



# ROLE OF DIGITALIZATION IN THE BFSI SECTOR

POWERED BY AIRTEL BUSINESS

# Table of Contents

<b>1. Introduction and Target Audience.....</b>	<b>3</b>
<b>2. Executive Summary .....</b>	<b>3</b>
<b>3. Major BFSI Trends, Associated Challenges, and The Role of Digitalization .....</b>	<b>5</b>
<b>3.1. Hyper-Personalization .....</b>	<b>5</b>
<b>3.2. Growing need to achieve Cost Efficiency.....</b>	<b>6</b>
<b>3.3. Mitigating Financial Crimes.....</b>	<b>8</b>
<b>3.4. Serving the Unbanked Segment .....</b>	<b>9</b>
<b>4. References .....</b>	<b>11</b>



# 01

## INTRODUCTION AND TARGET AUDIENCE

The banking, financial services, and insurance (BFSI) sector is undergoing significant transformations driven by technological advancements and evolving consumer expectations. While BFSI companies are looking to improve their customer experience and cost efficiency as well as address the unbanked population and mitigate financial crimes, challenges arising from these developments are impeding the growth of the sector. Amidst this dynamic environment, digitalization has emerged as a critical force, offering key opportunities and resolving several complexities. This white paper examines the major trends shaping the BFSI sector, the associated challenges, and the transformative role played by digitalization in addressing them. It provides actionable insights for key decision makers, such as CIOs and CTOs in the BFSI sector to implement digital strategies in order to achieve higher efficiency and productivity.



# 02

## EXECUTIVE SUMMARY

The Indian BFSI sector is at the forefront of transformative change, guided by trends, such as hyper-personalization, cost-efficiency, combating financial crimes, and catering to the unbanked segment. However, challenges like data silo complexities, outdated infrastructure, security threats and limited connectivity, are impacting the overall growth of the BFSI sector. Telecom companies can play a major role in mitigating these challenges and help the BFSI sector to achieve a growth trajectory offering a range of solutions around artificial intelligence, cloud-native, automation, security and connectivity.

### HYPER-PERSONALIZATION:

The growing need of customers to get customized financial services is driving the demand for hyper-personalization in the BFSI sector. Through personalized services, BFSI companies can double their client conversion rates as well as improve their brand value. However, managing the growing volumes of customer data owing to data silos presents a notable challenge. Customer Data Platforms (CDP) and Conversational AI play a crucial role in utilizing data insights to provide customized experiences and address data management obstacles effectively.



### COST EFFICIENCY:

In the competitive BFSI sector, achieving cost efficiency has become an important consideration. Currently, public-sector banks in India operate at **86.04% efficiency levels**, which is relatively low compared to its foreign counterparts. The major reason for this low efficiency is the legacy systems currently used by these banks. By adopting Cloud-native apps, low-code platforms, and automation, organizations can improve operations, cut costs, and boost productivity.



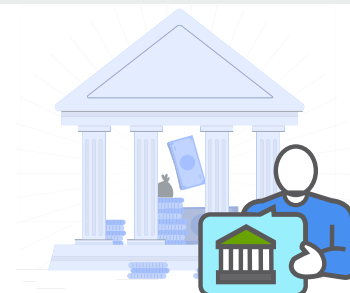
### MITIGATING FINANCIAL CRIMES:

As digital transactions are increasing, financial frauds are also gaining momentum. In FY23, the total number of fraud cases in the BFSI sector was around **49% higher than the previous year**. Owing to these financial frauds, BFSI companies are not only bearing monetary losses but it's impacting their brand reputation as well. Consequently, Identity and Access Management (IAM) solutions and AI-based fraud detection and authentication solutions are necessary for enhancing security and preventing financial crimes.



### UNBANKED SEGMENT:

While there has been significant improvement around financial inclusion, **a large portion of the Indian population (around 15%) is still unbanked** because of limited connectivity in remote areas. Technologies like Software-Defined Wide Area Network (SD-WAN) and 5G networks can help connect these areas, allowing BFSI institutions to reach the unbanked population and provide financial services effectively.



# 03

## MAJOR BFSI TRENDS, ASSOCIATED CHALLENGES, AND THE ROLE OF DIGITALIZATION

### 3.1. HYPER-PERSONALIZATION

The need for providing seamless **omnichannel interactions and personalized customer experiences** in the Indian BFSI sector is gaining traction. Rapidly expanding digital infrastructure and a growing population looking for customized financial services is driving the need for hyper-personalization in the BFSI sector. BFSI companies that are engaging users through hyper-personalization have seen a sharp rise in user retention and engagement. According to a Gartner survey, global BFSI companies have increased conversion rates by 100% by utilizing personalized messaging and aligning with customers’ specific stages in their product/service journeys <sup>[1]</sup>. Moreover, improving customer experience is also enabling BFSI companies to improve their brand valuation. For example, as per a KPMG survey, which also included respondents from the Indian BFSI sector, enhancing customer experience can help companies from financial services and other sectors **unlock US\$200 billion in brand value** <sup>[2]</sup>.



