

However, a structural challenge remains as their core systems are typically still siloed. Approximately one-fifth of the sector (19.10%) has achieved Stage 3: Advanced (Integrated) maturity, marked by significant investment in core modernization and integrated digital channels. Crucially, the data shows that 0.00% of banks have reached Stage 4: Leader (Mature & Disruptive) status, indicating that the industry is yet to achieve a truly AI-driven, fully leveraged data-centric operation or actively disrupt the market with new digital business models.

4.9 Digital Product and Infrastructure Success Ranking

The table below (Table-6) is a compilation of various Digital Products, ADCs (Alternative Delivery Channels), and Payment Infrastructure, ranked by their perceived overall success (Score 1-5)*.

Table-6: Digital Product and Infrastructure Success Ranking

Sl. No.	Digital Products/Services/ADCs/Payment Infrastructure	Success Score (1-5) *	Order
1.	Mobile Banking App	4.79	**Most Successful**
2.	ATM (Automated Teller Machine)	4.67	
3.	BEFTN (Bangladesh Electronic Funds Transfer Network)	4.67	
4.	BACH (Bangladesh Automated Clearing House)	4.60	
5.	RTGS (Real Time Gross Settlement)	4.53	
6.	NPSB (National Payment Switch Bangladesh)	4.53	
7.	Agent Banking (Human agents facilitating banking outside branches)	4.27	
8.	POS (Point-of-Sale - devices for card transactions, likely what POST refers to)	3.88	
9.	Integration/Partnership with other MFS providers (e.g., bKash, Rocket, etc.)	3.86	
10.	Internet Banking/Web Portal	3.71	
11.	Digital Wallet/NFC payment capabilities (contactless payments)	3.57	
12.	CRM (Cash Recycle Machine)	3.44	
13.	Personalized Banking Service	3.00	
14.	Own Mobile Financial Services (MFS) App (not just a basic banking app)	3.00	
15.	API-based banking/Open Banking services for third-party integration	3.00	
16.	e-KYC (Electronic Know Your Customer) for remote account opening	2.92	
17.	QR-code based payment system (e.g., Bangla QR)	2.87	
18.	Digital lending/Nano loans (fully paperless, fast-disbursing loans)	2.43	
19.	AI Powered Chatbot/Robo Advisor	2.00	**Least Successful**
20.	Virtual Cards (e.g., disposable cards for online transactions)	2.00	
21.	AI driven Financial Advisor	1.00	
22.	Voice Command Banking	1.00	

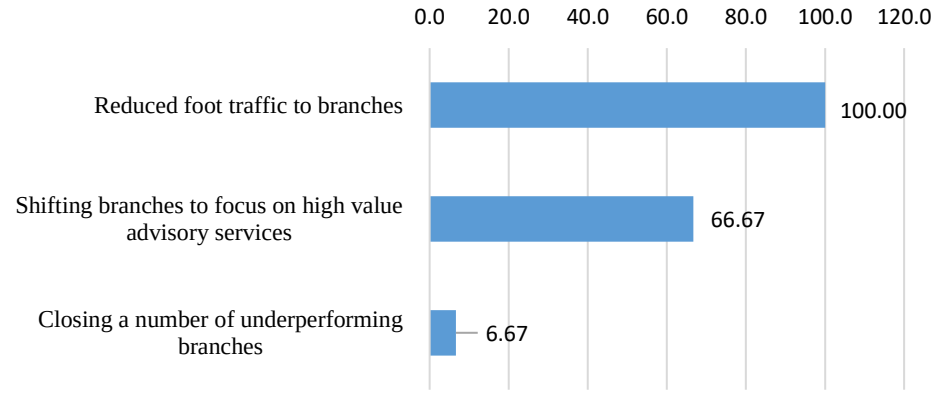
Note: *Score: **1: Most Successful** (Highest priority, best performance, etc.); 2: Second Most Successful; 3: Moderately Successful / Middle Rank; 4: Second Least Successful; **5: Least Successful** (Lowest priority, worst performance, etc.)
Source: BIBM Survey, 2025

The data clearly indicates that essential infrastructure and core digital channels are considered the most successful, measured by a balance of customer adoption and operational efficiency. The Mobile Banking App leads the ranking with the highest score of 4.79, closely followed by established payment infrastructure like ATM (4.67), BEFTN (4.67), BACH (4.60), RTGS (4.53), and NPSB (4.53). Agent Banking (4.27/4.20) is also rated highly, reflecting its success in expanding outreach. Moving down the list, traditional channels like POS (3.88) and Internet Banking/Web Portal (3.71) show moderate success. Products involving advanced technologies or specific new use cases are generally ranked as the least successful: Digital lending/Nano loans (2.43), AI Powered Chatbot/Robo Advisor (2.00), and Virtual Cards (2.00) fall towards the bottom. The least successful items are AI driven Financial Advisor (1.00) and Voice Command Banking (1.00), suggesting these cutting-edge, yet specialized, technologies have not yet achieved significant customer adoption or operational efficiency.

4.10 Introduction of New Products and their Effect on the Bank's Branch Network Strategy

Based on the bar chart detailing the "Impact of Introducing New Products," the introduction of new products has primarily led to a shift in the bank's branch network strategy by significantly reducing foot traffic to branches, indicated by a score of 100.00. This drastic reduction has, in turn, allowed the bank to implement a strategy of shifting branches to focus on high-value advisory services, which scored 66.67. A secondary, but far less prominent, strategic change involves the closing of a number of underperforming branches, which registered the lowest score of only 6.67. Overall, the new products appear to be driving a strategic pivot away from transactional services at physical locations toward a model emphasizing advisory and consultative roles for the existing branch network.

Figure-4: Impact of Introducing New Products (% of Banks)



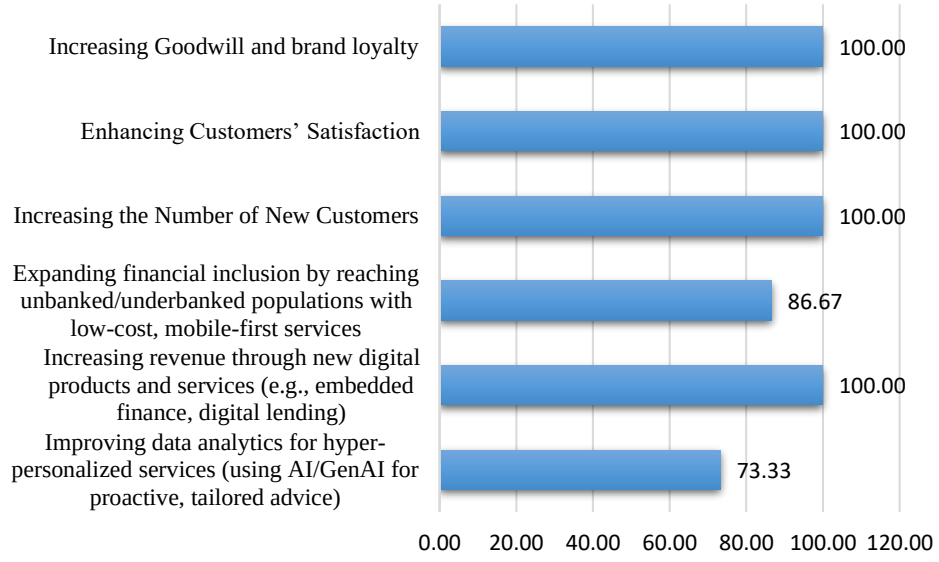
Source: BIBM Survey, 2025

4.11 Identified Benefits/Opportunities of Digital Transformation at Present and Near Future

4.11.1 Customer Experience and Growth Opportunities

The graph, "Customer Experience & Growth Opportunities," reveals a strong consensus among financial institutions regarding the future benefits of digital banking. Almost all banks (100.00%) identify increasing goodwill and brand loyalty, enhancing customers' satisfaction, increasing the number of new customers, and increasing revenue through new digital products and services (such as embedded finance and digital lending) as the top-tier benefits. This highlights a clear strategic focus on using digital channels to drive customer happiness, market acquisition, and immediate revenue generation.

