

# Evolving Digital Banking and its Social Impact

**K. Srinivasa Rao**

*Former General Manager, Bank of Baroda & Adjunct Professor,  
Institute of Insurance and Risk Management, Hyderabad*

**Email:** kembais@gmail.com

## ABSTRACT

The development of the banking system is a critical financial foundation for harnessing the potential of any economy. In a growing economy, providing efficient financial intermediation by mobilizing deposits to generate credit and ensuring the flow of funds to productive sectors is essential. With the introduction of technology in banking and the development of digital delivery channels, faster transmission of services is made possible. Penetration of the digital banking system (DBS) can boost growth and support rapid socioeconomic change.

In the internet age, moving banking online is essential for financial and digital inclusion. Therefore, the roles of banks and non-banks are crucial in stimulating entrepreneurship by providing timely banking services to the community and, more importantly, credit to those in need.

As financial markets deepened, the banking system had to realign itself through reforms that moved it to a digital mode. The integration of technology accelerated financial sector transformation, prompting banks to adopt new technologies and innovative methods to remain competitive. The transition to DBS accelerated with advances in technology and internet connectivity, providing greater diversity in service range and speed. Tracking the socioeconomic impact of DBS requires a deep dive into its transition and its impact on society.

The key development in Indian banking since 1991 is a shift from a “controlled, social-objective” socio-economic transformative model to a “competitive, technology-driven” global leader in banking services.

## 1. BANKING DEVELOPMENTS

The ongoing evolution of DBS, fuelled by bank reforms, can be divided into four distinct stages. The phased execution of the Narasimham Committee I (1991) recommendations, among others, has encouraged (i) banks to reform and (ii) implement prudential measures, (iii) shift the focus of social banking toward profits and commercial viability, and (iv) create competitiveness.

Amid many tectonic shifts, banks underwent a phased reduction in CRR and SLR to free up funds and enhance their lending and profit-making capacity. The goal of a profitable business model is to co-exist with socio-economic transformation, where digitisation has become a useful tool for improving operational efficiency. If DBS is scaled up properly, it can enhance operational efficiency by reducing intermediation costs while gaining a competitive edge. With the pace and thrust of DBS, banks can leave a better imprint on the growth.

While implementing bank reforms, the digitalisation of banking processes and delivery channels was simultaneously pursued, given the rapid strides the internet has been making. This coincided with the entry of new private-sector banks, as the RBI issued licenses to "New Generation" banking entities such as HDFC, ICICI, and Axis (UTI Bank). Banks adopted Income Recognition and Asset Classification (IRAC) norms to ensure balance sheets reflected true financial health. More freedom was granted to set interest rates for deposits and loans.

The second wave of bank reforms began with the Narasimham Committee-II (1998), which, among other things, significantly led to the enactment of the SARFAESI Act (2002) for improved debt recovery and the adoption of Basel I & II standards.

Banks experienced their first major mergers when ICICI Bank merged with ICICI Ltd in 2002, in terms of the S.H. Khan Working Group (1998), chaired by S.H. Khan (then IDBI Chairman), focused on harmonizing the roles of Developmental Financial Institutions (DFIs) like IDBI/ICICI and commercial banks amid liberalization, recommending a shift toward universal banking and integrated operations.

Similarly, IDBI Ltd. merged with its subsidiary IDBI Bank Ltd., effective April 2, 2005. This amalgamation, under Section 44A of the Banking Regulation Act, 1949, integrated the Development Financial Institution (IDBI Ltd.) with its commercial banking arm (IDBI Bank Ltd.) to accelerate inorganic growth and create a unified universal banking entity.

Subsequently, the aggressive corporate lending during the decade 2002-2012 led to a spike in bad loans in the banking system. The RBI's Asset Quality Review (AQR) in 2015 forced banks to recognize these "hidden" NPAs, leading to massive losses but cleaner books. The bad-loan ratio reached a staggering 11.6% of assets, then dropped to a low of 2.1% (Sept 2025).

The Insolvency & Bankruptcy Code (IBC) 2016 is a landmark law that shifted power from the "debtor" to the "creditor" for the first time. The government merged 10 Public Sector Banks into 4 "Mega Banks" (e.g., PNB, Canara, Union, and Indian Bank) to create larger, more resilient institutions. In this decade, the banking system has reached its strongest capital position in 20 years, decoupling from global volatility.