#### GROWING NEED FOR OMNICHANNEL INTERACTIONS AND PERSONALIZED CUSTOMER EXPERIENCES



Global BFSI Entities Elevate Conversion Rates by **100%** via Personalized Messaging Strategies



**USD 200 billion** of brand value can be unlocked by financial services and other sectors through improving customer experience



Data silos highlighted as the major issues **impacting customer** experience journey

#### Data Silos in Financial Institutions

The growing adoption of digital channels and data volumes generated across various touchpoints, such as mobile banking apps, websites, social media platforms, and physical branches, has made managing and using vast amounts of customer data effectively more difficult. The growing volumes of UPI transactions is also putting an added pressure on the current data management architecture of the BFSI companies. Consequently, **data handling and management** have become a critical challenge for financial institutions while addressing the seamless delivery of personalized experiences. According to a Capgemini survey, **43% of the global banking** CMOs cited data silo as the top data-related concerns for the marketing function that is impacting the overall customer experience journey <sup>[3]</sup>. The fragmented nature of data silos in the BFSI sector also affects the capability to create a unified customer view across channels and creates inconsistencies and inefficiencies in customer interactions.

### Personalized Customer Experiences in BFSI with CDP and Conversational AI

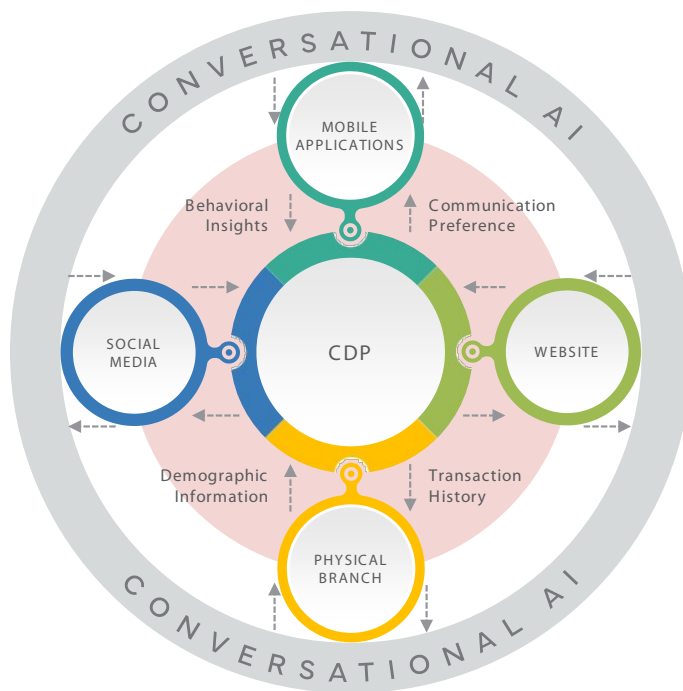
The adoption of **Customer Data Platforms (CDP)** is a powerful tool that helps to enhance personalized customer experiences and facilitate seamless omnichannel interactions in the long term. CDPs also offer a unified platform that combines, integrates, and manages data from disparate sources, including transaction history, demographic information, communication preferences, and behavioral insights that help build comprehensive customer profiles. CDPs allow BFSI companies to arrange personalized interactions seamlessly across various channels, including mobile apps, websites, social media platforms, and traditional branches, thereby providing customers with a unified and uniform experience throughout their journey.

**Conversational AI** technologies also emerge as important tools that can immediately help revolutionize personalized customer experience and adopt seamless omnichannel interactions within the BFSI sector in India. Conversational AI, comprising chatbots, virtual assistants, and voice-enabled interfaces, empowers BFSI institutions to interact and engage with customers, providing personalized assistance around the clock. According to a report by RBI, almost three-fourths of Indian banks and several NBFCs have developed chatbots and virtual assistants in order to improve customer experience [4].

Telecom companies play a key role as strategic partners in the implementation of CDP and Conversational AI solutions in the BFSI sector. They provide the infrastructure and technological capabilities required to manage the large volumes of customer data acquired and, using their robust networks and data management systems, assist BFSI institutions in aggregating, process, and analyzing the data. Telecom companies also play a vital role by providing interconnected data centers for storing and managing customer data effectively. In addition, telecom companies facilitate the integration of Conversational AI with existing infrastructure to support solutions like Interactive Voice Response (IVR), call routing, and voice biometrics.