Figure-5: Customer Experience and Growth Opportunities (% of Banks)



Source: BIBM Survey, 2025

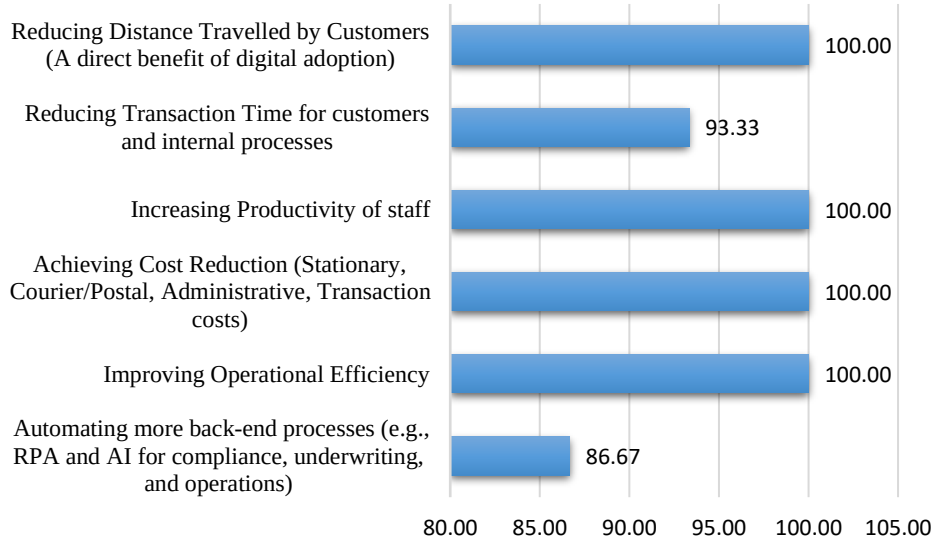
A high majority (86.67%) also view Expanding financial inclusion by reaching unbanked/underbanked populations with low-cost, mobile-first services as a key opportunity for societal and market growth. The opportunity that garners the lowest, though still high, consensus (73.33%) is Improving data analytics for hyper-personalized services using advanced AI/ GenAI, suggesting that while the long-term potential of sophisticated personalization is recognized, its current implementation and strategic priority lag slightly behind the core goals of customer satisfaction and basic digital revenue growth.

4.11.2 Operational Efficiency and Cost Management

The graph titled "Operational Efficiency & Cost Management" clearly demonstrates the perceived overwhelming benefits of digital banking in optimizing bank operations and reducing expenses. The data shows a 100.00% consensus among banks for four major benefits: Reducing distance travelled by customers (a direct outcome of digital adoption), increasing productivity of staff, achieving cost reduction (covering

stationary, courier, postal, administrative, and transaction costs), and improving operational efficiency overall.

Figure-6: Operational Efficiency and Cost Management (% of Banks)



Source: BIBM Survey, 2025

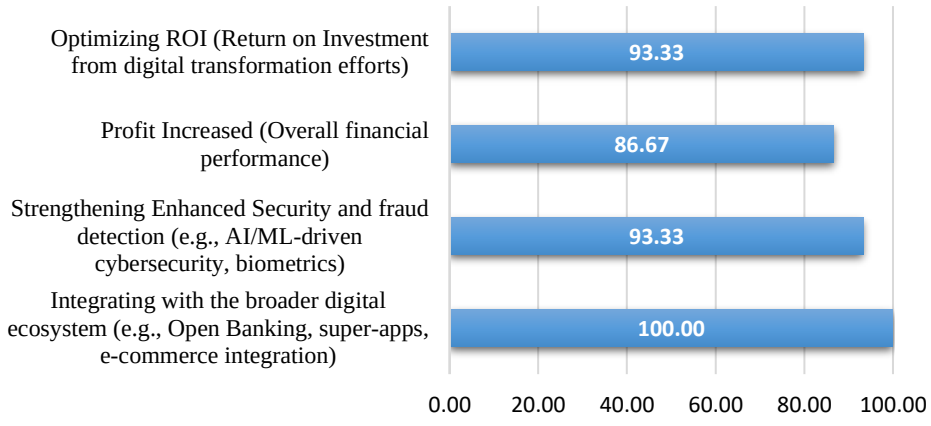
This universal agreement highlights that operational improvements and cost savings are fully realized and highly prioritized benefits of digitalization. Reducing transaction time for customers and internal processes is also nearly universal, scoring 93.33%. The benefit with the lowest, yet still very high, score is automating more back-end processes (e.g., RPA and AI for compliance, underwriting, and operations) at 86.67%, suggesting that while automation is a significant strategy, its current immediate impact or implementation consensus slightly trails the more direct and tangible benefits like general cost reduction and efficiency improvements.

4.11.3 Strategic Integration and Risk Management

The graph titled "Strategic Integration & Risk Management" highlights the perceived strategic benefits and necessities of digital banking, showing a strong focus on both external connectivity and internal resilience. The highest consensus (100.00%) is placed on integrating with the broader

digital ecosystem (e.g., Open Banking, super-apps, e-commerce integration), indicating this is considered a critical, non-negotiable strategic imperative for future success.

Figure-7: Strategic Integration and Risk Management (% of Banks)



Source: BIBM Survey, 2025

Optimizing ROI (Return on Investment from digital transformation efforts) and strengthening enhanced security and fraud detection (using AI/ML-driven cybersecurity and biometrics) are also seen as critically important, both scoring a very high 93.33%. This suggests that digital initiatives must be financially justifiable and rigorously secured. The benefit with the lowest, yet still high, consensus is profit increased (Overall financial performance) at 86.67%, implying that while profit is a clear desired outcome, the strategic focus is more heavily placed on the mechanisms that drive profitability—specifically external integration, ROI measurement, and security investment—rather than just the end result.

4.12 Significant Challenges Banks Face in Implementing Digital Transformation

Table-7 highlights that the most significant challenge banks face in implementing digital transformation is the high cost of technology and infrastructure investment, which received the highest average rank of 5.71

(out of 8). Closely following this is the concern over Cybersecurity threats and fraud, ranked second with an average of 5.53, indicating that financial investment and security risks are the top inhibitors. Mid-level challenges include market and operational issues such as low awareness/digital literacy among the population (4.93) and Inconsistent IT infrastructure and network issues (4.79).

Table-7: Significant Challenges Banks Face in Implementing Digital Transformation

Order	Significant Challenges	Average Rank (1-8)
1	High cost of technology and infrastructure investment	5.71
2	Cybersecurity threats and fraud	5.53
3	Low awareness/digital literacy among certain segments of the population	4.93
4	Inconsistent IT infrastructure and network issues	4.79
5	Lack of skilled human resources in digital technology	4.43
6	Resistance to change from internal staff	4.14
7	Regulatory constraints or a slow-moving framework	4.00
8	Competition from FinTech and other banks	3.46

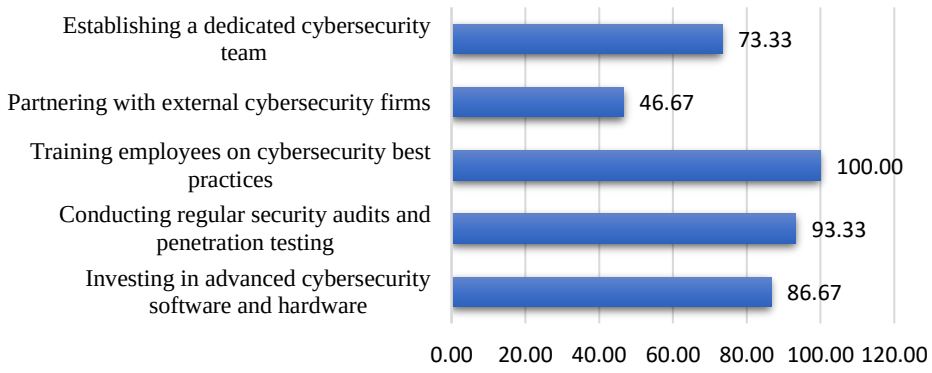
Source: BIBM Survey, 2025

Challenges related to internal capacity, namely lack of skilled human resources (4.43) and resistance to change from internal staff (4.14), are also significant hurdles. The least critical challenges, though still present, are regulatory constraints (4.00) and competition from FinTech and other banks (3.46), suggesting that while competition is a factor, the primary obstacles are internal and technical/financial in nature.