The reference to these strategic bites of banking developments will highlight the systemic need to integrate technology into banking operations to reduce manual intervention and clean up bank balance sheets and data reporting systems.

## 2. ENTRY OF DIGITALISATION

The development of a strong banking infrastructure and migrating it to DBS is a journey from “manual ledgers” to “autonomous algorithms.” For banking professionals who value systemic controls, this shift isn’t just about speed—it’s about moving from subjective, human-monitored processes to objective, system-enforced controls.

The transition of the DBS has been phenomenal script inscribed in the developmental legacy of banking system. Prior to the 1980s, banking was entirely manual. The introduction of Advanced Ledger Posting Machines (ALPMs) was the first step toward mechanization, driven by the recommendations of the Rangarajan Committee (1983) on bank computerisation.

Standalone, microprocessor-based machines were primarily used for “front-office” functions such as maintaining current accounts, savings, and general ledgers. ALPMs were essentially high-end calculators with storage. They automated ledger printing, but didn’t have any linkage between them. They were standalone machines with no connectivity among them or other similar machines in the branch. Data was still moved between branches and Head Offices via physical floppies or paper reports. There was no “real-time” view of a customer’s total liability across the bank.

Following the launch of new-generation private banks which entered banking space with state-of-the-art technology, total branch automation began in all banks to fall in line with the developments some time from 1995. The technology infrastructure of bank branches was moved to a Local Area Network (LAN). Under local computerisation, every desk had a PC, but the data lived on a server inside that specific branch. There was no interbranch connectivity. Every branch had its storage system.

But it followed the “Maker-Checker” digital workflow. Anywhere banking was not possible under it. Customers remain customers of the branch, not the bank. Then came the introduction of MICR (Magnetic Ink Character Recognition) to speed up cheque clearing and the early introduction of Electronic Funds Transfer (EFT).

## 3. TRANSITION OF TECHNOLOGY

The decade from 2001 to 2010 marked the move of the banking technology from local to centralised operations. It witnessed the introduction of new-age technology and the adoption of a Centralized Online Real-time Environment (CORE) banking system that enabled banking from anywhere at any time, as defined by Industry 3.0 (Digitalization), along with a shift from “Class Banking” to “Mass Retail Banking.” Thus, to begin delivering banking services remotely through digital channels, the first step is to install on-site and off-site ATMs.

In the process, banks moved from branch-level ledgers to centralized databases, enabling Anywhere Banking. Under the CORE banking architecture, bank branches do not store

any operational data. The data is pooled in data centres at a centralised location, from which branches can access it, following the defined security protocols. DBS facilitated the expansion of retail banking services on a large scale as a distinct line of business, providing home loans, car loans, educational loans, personal loans, credit cards, consumer loans, and meeting many other individual needs.

Synchronising with these technological developments, the launch of Aadhaar, UPI, and Jan Dhan Yojana (JAM Trinity), UPI (2016) further revolutionized payments, establishing India as a global leader in real-time transactions. The entry of new financial market players and the increased activities of non-banks, FinTech, peer-to-peer lenders, digital wallets, and digital banking units intensified the thrust to adopt technology and heightened competition.

Banks and non-banks were allowed to engage in co-lending to leverage each other's strengths and share risks, thereby further penetrating the financial services market through embedded service made possible with DBS.

The onset of DBS was further accelerated in 2009, when the Unique Identification Authority of India (UIDAI) was formed to issue Aadhaar identity cards to citizens, easing KYC requirements for opening bank accounts in digital mode. The introduction of interoperable technology in 2010, thrust on financial inclusion, has added new dimensions to the range of DBS, innovating speed and efficiency. The development of alternative delivery channels—M-banking, Internet banking, Micro-ATMs, POS terminals, credit cards, and debit cards—facilitated banking anytime, anywhere through digital channels.

The digitalization of banking and financial services got further fillip when Pradhan Mantri Jan Dhan Yojana (PMJDY) was launched in 2014, and the Digital India mission was launched in 2015. These strategic initiatives and regulatory/policy support provided a strong impetus to DBS. Digital public infrastructure and UPI apps, along with NPCI's RuPay debit cards, revolutionized digital banking, reaching the nooks and corners of the hinterland.