A leading bank in Asia was looking to improve its customer experience and support data heavy transactions. They required a more advanced, innovative data center to better serve their mission and growth strategy. By partnering with a Japanese communication company, the bank **designed a next-generation data center** that qualified the threat vulnerability risk assessment. The new data center, designed to operate as a remote facility with no on-site staff, reduced operational and capital expenditure and improved

agility, resilience, and improved use of assets. The bank is now capable of providing highly personalized banking and transaction services to over **22 million customers** worldwide through traditional and electronic channels [5].



### 3.2. GROWING NEED TO ACHIEVE COST EFFICIENCY

A key trend in the BFSI sector in India that has accumulated significant attention is the pursuit of **cost efficiency and gaining operational scalability**. Optimizing operational expenses has become crucial for financial institutions to maintain competitiveness and profitability. A study highlighted that while foreign banks in India operate at **92.53% efficiency**, public-sector banks in India operate at **86.04% efficiency** levels [6]. In the Indian BFSI market, a diverse customer base exists with a wide range of financial needs spread across urban and rural areas, complicating the concept of cost efficiency.

#### Legacy Infrastructure and High Opex Impedes BFSI’s Cost-effectiveness Goals

A major challenge that is holding off cost efficiency from becoming a reality is the use of **legacy infrastructure** within the sector. Outdated systems, due to the nature of their rigidity and complexity, impose severe costs in terms of maintenance, integration, and scalability and force BFSI firms to operate under high costs of maintenance and manual interventions. According to PWC’s CIO Global Banking Survey, approximately **35% of the respondents** identify complex systems as their primary organizational challenge, while only 5% believe

their technology infrastructure is state-of-the-art [1]. Moreover, outdated mobile applications and legacy systems have been hindering the ability of traditional banks to support digital transactions such as UPI as well as compete with new-age banking providers, such as Neo banks. For example, in February 2024, **owing to server outages across major Indian banks**, UPI transactions were significantly impacted [8].

Furthermore, in recent years, Indian banks have experienced a considerable increase in operating expenses (opex) due to substantial investments in new hires and technology. For example, in 2022-23, opex of private banks rose nearly **26% y-o-y**, and staff cost increased by nearly **21% y-o-y**, whereas the operating expenses and staff cost of state-owned banks rose nearly **16% y-o-y** in 2022-23 [9].

Consequently, BFSI institutions must achieve a delicate balance between modernization efforts and expansion in order to gain higher efficiency and productivity.

### Modernizing Banking Infrastructure and Achieving Efficiency: Cloud-native Platforms and Automation

Indian banks are increasingly modifying their technology stack to enhance their operational agility, scalability, and cost-efficiency with the use of **cloud computing models and cloud-native platforms**. BFSI companies have started to transition to a multi-cloud strategy to enable redundancy and disaster recovery. However, according to a report by TABInsights, Indian banks are at the early stage of multi-cloud migration, **with only less than 10% of their systems on cloud**, which provides a significant opportunity for cloud providers and telecom companies in the long run [10]. Furthermore, cloud-native platforms, such as **Low Code/No Code**

**(LCNC), microservices** and application programming interfaces (APIs) are also gaining traction as it facilitates innovation through the rapid deployment of new services and applications, enabling BFSI companies to stay competitive. Currently, Indian LCNC companies generate **60-70% of their revenue** from adopters in the BFSI sector [11]. For example, a leading private bank in India deployed a cloud-native multi-cloud platform in collaboration with a telecom provider and reduced their operational costs [12].

While cloud-native platforms and LCNC can help optimize costs in the long run, **Robotic Process Automation (RPA)** is another transformative platform that allows the BFSI sector to reduce opex in the short run. For example, a leading private-sector bank in India implemented RPA solutions in their NFS reconciliation process, Employee background verification, and gratuity process and reduced its manpower by four resources and end-to-end processing time from 2 hours to 1 hour [13].

Telecom companies play several roles in the cost efficiency front for BFSI institutions with their robust infrastructure, network management expertise, and partnerships with leading technology providers. Using their connectivity services, telecom companies can provide banking cloud solutions as well as host development platforms to rapidly build and deploy custom solutions. Telecom companies can integrate RPA and bots for document digitization in the BFSI sector to improve operational efficiency by automating difficult and error-prone tasks associated with the manual validation of customer and operational documents. This solution can streamline the document validation process, reduce manual efforts, accelerate data processing, and ensure standardized input data [14].