4.13 Addressing the Challenge of Cybersecurity

The graph titled "Addressing the Challenges of Cyber Security by Banks" demonstrates that banks are employing a multi-faceted approach to security, with an emphasis on internal strength and rigorous processes. The overwhelming priority is human education, evidenced by the 100.00% consensus on training employees on cybersecurity best practices. This is closely followed by strict process enforcement, as 93.33% of banks conduct regular security audits and penetration testing.

Figure-8 : Addressing the Challenges of Cyber Security by Banks (% of Banks)



Source: BIBM Survey, 2025

Investment in advanced cybersecurity software and hardware is also a major strategy, adopted by 86.67% of respondents. Furthermore, 73.33% of banks have formalized their defense by establishing a dedicated cybersecurity team. In contrast, relying on external expertise is the least prioritized method, with only 46.67% of banks partnering with external cybersecurity firms, suggesting a preference for building and maintaining core security capabilities internally.

Table-8: Bank's Perception Regarding Quality and Customers' Satisfaction

Statement	Rating (1-5)
A) Digital Transformation has improved the quality and features of retail banking services (e.g., speed, accessibility, new product offerings).	4.6
B) Digital Transformation has improved customer satisfaction in retail banking.	4.2

(Scale: 1 = Strongly Disagree, 2 = Disagree, 3 = Neither Agree nor Disagree, 4 = Agree and 5 = Strongly Agree)

Based on the table data (Table-8), Digital Transformation (DT) is perceived overwhelmingly as a success story in retail banking. Statement A, which covers the improvement in service quality and features (e.g., speed, accessibility, new product offerings), received a near-perfect score of 4.6 (out of 5), indicating

very strong agreement that DT has enhanced the core offerings. This high level of service improvement directly translates into benefits for the customer, as evidenced by Statement B, which affirms that DT has improved customer satisfaction in retail banking with a high score of 4.2. These results demonstrate that banks are highly confident that their digital initiatives are successfully delivering better products and features, which is, in turn, leading to tangible improvements in how satisfied their customers are.

4.14 Suggestions for Digital Banking Innovation & Transformation by Banks

The suggestions provided by banks regarding digital banking innovations and transformation fall into five major themes. Based on the feedback from the banks, here is a summary of the required innovations:

Table-9: Suggestions for Digital Banking Innovation & Transformation

Priority Rank	Key Innovation (Theme)	% of Banks	Core Innovation Expected
1.	**Data & Intelligent Technology Adoption**	100.0%	Integrate AI/ML/Data Analytics for personalized services, credit scoring, and real-time fraud detection. Use Blockchain for secure transactions and trade finance.
2.	**Infrastructure & Scalability**	99.10%	Adopt Cloud-based architecture and cloud-native platforms for enhanced scalability, resilience, and real-time service delivery. Use RPA for automating core processes like account opening.
3.	**Open Ecosystem & Collaboration**	90.9%	Accelerate Open Banking and API integration to enable seamless collaboration with FinTech. Establish a unified national digital ecosystem integrating banks, MFS, and e-commerce.
4.	**Identity, Security & Customer Trust**	89.6%	Strengthen cybersecurity and fraud prevention. Implement centralized e-KYC/digital ID verification (NID-linked) and a required customer account validation service before transfers to reduce errors.
5.	**Financial Inclusion & Products**	63.6%	Target underserved populations (rural areas) with e-KYC and mobile-only accounts. Promote innovative products like instant digital loans (Nano-loans) and AI-based personal finance tools.

Source: BIBM Survey, 2025

4.15 Role of Top Level Executives in Digital Transformation

The consensus among the surveyed banks is that top-level executives must be the visionaries and strategic enablers of digital transformation. Based on the feedback from the banks that provided substantive responses, here is a summary of the required roles:

Table-10: Role of Top-Level Executives in Digital Transformation

Priority Rank	Key Role (Theme)	% of Banks	Primary Responsibilities Cited
1.	**Set Strategy & Governance**	77.8%	Define a clear digital vision and roadmap aligned with long-term goals. Simultaneously, guarantee robust governance, compliance, and cybersecurity to manage digital risks.
2.	**Manage Risk & Security**	76.8%	Oversee digital initiatives, cybersecurity, and data governance. Ensure regulatory alignment and enforce strict risk management processes.
3.	**Drive Culture & Innovation**	66.7%	Act as transformation champions by fostering an enterprise-wide culture of innovation, agility, and a digital-first mindset across all levels.
4.	**Resource Allocation & Investment**	65.2%	Ensure adequate investment in technology infrastructure (AI, data analytics, etc.) and approve funding for critical technology and talent development.
5.	**Organizational Alignment & KPIs**	61.8%	Unite the entire organization (cross-functional collaboration) behind key initiatives. Monitor progress through digital KPIs and ensure accountability for digital outcomes.
6.	**Focus on Customer-Centric Growth**	55.6%	Drive growth by focusing on digital solutions that enhance customer experience and convenience. Ensure digital products are innovative and competitive.
7.	**Internal Capacity Building**	33.3%	Promote capacity building and digital literacy among employees to ensure seamless internal adoption of new technologies.

Source: BIBM Survey, 2025

4.16 Expectations from the Board for the Next 3-5 Years

The expectations from the Board of Directors for the next 3-5 years are focused on providing strategic direction, securing financial investment, and ensuring strong governance for the bank's digital transformation journey. Based on the feedback from the banks that provided substantive responses, here is a summary of the expectations:

Table-11: Expectations from the Board for the Next 3-5 Years

Priority Rank	Key Expectation (Theme)	% of Banks	Primary Responsibilities Expected from the Board
1.	**Strategic Direction & Vision**	81.8%	Define and endorse a clear, long-term digital vision and strategy aligned with overall business and growth objectives.
2.	**Investment & Funding**	81.2%	Approve adequate budgets and funding for technology upgrades, cybersecurity, advanced platforms, and talent development.
3.	**Governance, Risk & Compliance**	72.7%	Strengthen governance and oversight, actively monitor digital risks, enforce data protection, and ensure regulatory compliance.
4.	**Culture & Talent Development**	63.6%	Encourage innovation, promote an agile culture, and support the development of digital leadership and talent within the organization.
5.	**Monitoring & Accountability (KPIs)**	54.5%	Set measurable KPIs for digital performance, evaluate the Return on Investment (ROI) of transformation projects, and hold management accountable for results.
6.	**Customer-Centricity & Products**	45.5%	Prioritize digital solutions that enhance customer experience and service quality, and support the launch of new digital retail products to drive financial inclusion.
7.	**Sustainability & Competitive Advantage**	27.3%	Ensure the digital drive contributes to sustainable growth, future profitability, and maintaining a competitive advantage in the market.

Source: BIBM Survey, 2025

4.17 Expectations from Bangladesh Bank (BB)

The role of the Bangladesh Bank (BB) in accelerating digital transformation is viewed as that of a dual authority: both a Regulator and a Facilitator. Banks expect the BB to create an enabling policy environment that encourages innovation while simultaneously strengthening security and infrastructure. Based on the feedback from the banks, here is a summary of the expectations:

Table-12: Expectations from Bangladesh Bank (BB)

Priority Rank	Key Expectation (Theme)	% of Banks	Primary Actions Expected from Bangladesh Bank
1.	**Regulations & Frameworks**	90.9%	Set Clear, Flexible Regulations for digital banking, including defining standards for digital bank licensing, modernizing KYC/AML, and issuing risk-based guidelines. BB must be both a regulator and facilitator.
2.	**Security & Consumer Protection**	89.2%	Strengthen Cybersecurity Oversight and Data Protection Policies to build consumer trust. Guide banks on cyber risk, fraud prevention, and operational resilience.
3.	**Open Banking & Interoperability**	81.8%	Promote and Implement Open Banking Standards and API frameworks. Support interoperable digital payment systems and enhance the national payment infrastructure.
4.	**Innovation & Fintech Collaboration**	80.3%	Encourage Innovation by introducing regulatory sandboxes for testing new solutions and acting as a bridge between banks and FinTech's.
5.	**Capacity Building & Knowledge**	54.5%	Improve Digital Literacy across the country, provide training and knowledge-sharing initiatives, and encourage the adoption of advanced technologies like AI and Blockchain.
6.	**Infrastructure & Scalability**	45.5%	Encourage cloud adoption and support the development of scalable, real-time digital infrastructure and payment platforms.