The outreach of DBS picked up pace with the proliferation of banking touch points when differentiated banks – Small Finance Banks (SFBs), and Payment Banks were set up, and India Post Payment Bank (IPBB), which has over 650 branches and over 1.63 lakh access points reaching out through the post office network.

When smartphone and internet penetration enabled virtual connectivity with millions of bank account holders, every individual could conduct most of the routine financial transactions—payments, investments in pension funds, mutual funds, and even borrowing and repaying loans at their convenience. The introduction of the National Automated Clearing House (NACH) enabled the seamless payment of salaries to bank accounts, leading to the automatic servicing of loan accounts for retail borrowers. The collaboration of Jan Dhan, Aadhaar, and Mobile (JAM) trinity revolutionized the DB system. This

transformation is often categorized as the “India Stack”—a three-layered approach comprising Identity (Aadhaar), Payments (UPI), and Data (Account Aggregator).

However, due to limitations in financial and digital literacy and the looming threat of cybersecurity, the full benefits of digitalization could not be harnessed to ensure equitable social impact. There is an obvious divide between urban and rural areas in the spread and usage of DBS. If harnessed fully, it can promote enterprise and growth.

DBS has the potential to drive economic transformation by creating a cost-effective system for saving, borrowing, remitting, repaying, and sustaining businesses that can plough profits back into growth. Increased adoption of DBS can steadily convert the informal economy into a formal economy, increasing tax collections and fiscal prudence. Having established a strong, well-spread DBS infrastructure, the next step is to improve its adoption to accelerate societal well-being. A larger inclusive task is ahead.

#### **4. DIGITAL CONNECTIVITY**

The biggest enabler of DBS is internet connectivity. Type of internet services, availability of infrastructure, speed, and access, from the perspectives of service providers and recipient consumers.

Since 1995, the reach of internet services has advanced rapidly in terms of access, speed, and latency, synchronising with mobile connectivity, which reached robust levels by December 2025.

To provide internet connectivity across 2.5-2.6 lakh gram panchayats (GPs), a long-drawn-out project, Bharat Net, was launched in 2011. By March 2026, about 2.17 GPs, or 84-86 per cent, are connected via optical fibre cable (OFCs), radio, or satellite for rural digital inclusion.

Under BharatNet, the OFC established middle-mile infrastructure, laying 6.93 lakh km by early 2026, connecting GPs to block and district hubs. This supports FTTH (Fiber-to-the-Home) connections (12.8 lakh commissioned) and Wi-Fi hotspots (1.05 lakh created), facilitating digital services such as e-governance, telemedicine, and banking in rural areas. Microinsurance services could also be accessed through these digital modes.

It provided strong foundational support for DBS, including UPI, mobile apps, and Aadhaar-enabled payment systems (AEPS), across urban and rural areas. The internet subscriber base has reached 806 million (55.3% penetration rate), growing 6.5% from 2024; fixed broadband speeds averaged 63.55 Mbps. Of these, broadband subscriptions exceeded 300 million (20% YoY growth), powering a 97.6% share of digital payments and 22,831 crores in transactions in FY25. 85 per cent of households have smartphones, and 5G connectivity is estimated at 518,000 in urban agglomerations.

The Network Readiness Index (NRI) 2025, a US-based research institute, ranked India’s digital and network readiness at 45th place out of 127 countries studied. It was evaluated based on 53 indicators spread across four pillars: Technology, People, Governance, and Impact.

Going forward, Starlink, Elon Musk's SpaceX satellite internet service, is set to improve connectivity in hard-to-reach areas such as remote villages, tribal regions, the Himalayas, islands, and disaster zones through its low-Earth orbit (LEO) constellation. With full regulatory approvals obtained by mid-2025, commercial launch is planned for early to mid-2026, starting with gateway earth stations and pilot programs.

While BharatNet reaches 86% of GPs via OFC, Starlink bridges gaps in sparsely populated areas, supporting 5G backhaul and direct-to-cell (D2C) connectivity for mobile devices without dishes by 2027. It can provide additional capacity, expanding to millions of users for telemedicine, agricultural apps, and banking in 10 to 15% of rural areas that remain underserved.