## BFSI'S PURSUIT OF GAINING COST EFFICIENCY

### CURRENT SCENARIO



**92.53%**

Efficiency of Foreign banks in India



**86.04%**

Efficiency of Public-sector banks in India

### CHALLENGES IMPEDING BFSI'S COST-EFFECTIVENESS GOALS

Legacy infrastructure within the sector  
**Only 5%** of surveyed global banking believe their technology infrastructure is state-of-the-art

Considerable increase in OPEX Private banks' OPEX increased nearly **26% y-o-y** state-owned banks' OPEX rose nearly **16% y-o-y**

## BANKING INFRASTRUCTURE MODERNIZATION TO IMPROVE EFFICIENCY



Deployment of cloud computing models



Cloud-native platform, such as LCNC, microservices and APIs



RPA allows the BFSI sector to reduce opex

A leading general insurance company faced challenges when the Insurance Regulatory and Development Authority (IRDA) mandated that all calls from agents to customers need to be recorded and stored. Owing to working from home scenario, the company did not have an existing automated call recording set up for employees to take calls from home. Consequently, a leading Indian telecom operator provided Cloud Telephony solutions with a single Virtual Mobile Number (VMN), call recording, and SMS acknowledgment of missed calls that allowed over 60 agents to connect via the VMN to speak to customers for renewals, reminders, and cross-sales. The solution ensured that the company could offer seamless service to customers with an improved **efficiency of ~20% and NPS-related processes increasing by 30%** <sup>[15]</sup>.

### 3.3. MITIGATING FINANCIAL CRIMES

Over the years, the BFSI companies and their respective users have been continuously facing financial crime, fraud-related issues, and phishing attacks, which question the safety of the institutions and potentially shake the very foundation and credibility of the system. In FY23, the total number of cases registered on fraud in the BFSI sector was noted to be almost 49% higher than the previous year <sup>[16]</sup>. Moreover, as per the Ministry of Finance, there were more than **95,000 instances of UPI fraud** reported during the fiscal year 2022–2023. This marks a notable rise from the 84,000 cases reported in the preceding year <sup>[17]</sup>. A rapidly expanding

digital infrastructure, along with a growing number of online transactions and electronic payments, have created more opportunities for fraudulent activities. The interconnected nature of the BFSI sector and the growing complexity of fraudulent tactics present significant challenges for the industry and regulatory authorities.

#### Financial Fraud Resulting in Monetary as well as Brand Reputation Loss

The greatest concern from fraudulent activities is the **substantial monetary losses** incurred by institutions. The issue of phishing and cyber fraud via unsolicited commercial communication (UCC) has been of great concern for TRAI and other financial regulators, causing **monthly financial losses between Rs 1,000 and Rs 1,500 crore** <sup>[18]</sup>. Even though there are stringent regulations and enhanced security measures, financial crimes continue to grow. This not only impacts the shareholders at the bottom level but also affects the confidence of investors and their trust in the financial system and, in turn, impacts the overall **brand reputation** of these financial institutions. For example, 60% of Indian citizens receive **minimum of 3 spam messages** every week, leading to multiple customer complaints with their respective banks, ultimately hampering their brand reputation <sup>[18]</sup>. Consequently, to combat the threat of financial fraud and phishing, TRAI has ordered telecoms to implement AI-based solutions to stop fraud and spam messages <sup>[19]</sup>.





## Enhancing Security Through Identity Verification and Access Control

**Identity and Access Management (IAM)** tools are critical in the BFSI sector to enhance security and mitigate risks associated with unauthorized access and fraudulent activities, ensuring that only authorized individuals have access to critically sensitive financial information and transactions. Telecom companies play a key role in the implementation of IAM solutions in the BFSI sector by providing the network infrastructure and the encryption protocols and security measures required for secure data transmission and storage.

While identity verification and access control are tools that can immediately help BFSI institutions, **real-time monitoring and analytics and fraud detection system** integration are tools that can prove to be extremely useful eventually. In order to lower the danger of fraudulent activity, BFSI institutions, in partnership with telecom companies, are deploying real-time monitoring, AI-powered analytics, and sophisticated authentication techniques like voice recognition to glean insights from massive amounts of telecom data. This translates to managing data privacy problems and guaranteeing secure integration, resulting in faster fraud identification, improved risk assessment, and personalized financial services for customers.

For example, a leading private Indian sector bank has leveraged Airtel’s AI/ML-based solution to proactively detect, prevent, and eliminate phishing, fraud, and spam using messaging. As per Airtel, the system worked as an anti-spam filter and could identify and block **two million messages in a single day**. Additionally, this

solution offers a safeguard against fraudulent or spam messages through both the A2P (application-to-person) and P2P (person-to-person) channels, protecting customers effectively. As a result of implementation of the solution, the telco was able to **proactively suspend over 130,000 templates** till May 2023, including several templates which were vulnerable to misuse the bank’s brand name. The bank also now has direct connectivity, which will help secure end-to-end SMS connectivity and identify alternative routes <sup>[20]</sup>.