Source: BIBM Survey, 2025

4.18 Expectations from the Government

The consensus among banks is that the Government must play a foundational role by focusing on national infrastructure and creating an enabling legal environment to foster innovation and trust. Based on the feedback from the banks that provided expectations, here is a summary of the required actions from the Government:

Table-13: Expectations from the Government

Priority Rank	Key Expectation (Theme)	% of Banks	Core Action Expected from the Government
1.	**Digital Infrastructure & Connectivity**	90.9%	Invest in and enhance the national ICT infrastructure, ensuring high-speed broadband, secure payment networks, and connectivity reach rural and semi-urban areas.
2.	**Security & Data Protection Laws**	82.7%	Enforce strong cybersecurity and data protection/privacy laws and support secure identity solutions (e-KYC) to safeguard digital financial systems and build public trust.
3.	**Financial Inclusion & Literacy**	72.6%	Fund and promote digital literacy and awareness programs to bring unbanked and underbanked populations into the formal financial system, encouraging a cashless economy.
4.	**Incentives & Innovation Support**	70.1%	Offer fiscal incentives (e.g., tax benefits, grants) and policy support for technology investment, R&D, and the adoption of advanced digital solutions (AI, automation).
5.	**Enabling Policy & Governance**	69.8%	Create supportive laws and clear compliance frameworks for digital banking, fintech, and open banking, while maintaining stable oversight and working to resolve systemic issues like the NPL crisis.
6.	**Ecosystem Alignment & Collaboration**	54.5%	Facilitate public-private partnerships (PPP), ensure seamless integration with government payment platforms, and work to align all stakeholders under a National Digital Financial Services Master plan.

Source: BIBM Survey, 2025

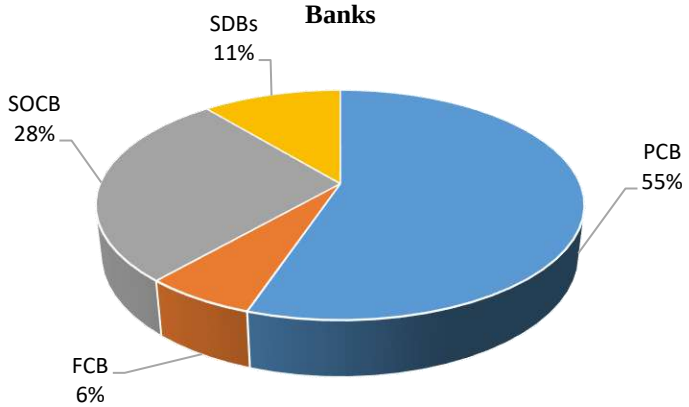
4.19 Feedback from Customers

4.19.1 Sampling Distribution

The sampling distribution, derived from a total of 320 respondents, presents a demographic profile that is concentrated within specific segments. Urban residents accounted for 63% of the sample compared to 37% from rural areas. Males constitute 71% of the respondents, with Females making up the remaining 29%. In terms of Age, the majority falls within the working-age brackets, specifically 26-35 years (41%) and 36-45 years (33%). Educationally, with Master's and Above (27%) and Bachelor's (28%) degrees collectively representing over half of the respondents. Finally, the Income distribution is mainly concentrated in the 25001-50000 (31%) and 50001-100000 (25%) income brackets.

The pie chart (Figure-9) illustrates the distribution of bank accounts held by respondents across different types of banks. The majority of accounts are held in PCBs (Private Commercial Banks), which dominate the distribution at 55%. SOCBs (State-Owned Commercial Banks) hold the next largest share, accounting for 28% of the accounts. Specialized institutions, specifically SDBs (Specialized Development Banks), hold 11% of accounts, while FCBs (Foreign Commercial Banks) represent the smallest segment at only 6%. Overall, the data clearly shows that Private Commercial Banks are the most widely utilized banking institutions by the survey respondents.

Figure-9: Percentage of Respondents with respect to Banks



Source: BIBM Survey, 2025

Table-14: Distribution of Sample

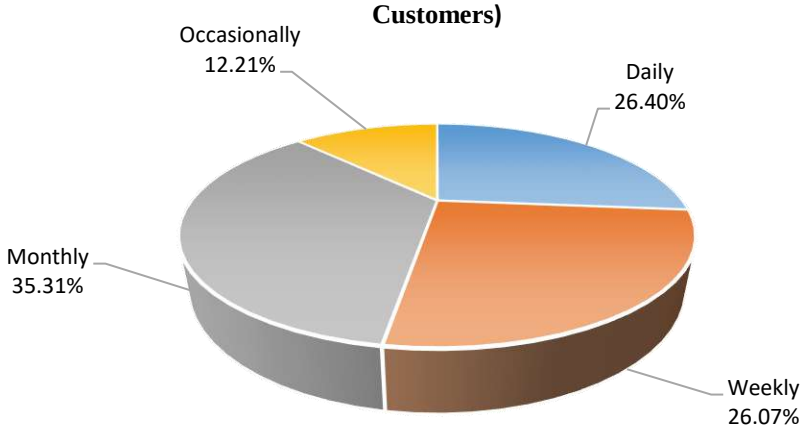
Parameters	Groups	Respondents	% of Respondents	Total
Types of Banks	SOCBs	176	28%	320
	PCBs	89	55%	
	FCBs	20	6%	
	SDBs	35	11%	
Residence	Urban	203	63%	320
	Rural	117	37%	
Gender	Male	226	71%	320
	Female	94	29%	
Age	18-25 years	30	9%	320
	26-35 years	130	41%	
	36-45 years	106	33%	
	46-55 years	43	13%	
	Over 55 years	11	3%	
Occupation	Student	35	11%	320
	Unemployed	20	6%	
	Public Service	35	11%	
	Private Service	45	14%	
	Self-employed	35	11%	
	Farmer/Agriculture	20	6%	
	Housewife	40	13%	
	Entrepreneur	15	5%	
	Retired/Pensioner	6	2%	
	Business	35	11%	
	Industrial Worker	18	6%	
	Others	16	5%	
Education	Illiterate	25	8%	320
	Below SSC/O-Level	28	9%	
	SSC/O- Level	35	11%	
	HSC/A-Level	57	18%	
	Bachelor's	90	28%	
	Master's and Above	85	27%	
Income	Below 25000	59	18%	320
	25001-50000	100	31%	
	50001-100000	81	25%	
	100001-150000	42	13%	
	150001-200000	21	7%	
	Above 200000	17	5%	

Source: BIBM Survey, 2025

4.19.2 How often Customers Use Digital Banking Services

The pie chart (Figure-10) illustrates that a large majority of respondents engage with digital banking services with high frequency. The largest single category is Monthly usage at 35.31%, which likely corresponds to regular activities like salary deposits and bill payments. However, a significant portion of users engage much more often, with Daily (26.40%) and Weekly (26.07%) usage collectively accounting for over half (52.47%) of the total sample. Only a small fraction uses the services occasionally (12.21%). This distribution suggests that digital banking is highly integrated into the daily and weekly financial routines of most users, moving well beyond being just a tool for sporadic transactions.

Figure-10: Pattern of the Use of Digital Banking Services (% of Customers)



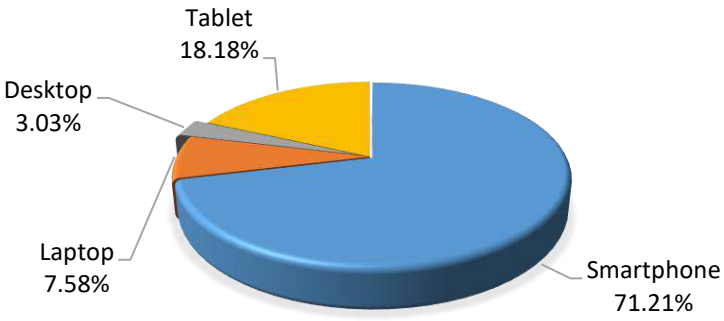
Source: BIBM Survey, 2025

4.19.3 Devices used for Digital Banking Services

The pie chart (Figure-11) clearly illustrates that the Smartphone is the dominant device used for digital banking, accounting for a substantial 71.21% of usage. This high figure confirms the mobile-first nature of digital banking adoption. Tablets represent the second largest segment, though significantly smaller, at 18.18%. Traditional computing devices are used much less frequently, with Laptops making up only 7.58% and Desktop computers representing the smallest share at 3.03%. In summary, the vast majority of digital banking

activity is conducted via mobile devices, primarily smartphones, underscoring the success and necessity of developing robust mobile banking applications.