Starlink can serve as a "high-speed backhaul" to fill gaps in BharatNet. It can offer public Wi-Fi hotspots, Customer Service Centres (CSCs), and e-gov platforms via low-cost dishes, reducing latency for telemedicine, Direct Benefit Transfer (DBT), and Agri-apps. It can speed up the adoption of digital banking services. Combined with the reach of Starlink and BharatNet connectivity, the entire geography is expected to be equipped to explore the DBS and leverage it to develop the economy.

## **5. DIGITAL PUBLIC INFRASTRUCTURE**

While banks were moving from one digital banking model to another to achieve the desired operational efficiency and customer convenience, the government was simultaneously focusing on building the digital public infrastructure (DPI) stack. DPI could immensely support and hasten the computerisation process in banks. DPI is the digital equivalent of roads, bridges, and electricity grids for physical infrastructure.

At the core of the digital revolution, the key DPIs with a strong foundation of interoperability, open-source principles, and consent-driven frameworks come together. Aadhaar, UPI, and the Data Empowerment and Protection Architecture (DEPA) exemplify these principles, enabling seamless digital identity, secure payments, and controlled data access. These DPIs not only enhance user experiences but also foster collaboration between public and private entities.

The DPI foundational stack has been built on 3 core guiding principles- they have open Application Programming Interface (APIs), are interoperable and based on consent, and consist of 3 layers based on identity, payments, and data, which have facilitated the development of necessary government services & platforms. Private players have also participated by building business models using some of these DPIs. The foundation of DPIs is the underlying principle of trust in the infrastructure and its stakeholders.

Just as physical infrastructure enables the movement of people and goods, DPI enables the seamless, secure, and low-cost movement of Identity, Money, and Data, augmented at a population scale and operating on Two-factor authentication (2FA), which became the standard. The Account Aggregator (AA) framework enabled "consent-based" data sharing, shifting credit risk assessment from "collateral-based" to "cash-flow based".

As of March 2026, banks have begun to explore Hybrid Clouds while embedding systemic risk controls to ring fence against cyber risks. Beyond exploring DPIs, the focus is on Digital Public Tech (DPT) and high-speed 5G/6G networks to improve operational efficiency. AI engines now analyse transaction patterns in milliseconds to block "mule accounts" before funds leave the system. Mule Hunter app of RBI is handy in chasing any likely money laundering. Appropriate APIs are embedded directly into corporate ERPs and MSME accounting software, making the "bank" a background utility.

## **6. EXPANSION OF DBS INFRASTRUCTURE**

The proliferation of DBS required the adoption of progressively more interoperable technologies, leading to the expansion of a network of technology-driven alternative delivery channels (ADCs) to enhance customer convenience and reduce operational costs. ADCs such as ATMs, internet banking, mobile banking, and POS terminals have proliferated significantly, shifting from branch-centric service models to remote digital-driven service models.

In the process, the DBS infrastructure and customer access point began to expand fast to improve outreach. Several interconnected factors propelled India's ATM network from about 17,000 in 2005 to over 251,057 on March 31, 2025. Further expansion is on with the RBI now seeking to distribute low-value currency to the users through the ATM network. Private banks initially led expansion in the early 2000s to bypass branch licensing caps, followed by public sector banks post-2004.

Later, RBI relaxed ATM guidelines, allowing shared networks, offsite ATMs, and white-label operators (WLAs) from 2012 (e.g., Tata Communications, Hitachi), which sped up deployment in underserved areas. Mandates for rural penetration, EMV security upgrades, and cash recycler incentives further increased the number of installations.

Persistent cash preference for remittances and high-value transactions, amplified by the 2016 demonetisation, sustained growth despite the rise of digital payments. Innovations like QR/UPI integration, smart ATMs for bill pay/micro-loans, and strong IoT network improved efficiency and viability.

Other than ATMs, the Point of Sale (POS) Terminals crossed the 9 million mark in November 2025, and the number of Business Correspondents (BCs) breached 13.56 million by December 2024. The number of debit cards is expected to range from 1.1 to 1.3 billion by January 2026. Number of credit cards is 115.78 million out of approximately 640,930 villages, of which 593,615 are known to be inhabited.