## 3.4. SERVING THE UNBANKED SEGMENT

The growing need to serve the unbanked segment in India is emerging as a significant trend within the BFSI sector, presenting both challenges and opportunities for financial institutions. Although there is rapid economic growth in India, **over 190 million are still unbanked**, with around 10 percent of the population being completely unaware of fintech products <sup>[21]</sup>. This unbanked population often resides in rural and remote areas and lacks access to basic financial products and services. As of November 2022, there are only 121 rural banks and approximately 238,000 ATMs in India <sup>[22]</sup>. Consequently, for economic development and poverty alleviation, there is a strong need for financial inclusion through expansion of banks and ATMs in the remote parts of India. Moreover, cash is still a preferred model of transaction in rural India and hit an all-time high in March 2022 with a 9.2 percent increase in the cash in circulation <sup>[23]</sup>. This has also further driven innovation within the BFSI sector, resulting in the development of alternate delivery channels and digital banking solutions tailored to the needs of the unbanked population.



### ACHIEVING FINANCIAL INCLUSION

#### CURRENT STATUS



**190 million** are still unbanked



Only **121** rural banks and **238,000** ATMs



Growing cash circulation

#### MAJOR CHALLENGE HAMPERING FINANCIAL INCLUSION

Poor network connectivity

Over ~ **25,000** inhabited villages in India, do not have access to any mobile connectivity or internet services

#### EMERGING OPTIMISTIC SCENARIO



**60 percent** of UPI transactions are currently contributed by semi-urban and rural areas

## Low Network Connectivity Hampering Financial Inclusion

**Poor network connectivity** continues to be a significant challenge in the BFSI sector in India, limiting access to financial services for millions of individuals, especially in rural and remote areas. The lack of physical banks and ATMs in India is identified to be primarily due to the lack of network infrastructure.

Despite significant progress in digital infrastructure, including the increased adoption of mobile internet and the expansion of banking networks, many regions still face inadequate network coverage and unreliable internet connectivity. As of 2022, out of over 5.9 lakh inhabited villages in India, **over 25,000 do not have access to any mobile connectivity or internet services** <sup>[24]</sup>. This issue impacts the delivery of essential financial services and the adoption of digital banking solutions. Additionally, poor connectivity also increases transaction times and service disruptions in addition to increased cybersecurity risks. Mobile banking, agent banking, and digital payment platforms have emerged as crucial tools in bridging the gap between financial institutions and underserved communities. According to a report by the research team of India-based nationalized bank, **60 percent of UPI transactions** are currently contributed by semi-urban and rural areas <sup>[25]</sup>. Consequently, banks and fintech companies have significant opportunity to expand their reach and cater to the unique requirements of the neglected segment by leveraging technology and innovative business models.

## Achieving Financial Inclusion Through Next-Gen Connectivity

To bridge the gap with the unbanked segment in India, **SD-WAN** and **5G technology** are key tools ultimately. SD-WAN can transform network connectivity by enabling efficient management and optimization of wide-area networks. SD-WAN can also seamlessly integrate with existing WAN architecture as it can function with any underlying network service such as MPLS, Broadband, or 5G/4G/LTE networks <sup>[26]</sup>. By leveraging the technology, BFSI institutions can dynamically route traffic, prioritize critical applications, and enhance network performance in areas with limited connectivity infrastructure. This ensures seamless access to banking services such as online transactions, mobile banking, and digital payments, regardless of geographical constraints. Moreover, deployment of 5G-enabled devices and IoT solutions facilitates the collection of data and enables personalized banking experiences and targeted initiatives tailored to the needs of the unbanked segment. For example, telecom companies can provide Machine-to-Machine (M2M) communications through their connectivity solutions (5G, NBIoT, 4G) and IoT connectivity management to support Micro ATMs to address the accessibility gap in remote areas lacking traditional banking services.

A district cooperative bank providing short-term loans and employment schemes with branches in tier-2 and tier-3 remote cities faced a shortage of seamless and uninterrupted network connectivity with no committed SLAs that led to compromised services. The lack of network security also posed a threat of cyber attacks. By partnering with a leading telecom operator in India, the existing network was migrated to an MPLS network using hub & spoke topology with 2 Mbps MPLS connectivity at all branches and 10 Mbps connectivity at the data center <sup>[27]</sup>.

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