Figure-11: Device used for Digital Banking Services (% of Customers)

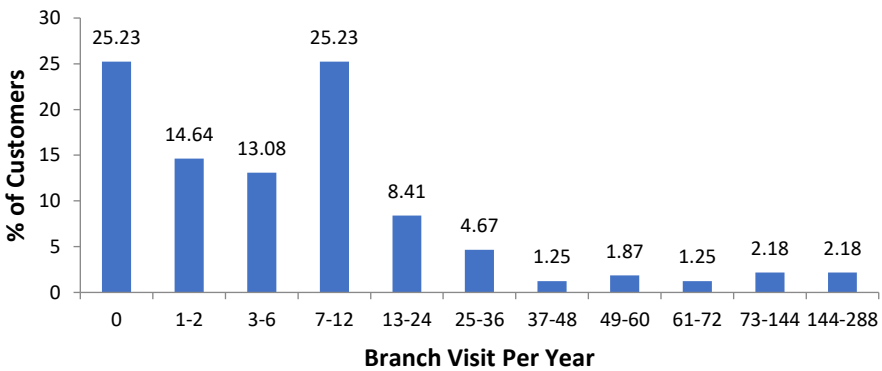


Source: BIBM Survey, 2025

4.19.4 Visiting a Physical Bank Branch Per Year

The survey data indicates that in the retail banking sector, the traditional Branch network remains the dominant channel for transactions, accounting for a substantial average of 69.40%. Conversely, Branch-Less channels, which encompass various Alternate Delivery Channels (ADCs) like mobile-apps and internet banking, handle a smaller but significant average share of 30.59%.

Figure-12: Percentage of Customers Visit Physical Branch Per Year



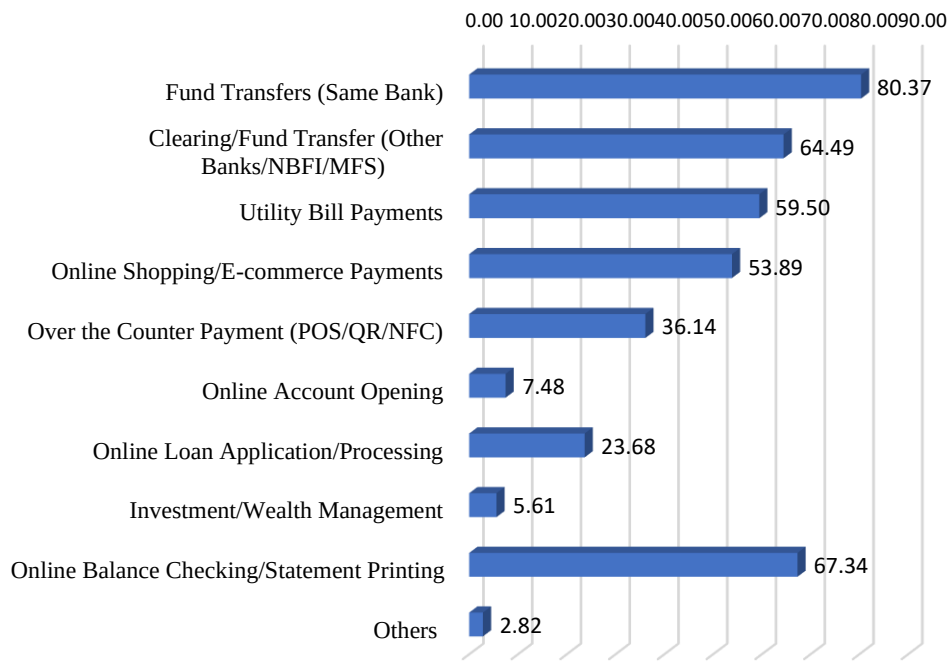
Source: BIBM Survey, 2025

The bar chart illustrates the frequency with which customers visit a physical bank branch per year, revealing a polarized distribution in usage. Notably, the largest segment of customers, 25.23%, report visiting the branch 0 times per year, indicating that a quarter of customers rely entirely on digital or remote channels. The second largest segment, also 25.23%, visits the branch 7-12 times per year, which translates to roughly once a month. Following these high- and low-frequency extremes, 14.64% visit 1-2 times per year, and 13.08% visit 3-6 times per year. Customers who visit very frequently (more than 24 times per year) constitute a smaller portion of the total, with the combined percentage for visits above 24 times per year being only 13.25% (summing 8.41% down to 2.18% for 144-288 visits). This suggests that while a significant customer base is fully digitized, there is a substantial, equally large group that maintains a monthly physical presence.

4.19.5 Purposes of Using Digital Services

The bar chart detailing the purposes for which customers use digital banking services reveals a strong prioritization of core transactional and inquiry functions. The most dominant use is Fund transfers (Same Bank), utilized by a vast majority at 80.37%. The second most common use is Online balance checking/statement printing at 67.34%, highlighting the importance of real-time account visibility. Clearing/ Fund Transfer (Other Banks/ NBFI/ MFS) is also highly used, at 64.49%.

Figure-13: Purposes for which Customers Use Digital Services (% of Customers)



Source: BIBM Survey, 2025

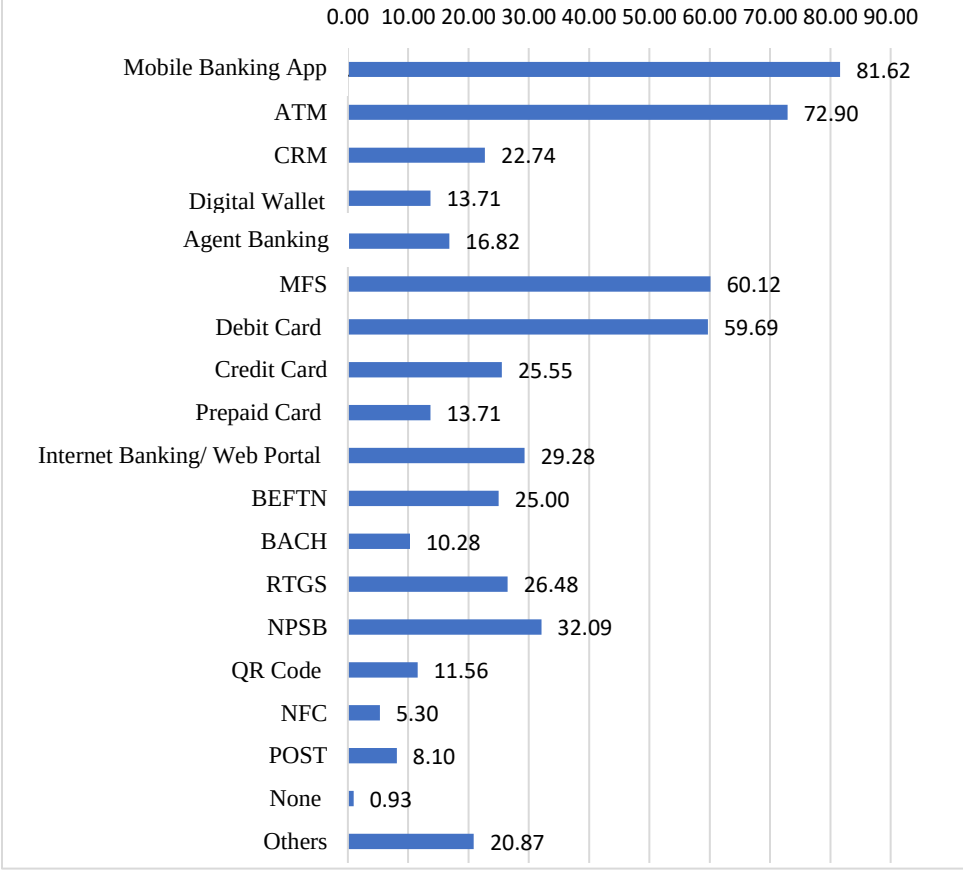
Bill payments and commerce are major drivers, with Utility bill payments at 59.50% and Online shopping/ E-commerce payments at 53.89%. Usage drops significantly for in-person digital payments, with Over the Counter Payment (POS/QR/NFC) standing at 36.14%. Specialized functions, like online loan application/processing (23.68%), Online account opening (7.48%), and Investment/Wealth Management (5.61%), show the lowest adoption rates, indicating that customers primarily rely on digital channels for routine financial movement and information retrieval rather than for complex product origination or advisory services.