Nearly all now have some form of banking access, defined as a touchpoint (branch, ATM, Business Correspondent/BC, or IPPB) within 5 km. This outreach milestone relies on 21.6 lakh+ touchpoints nationwide, including 1.66 lakh bank branches and several unmanned digital kiosks, and more than 75 digital banking units operating across regions, including in the hinterland, extending digital banking services.

## **7. DIGITAL BANKING PRODUCTS**

The development of DBS infrastructure enabled digital product innovations tailored to different sectors and the changing age profile of customers. Different banks could explore the technology in various forms to gain a competitive advantage in technology-driven product offerings, with the ultimate aim of increasing market share.

It enabled real-time, multi-branch access, laying the foundation for digital products such as internet banking and ATMs. This shifted India from branch-led to platform-led banking, enabling round-the-clock banking and remittance services. Internet banking services are always available for conducting a wide range of banking transactions around the clock.

Banks now offer a wide range of digital products, including sweep-in/sweep-out deposit accounts, and nearly 95% of remittance transactions are now conducted through digital channels using apps and UPI. These products include built-in standing instructions to eliminate the need for human intervention during execution. The bank's core services include mobile and internet banking, AI personalisation, and embedded finance across banks. Bank apps enable checking account balances, transfers, bill payments, investments, and retail payments.

## **8. DIGITAL FINANCIAL INCLUSION**

Financial inclusion (FI) and digital inclusion (DI) were thus driven by banks simultaneously. On the recommendation of the Dr. C. Rangarajan Committee on FI (2008), the RBI launched a formal drive for FI in 2010, requiring banks to follow a 3-year FI policy. The thrust for digital inclusion (DI) accelerated after state-owned banks, with a deeper presence in rural and semi-urban areas, adopted DBS on a large scale, enabling the delivery of anytime, anywhere banking through technology. The lead bank schemes at the district level, along with the formation of state-level bankers' committees, facilitated increased thrust on outreach and digital adoption in the hinterland.

Thus, DB plays a key role in advancing FI and broadening outreach by increasing access to affordable, secure, and convenient financial services, especially for low-income, rural, and otherwise underserved populations who lack access to traditional brick-and-mortar branches. The focus of FI is on providing basic formal-sector services (deposits, credit, insurance, payments, and remittances) to excluded segments.

The FI explicitly targets weaker sections, low-income households, and other disadvantaged groups who are otherwise poorly served by the formal financial system. They have low financial and digital literacy, which deprives them of knowing about their rights to banking services. The emphasis is not merely on having a bank account, but on ensuring that services—and especially credit—are available at reasonable prices and when needed, so that inclusion translates into meaningful economic participation.

Even Basic Savings Bank Deposit (BSBD) accounts, which do not require a minimum balance, can be linked to a debit card that the account holder can use to access DBS.

Among them, many are well equipped to use digital wallets for retail payments, reducing costs and speeding up payment settlement.

The development of DBS in India over the last two decades has transformed it from a luxury enjoyed only by urban elites to a widespread service accessible to all social classes, driving socioeconomic change. Efficient use of DBS can foster economic activities and provide livelihoods.

The government's poverty reduction schemes are also delivered through apps and digital channels. Thus, DBS is no longer a privileged service for a few but has been designed to reach and serve all. This brings us to discuss how DBS is reinforced through community development to promote economic well-being.

## **9. SOCIAL IMPACT OF DBS THROUGH SHG-BANK LINKAGE**

In social transformation, the role of self-help groups (SHGs) at the micro level has been significant, with women's predominant participation prompting them to save and borrow from banks for pursuing microeconomic activities at the bottom of the pyramid. The SHG Bank Linkage Programme (SBLP) is widely considered the world's largest microfinance project, conceptually introduced by NABARD in 1992, but began to pick up pace as word of its advantages and potential to create enterprise spread far and wide. The simple act of linking an SHG to a bank account acts as a social catalyst in several ways.