4.19.6 Digital Banking Products/Channels/Services Currently Used by the Customers

The bar chart clearly indicates that the dominant channel used by customers (who use at least one Digital Banking Product/ Channel/ Service) is the Mobile Banking App, selected by the vast majority at 81.62%. Following

this, the ATM remains a highly utilized channel for transactions, with 72.90% of respondents using it.

Figure-14: Products/Channels/Services Currently Used by the Customers (%)



Source: BIBM Survey, 2025

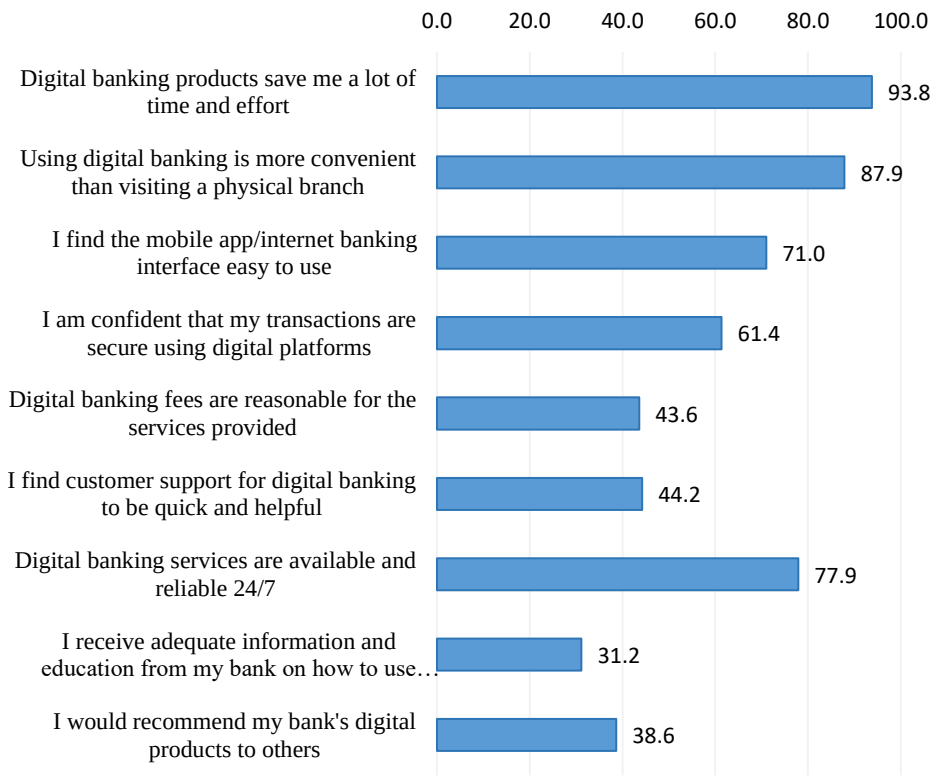
Mobile Financial Services (MFS) and Debit Cards also show very high adoption rates, at 60.12% and 59.69% respectively. Mid-range usage is seen for NPSB (32.09%), Internet Banking/Web Portal (29.28%), RTGS (26.48%), Credit Card (25.55%), and BEFTN (25.00%). Channels related to newer technology, such as CRM (22.74%), Agent Banking (16.82%), and Digital Wallet (13.71%) and Prepaid Card (13.71%) show lower adoption, while specialized payment methods like QR Code (11.56%), BACH

(10.28%), POST (8.10%), and NFC (5.30%) are the least adopted. Notably, only 0.93% of respondents reported using none of the listed services, confirming a near-universal engagement with digital financial tools.

4.19.7 Perceptions of Digital Banking Products

The bar chart, which displays the percentage of respondents who agree with various statements about digital banking, reveals strong consensus regarding the time-saving benefits and convenience of these services, but highlights significant gaps in customer support and education. The highest scores are for statements related to efficiency: 93.8% agree that "Digital banking products save a lot of time and effort", and 87.9% agree that "Using digital banking is more convenient than visiting a physical branch".

Figure-15: Perceptions of Digital Banking (% of Customers)



Source: BIBM Survey, 2025

A strong majority also trusts the platform's accessibility and usability, with 77.9% agreeing that services are "available and reliable 24/7" and 71.0% finding the interface "easy to use". However, agreement drops sharply when moving to service quality: less than half of respondents agree that "customer support for digital banking is quick and helpful" (44.2%) or that "Digital banking fees are reasonable for the services provided" (43.6%). The lowest area of satisfaction is customer education, with only 31.2% agreeing they "receive adequate information and education" from their bank. This dissatisfaction directly impacts loyalty, as only 38.6% state they "would recommend their bank's digital products to others". In summary, while banks have successfully delivered on core digital functions like convenience and accessibility, they face critical challenges in the post-transaction experience, specifically around customer service, transparency in fees, and user training.

4.19.8 Key Features Influencing Digital Banking Use

The analysis of the ranked features indicates that for digital banking users, the core benefit of speed and efficiency is the most critical factor, while costs and service support are less influential on their decision to use a product. The most important feature by a significant margin is Faster Transactions (Score: 3.51, Rank 1), underscoring that speed is the top priority for consumers.

Table-15: Key Features Influencing Digital Banking Use

Statements	Average Rank (1-6)	Order
Faster Transactions	3.51	1
Availability of a Wide Range of Services (24/7)	3.26	2
Ease of Use/User-Friendly Interface	2.67	3
Security Features (e.g., OTP, Biometric Login)	2.64	4
Good Customer Service/Support	2.60	5
Low Transaction Fees	2.49	6

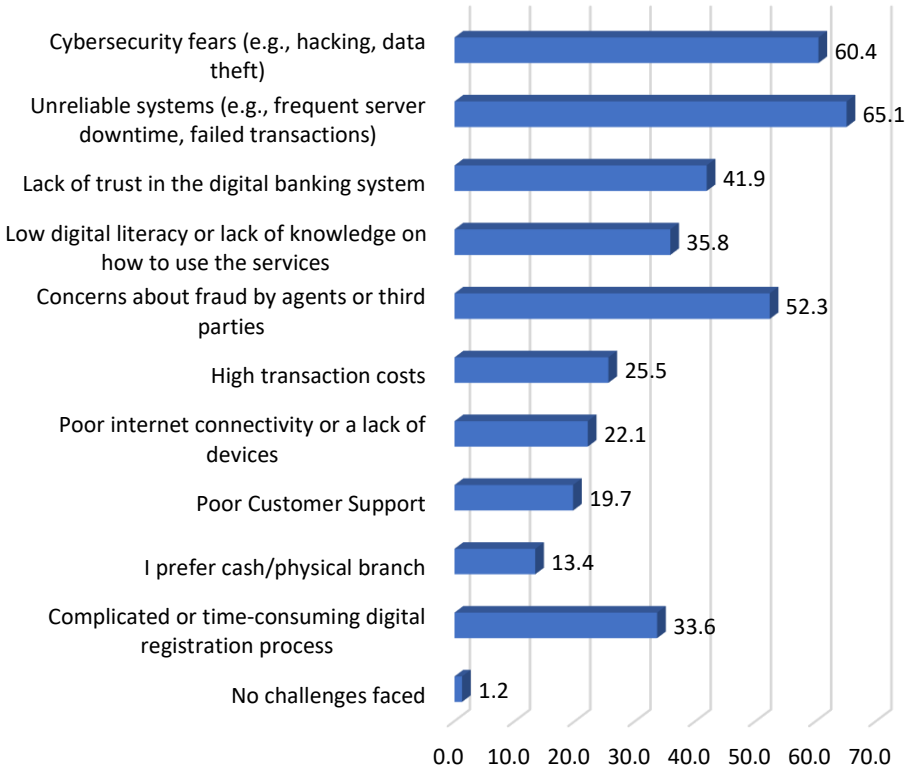
Source: BIBM Survey, 2025

This is followed by the basic reliability and breadth of service, measured by the Availability of a Wide Range of Services (24/7) (Score: 3.26, Rank 2). The next three features—Ease of Use/User-Friendly Interface (Score: 2.67), Security Features (Score: 2.64), and Good Customer Service/Support (Score: 2.60) —are clustered closely together in importance (Ranks 3-5), suggesting users expect a balance of usability, trust, and reliable help. Finally, Low Transaction Fees (Score: 2.49, Rank 6) is ranked as the least important factor. This surprising result, when paired with the high importance of speed, suggests customers are often willing to tolerate or overlook fee structures in exchange for superior efficiency and immediate service delivery.

4.19.9 Major Challenges that Prevent Using Digital Banking More Frequently

The bar chart (Figure-16), which outlines the challenges preventing more frequent digital banking use, reveals that concerns about reliability, security, and external fraud are the dominant inhibitors. The single most cited challenge is Unreliable systems (e.g., frequent server downtime, failed transactions), selected by 65.1% of respondents, indicating that service stability is the top technical barrier. Close behind is the fear of Cybersecurity (e.g., hacking, data theft) at 60.4%, demonstrating that trust remains a major issue. Concerns about fraud by agents or third parties are also high at 52.3%, suggesting incomplete trust in the human element of the digital ecosystem.

Figure-16 : Major Challenges that Prevent Using Digital Banking (% of Customers)



Source: BIBM Survey, 2025

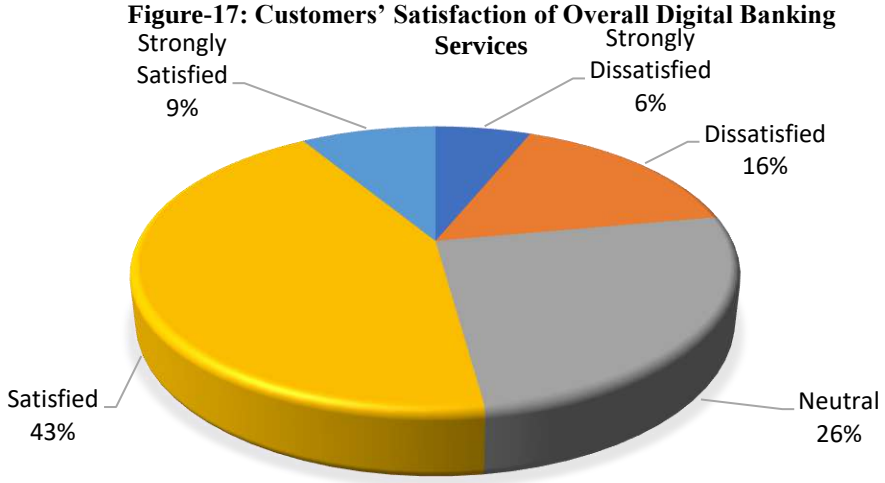
Other substantial challenges include the Lack of trust in the digital banking system itself (41.9%) and the perception that the digital registration process is Complicated or time-consuming (33.6%). In contrast, factors like High transaction costs (25.5%), Poor internet connectivity (22.1%), and Poor Customer Support (19.7%) are less frequently cited as primary obstacles. Overall, enhancing the stability, security, and user experience is critical to boosting usage frequency.

4.19.10 Customers' Satisfaction with Overall Digital Banking Services

The pie chart (Figure-17) illustrating customer satisfaction with overall Digital Banking Services shows a majority of users are generally content,

though a significant portion remains either neutral or dissatisfied. The combined positive sentiment (Satisfied at 43% plus Strongly Satisfied at 9%) accounts for 52% of customers.

Figure-17: Customers' Satisfaction of Overall Digital Banking Services



Source: BIBM Survey, 2025

However, the largest single group is Satisfied (43%) rather than Strongly Satisfied. A notable portion of the customer base is either Neutral (26%) or holds negative views (Dissatisfied at 16% plus Strongly Dissatisfied at 6%), summing up to a substantial 48% that are not actively satisfied. This indicates that while digital initiatives are mostly well-received, banks have a considerable challenge in converting the large neutral segment and addressing the concerns of the nearly one-quarter of customers who report some level of dissatisfaction.

4.19.11 Barriers to the Wider Adoption of Digital Banking in Bangladesh

Based on the comprehensive analysis of customer feedback, the single biggest barrier to the wider adoption of digital banking in Bangladesh is a combination of low Digital Literacy and a prevailing lack of Security and Trust. These two factors are not only the most frequently cited problems but are also explicitly named as the biggest barrier. The table below summarizes the barriers identified in the feedback.

Table-16: Barriers to the Wider Adoption of Digital Banking in Bangladesh

Sl. No.	Theme	% of Total Customers	Core Problem in Easy Language
1.	**Knowledge & Literacy Gap**	23.2%	People Don't Know How to Use It: Customers lack the basic digital knowledge or training needed for the apps, especially the older generation.
2.	**Security & Trust**	19.6%	Fear of Cheating and Hacking: People are scared to use the services because they don't trust them and worry about fraud, cyber-attacks, and sharing their private data.
3.	**System Reliability & Infrastructure**	16.1%	Bad Technology and Slow Internet: Systems are often unreliable and slow, with transactions taking too long. Poor internet access makes the apps frustrating to use.
4.	**Preference for Traditional Banking / Scale**	12.5%	They Prefer Cash: A large part of the population is simply more comfortable using cash and finds digital banking too complicated or unnecessary.
5.	**Regulatory / Institutional & Staff Issues**	10.7%	Bank Staff and Rules are Old: Some bank officials are not trained for digital tools, and there are problems with different rules across various mobile payment services (MFS).
6.	**Transaction Cost**	8.9%	It's Too Expensive: The fees for digital transactions and the high cost of mobile internet make the services too costly for low-volume users.
7.	**Acceptance & Access**	8.9%	Can't Access or Use It Everywhere: There are no ATM booths in rural areas, and local shops do not accept digital payments for everyday purchases.

Source: BIBM Survey, 2025

4.19.12 Important Change that would Encourage a Non-User to Start Using Digital Banking Products

The single most important change that would encourage a non-user to start using digital banking products, based on the explicit statements in the feedback, is guaranteed security and customer support. One customer stated this explicitly a "guarantee of robust, transparent security and reliable fraud prevention measures, coupled with readily available human customer support" in the event of an issue. This factor (Security and Service) is tied with User Experience as the second most frequent suggestion. Based on the total solution ideas submitted, the top recommendations fall into the following themes:

Table-17: Summary of Solutions by Priority

Sl. No.	Solution Theme	% of Total Customers	Core Customer Demand
1.	Security & Service Quality	25.9%	Protect Me & Help Me: Customers demand more security and a guarantee of reliable fraud prevention. This must be coupled with readily available human customer support when problems arise.
2.	User Experience (UX)	25.9%	Make It Simple: The app must be extremely user-friendly with features like "One Clicking Service" that are easy to access and time-saving.
3.	Features & Availability	25.9%	Make It Useful & Always On: Services must be available 24/7, support real-time bank-to-bank transactions, and offer new functionalities like Home Banking and mobile shopping through an Integrated App.
4.	Cost Reduction	11.1%	Lower the Cost: The transaction cost must be significantly reduced to make the service financially attractive for all users.
5.	Other / Incentives	11.1%	Give Me a Reason: Offer incentives and ensure useful features like language options are available.

Source: BIBM Survey, 2025

5: Issues and Suggested Measures

To improve and implement best practices in retail banking products in Bangladesh the paper come out with a number of issues and related suggestions based on the FGDs, surveys, and Round Table discussion, that are below.

5.1 Digital Transformation

The wide disparity in digital adoption, where some banks lag significantly behind the 69.40% average branch reliance, requires a Targeted Digital Migration Strategy to achieve cost efficiency and sector-wide transformation. Banks must identify and incentivize the migration of high-volume, simple transactions (currently clogging branches) to digital channels, supported by comprehensive Digital Literacy programs and a repurposed branch network focused on complex advisory services. This targeted approach is crucial for addressing the current market heterogeneity and establishing a sustainable digital operating model.