For millions of women beneficiaries, the SHG account was their first step into a formal banking system. It transitioned them from being "invisible" in the economy to having a recorded financial history. The linkage replaced physical collateral with "Social Collateral." Peer pressure and group dynamics ensured loan repayment rates often exceeding 95%, frequently higher than those of traditional commercial loans.

Managing a bank account required the women members of SHGs to learn record-keeping, acquire digital literacy to use DBS facilities, conduct regular meetings, address participants, interact with bank officials, negotiate loan terms, and make democratic decisions about borrowing and creating economic activities. This "financial training" often translates into better community leadership.

The main advantage is breaking the "toxic debt cycle" with local moneylenders who often charge 60–120% interest. Access to bank credit at 7–12% is a transformative change that has created livelihoods for millions. In many rural areas, the SHG platform has helped challenge many social ills and remove taboos.

The SHG model subsequently evolved into the formation of Joint Liability Groups (JLGs) of a small number of people possessing common interests with similar skills in 2004. SHGs initially operated on savings comprising a group of 10-20 members, usually women, who pooled their savings and then borrowed from a bank to pursue their economic activities for livelihood.

Meanwhile, small groups of 4 to 10 members can come together as JLGs to borrow with joint responsibility for repayment. JLG is a group borrowing activity. JLGs are “leaner” and focused on specific economic output, with skill use in economic activity and peer pressure to perform and repay loans as the underlying purpose.

They were designed to help those who have a skill but no land/collateral, or money to undertake economic activity to earn a livelihood. SHGs/JLGs are increasingly using DBS channels to speed up digital payments and settlements with banks for savings and borrowing. Social pressure increases the culture of loan repayment and keeps the borrowers purposefully engaged, generating income. DBS thus enables the SHG/JLG framework to achieve speed and efficiency, leaving a social imprint.

## **10. EVIDENCE OF SOCIAL IMPACT OF DBS**

The most profound impact of DBS has been the bridging of the banking divide through the integration of technology tools, such as the internet and mobile, and the expansion of bank accounts with the introduction of no-frill accounts in November 2005, with some basic banking facilities, where bank accounts can be opened with a zero balance. In August 2012, the no-frill accounts were converted into Basic Savings Bank Deposit (BSBD) accounts. Standardising features like ATM-debit card, free deposits/withdrawals, and insurance benefits while retaining the zero-balance option. Technology and the simplified format of bank account opening facilitated faster financial inclusion.

According to the World Bank financial index (Findex 2011), 35% of adults had a bank account (53% Men and 20% women), but usage was low, with only 24% of account holders making or receiving digital payments, indicating a lack of financial and digital literacy. However, progress has been steady since the introduction of zero-balance BSBD accounts, many of which used digital modes for transactions.

The social impact of the outreach of the banking system and digital banking is evident from the latest World Bank Global Findex 2025 data. India has achieved a significant milestone by virtually eliminating the gender gap in bank account ownership. Account ownership hit 89% in 2025, up from 77.5% in 2021, driven by digital (mobile money at 78%); India is among the top improvers in terms of outreach and gender parity. Almost 77 to 78 per cent of adults have a bank account, with women holding an equal share of total bank accounts.

RBI also introduced the Financial Inclusion Index (FI-Index) in 2021, which was assessed at 53.9 in FY22 and rose to 67 by FY25. The difference between the World Bank's Global Findex and the RBI's Financial Inclusion (FI) Index lies fundamentally in scope, methodology, and source data. The Global Findex assessment is based on a "Survey-based Snapshot" (External) and the RBI FI-Index as a "Transaction-based Dashboard" (Internal).

As of March 2026, the RBI FI-Index is hovering near 67–70, while the Global Findex 2025 confirms that India has reached near-universal access. The "Delta" (difference) between

the two now lies entirely in Digital Depth—how many rural users have moved from simple DBT withdrawals to using complex products like Mutual Funds or Insurance.

## **11. WOMEN'S EMPOWERMENT**

The systematic focus on financial inclusion since 2010 and on digital inclusion after the integration of the banking system with core banking technology beginning in 2005 has, together, impacted how the financial system is used across different sectors of the economy.