5.2 Digital Investment

The current average digital investment of 12.37% of the annual budget is moderate, but the vast range from 3.00% to 27.00% confirms a two-speed transformation reality where low-investing banks are likely those still heavily reliant on physical branches. To bridge this gap, banks must move beyond a cautious approach and recognize digital investment not as a cost, but as a direct route to future cost efficiency and competitive advantage. A targeted, mandatory minimum investment threshold, perhaps closer to the sector average, is necessary to ensure laggard banks can afford the technology needed to migrate transactions, reduce operational costs, and align the entire sector towards a more modern, branch-less operating model, thus mitigating the risk posed by their high-cost structures.

5.3 Digital Maturity

The vast majority of the banking sector (68.50%) is concentrated in Stage 2: Evolving (In Progress), indicating that most institutions have defined

digital roadmaps and are actively improving customer-facing platforms and piloting new technologies like RPA and AI. However, this progress is superficial, as their core systems remain siloed, creating a structural barrier to true transformation. While a significant minority (19.10%) has reached Stage 3: Advanced (Integrated) by investing in core modernization, the critical finding is that 0.00% of banks have achieved Stage 4: Leader (Mature & Disruptive) status. This zero-percent figure underscores that the industry has not yet transitioned to a state of fully integrated, AI-driven operations that leverage data completely or explore disruptive new business models, confirming a widespread ceiling on digital ambition that prevents them from becoming truly future-ready.

5.4 Digital Transformation Challenges

The primary inhibitors to digital transformation for banks are overwhelmingly financial and security-related, with the High cost of technology and infrastructure investment (Rank 5.71) and Cybersecurity threats and fraud (Rank 5.53) being the most significant obstacles. This highlights a critical need for substantial capital allocation and robust security frameworks. Mid-level challenges are a mix of operational/market factors like Low digital literacy (Rank 4.93) and Inconsistent IT infrastructure (Rank 4.79), alongside internal capacity issues like the Lack of skilled human resources (Rank 4.43). The fact that internal and technical/financial hurdles far outweigh external issues like Regulatory constraints (Rank 4.00) or Competition from FinTech (Rank 3.46) suggests that the solution requires banks to overcome their intrinsic limitations rather than external pressures.

5.5. Customer Satisfaction Disconnect

There is a significant disconnect between the banks' perception of success and the reality of customer experience. Banks themselves rate the improvement in service quality at a high 4.6 and believe they've improved customer satisfaction at a solid 4.2. However, the customer survey data presents a more cautious picture: while the majority are satisfied (43%) or strongly satisfied (9%), a substantial 22% of customers (Dissatisfied at 16%

+ Strongly Dissatisfied at 6%) are actively unhappy with overall digital banking services, and another 26% remain Neutral. This means that nearly half (48%) of the customers are either dissatisfied or indifferent. This disparity strongly suggests that banks are measuring success by internal metrics (e.g., feature rollout, system uptime) rather than true customer outcomes, failing to address the fundamental issues (like core system siloing, digital literacy, and security concerns) that drive dissatisfaction and indifference among a large segment of the user base.

5.6 Executive Role Priorities

Top-level executives in the banking sector are primarily focused on the strategic foundation and protection of digital transformation, with an overwhelming majority prioritizing Setting Strategy & Governance (77.8%) and Managing Risk & Security (76.8%). This reflects a responsible, foundational approach but also suggests a risk-averse bias. Critical roles related to implementation and growth, such as Driving Culture & Innovation (66.7%) and Resource Allocation & Investment (65.2%), follow closely. However, the most concerning finding is the significantly lower priority given to Internal Capacity Building (33.3%). This low focus on employee digital literacy and internal adoption creates a critical vulnerability, as it directly undermines the ability of the organization to effectively execute the very strategies, investments, and customer-centric growth initiatives that the executives are trying to champion.

5.7 Board Expectations

The banking sector holds exceptionally high and focused expectations for its Boards over the next 3-5 years, centered primarily on providing Strategic Direction & Vision (81.8%) and ensuring adequate Investment & Funding (81.2%). This strong emphasis acknowledges the Board's fundamental role in setting the long-term course and approving the necessary capital to finance digital transformation efforts. The third core priority is Governance, Risk & Compliance (72.7%), which ensures secure and compliant execution. However, despite the high focus on strategy and funding, crucial long-term growth and market-focused outcomes rank significantly lower.

Specifically, Customer-Centricity & Products (45.5%) and, most concerningly, Sustainability & Competitive Advantage (27.3%) are the lowest priorities. This suggests that while Boards are expected to initiate and fund the transformation securely, the direct connection between these investments and achieving sustained market leadership or customer-driven growth is not yet a top-tier focus for the majority.

5.8 Expectations from Bangladesh Bank (BB)

The banking sector's expectations from the Bangladesh Bank are overwhelmingly concentrated on establishing the foundational regulatory and security environment for digital banking. The highest priorities are for BB to set Clear, Flexible Regulations & Frameworks (90.9%) and to enhance Security & Consumer Protection (89.2%). This reflects the industry's need for legal clarity, risk-based guidelines, and consumer trust, especially given the earlier identified concern over cybersecurity costs. High expectations also exist for BB to be a central orchestrator of the digital ecosystem by promoting Open Banking & Interoperability (81.8%) and facilitating Innovation & Fintech Collaboration (80.3%). Notably, expectations for Capacity Building & Knowledge (54.5%) and supporting Infrastructure & Scalability (45.5%) rank significantly lower, suggesting banks primarily view their own role in building talent and infrastructure, but look to the regulator for the necessary legal, security, and open-ecosystem enablement.

5.9 Expectations from the Government

Banks' highest expectation from the Government is a foundational one: ensuring robust Digital Infrastructure & Connectivity (90.9%), which is essential for extending services to rural areas and supporting high-volume digital transactions. This is closely followed by the need for strong Security & Data Protection Laws (82.7%) to build public trust. These top two priorities underscore that banks require a secure, nationwide digital utility platform to operate effectively. Mid-tier expectations focus on promoting Financial Inclusion & Literacy (72.6%) and providing Incentives & Innovation Support (70.1%). The lowest expectation, at 54.5%, is for the

Government to actively drive Ecosystem Alignment & Collaboration among all stakeholders under a master plan. This suggests that while banks want the Government to provide the core infrastructure and rules, they place less emphasis on the Government acting as the primary orchestrator for complex, multi-stakeholder integration and alignment.

5.10 Customer Challenges

The primary barriers preventing customers from fully embracing digital banking are operational reliability and security fears. Unreliable systems (e.g., frequent server downtime) is the most pervasive issue, affecting 65.1% of customers, closely followed by Cybersecurity fears (e.g., hacking, data theft) at 60.4%. Furthermore, a significant segment remains vulnerable to Concerns about fraud by agents or third parties (52.3%), highlighting weaknesses in the human/agent interface. The presence of Low digital literacy (35.8%) and a Complicated or time-consuming digital registration process (33.6%) compound the problem, leading to the high dissatisfaction rate previously noted. This data confirms that addressing the fundamental technical stability, security assurance, and user onboarding process is paramount to converting the large 'Neutral' and 'Dissatisfied' customer segments into active, satisfied digital users.

5.11 Single Biggest Barrier for Customers

The single biggest barrier to wider digital banking adoption is the Knowledge & Literacy Gap (23.2%), indicating that a lack of basic know-how and training is the top obstacle preventing customers from using the apps, particularly among the older generation. Closely following are the fundamental issues of Security & Trust (19.6%—driven by fears of fraud and hacking) and System Reliability & Infrastructure (16.1%—driven by slow, unreliable technology and poor internet). The dominance of the Knowledge Gap suggests that even if banks successfully build reliable and secure systems, the lack of human capacity to engage with these tools will remain the primary constraint on growth, underscoring the necessity of large-scale, funded national digital literacy initiatives.

5.12 Customer Demand for Adoption

The factor that would most encourage non-users to adopt digital banking is explicitly guaranteed security and customer support, with the solution themes for Security & Service Quality, User Experience (UX), and Features & Availability all tied for the highest customer demand at 25.9% each. This trifecta of demands—Protect Me & Help Me, Make It Simple, and Make It Useful & Always On—reveals that non-users are primarily seeking a secure, simple, and reliable core product. While Cost Reduction only accounts for 11.1% of suggested solutions, its presence, alongside the demand for readily available human customer support and 24/7 reliability, underscores that the market will not move simply because of low price; it will move when banks can deliver a flawless, trusted, and fully supported user experience that removes the current fears of fraud and system unreliability.

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