Regarding gender diversity in financial inclusion, the PMJDY data show that 55.8 per cent of bank accounts are held by women beneficiaries, whereas the Global Financial Index (FINDEX) shows that men and women hold accounts equally. Women have therefore come to the forefront in inclusion. Therefore, the launch of the PMJDY scheme in 2014 added over 570 million bank accounts, with more than 55% belonging to women and 66% from rural/semi-urban areas, indicating its diversity and spread. These account holders have been provided with RuPay debit cards and are linked to Digital KYC (Know Your Customer) via Aadhaar, thereby linking them to the DB platform. It has helped banks reduce customer onboarding costs, depending on customer type making it viable for banks to serve low-income individuals.

Direct Benefit Transfer (DBT) was yet another DB product introduced due to digitalisation, and it has been a win-win value proposition to society at large and to institutions providing these services, as technology provides the synergy. The DBT system has fundamentally changed how the state interacts with its citizens by eliminating middlemen. Disbursement of government subsidies, distribution of social security pensions, LPG subsidies, and farmer support (PM-KISAN) are now transferred directly to beneficiaries' accounts. By 2023, the Government of India estimated savings of over \$33 billion (Rs. 2.7 lakh crore) from eliminating ghost beneficiaries and leakages due to the use of DBT.

Going forward, another direct benefit transfer, e-RUPI, developed by NPCI and launched in August 2021. It was designed as a person-specific and purpose-specific digital voucher. Unlike a general-purpose currency, it is a "pre-paid" instrument that doesn't necessarily require a bank account, a smartphone, or internet access for the beneficiary (it can work via a simple SMS string or a QR code). The latest reports indicate that these digital coupons have reduced leakages by an estimated 15-20% in certain pilot zones by ensuring that the "Food Subsidy" cannot be diverted to non-essential items (like liquor or tobacco), a common criticism of cash-based DBT. This is set to have a transformative social impact.

The democratisation of payment systems was enabled by the launch of the Unified Payments Interface (UPI) App by NPCI in 2016. UPI-enabled "sachet-sized" digital payments, allowing street vendors and small Kirana stores to accept digital payments without expensive Point-of-Sale (PoS) machines. As of early 2026, UPI processes over 15 billion transactions monthly, accounting for roughly 80% of all digital payment volumes in India. Digital banking has shifted the lending paradigm from asset-based to cash-flow-

based credit. Digital footprints created by UPI and GST (Goods and Services Tax) allow MSMEs to prove their creditworthiness to formal lenders, reducing their reliance on informal moneylenders who often charge usurious interest rates.

Mobile banking has mitigated the "distance penalty" for rural citizens, who previously had to travel miles and lose a day's wage to visit a physical bank branch. Despite the progress, the rapid shift has introduced new socioeconomic risks. As millions of first-time users enter the digital ecosystem, phishing and social engineering attacks have spiked, often targeting those with low digital literacy. Further smartphone penetration is taking digital banking to the hinterland. A significant portion of the elderly and the "deep rural" population remains excluded due to language barriers or lack of hardware access. The massive aggregation of financial data raises questions about surveillance and data security, necessitating robust frameworks like the Digital Personal Data Protection (DPDP) Act.

## 12. CONCLUSION

The steady strength of banks built on interoperable technology enabled the introduction of a wide range of DBS, enhancing operational efficiency, increasing customer convenience, reducing costs, and focusing on service quality. Banks could leverage technology not only to compete with their global peers but also to stay ahead in many areas, with innovations providing multiple touchpoints across geographies. Public digital infrastructure, UPI app, Internet connectivity, and banks' alternate digital touchpoints combined into a transformative force to alleviate the poverty of millions. The direct and indirect imprint of DBS on the social fabric is difficult to precisely measure, but can be seen in the surge in usage rates.

The distinct milestones of financial inclusion are gradually evolving into digital inclusion, moving customers to digital platforms as digital literacy is spreading rapidly among the bank user community. The collective efforts of regulators, regulated entities, and government have broadened the spectrum of DBS capable of driving socioeconomic transformation, creating livelihoods for millions in the hinterland and among the urban poor. As a catalyst of socioeconomic transformation, the journey of banks through DBS has just begun; it is well poised to scale up and deepen its social impact. In this journey of socioeconomic transformation, the role of each stakeholder becomes critical to harness the full potential of banking services delivered through DBS.

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