



Jam Trinity: A Study On Three Pillars Of Digital Financial Inclusion

Soniya ¹, Prof. M.K. Shastri ²

¹ Research Scholar Deptt. of App. Bus. Eco., RBS College Agra

² Deptt. of App. Bus. Eco. (Faculty of Commerce) RBS College Agra

ABSTRACT

This comprehensive article examines the JAM Trinity - Jan Dhan, Aadhaar and Mobile as India's core digital architecture for promoting financial inclusion. The study explores how the integration of universal bank accounts, biometric identification and mobile connectivity has enabled the large-scale delivery of financial services and welfare benefits through digital platforms. Using secondary data from official statistics and published research, the paper tracks the expansion and consolidation of these three pillars over the last decade and evaluates their combined impact on financial access, usage and behavioural change. Empirical trends reveal that Pradhan Mantri Jan Dhan Yojana (PMJDY) accounts expanded rapidly during the initial years, with growth peaking at about 45.6 per cent in 2016, followed by moderation as coverage widened. Aadhaar enrolment experienced an early surge exceeding 800 per cent during the national rollout phase and later stabilised at low single digit growth, reflecting near universal coverage. Mobile subscriptions increased steadily from around 100 crores in 2015 to more than 120 crores by 2024, establishing the communication backbone for digital finance. The COVID-19 period further underscored the importance of the JAM framework, as relief transfers and social assistance were routed directly into Aadhaar-linked Jan Dhan accounts. At the usage level, the sharp rise in Unified Payments Interface (UPI) transactions exceeding 180 billion with a value of over ₹260 lakh crore in 2024-25 signals a decisive shift toward cashless payments. The findings suggest that India's digital inclusion strategy has progressed from rapid coverage expansion to a phase of consolidation focused on active usage and service quality. The JAM Trinity has strengthened transparency, reduced leakages in welfare delivery and broadened participation in the formal financial system. The paper concludes that sustaining these gains will require continued emphasis on digital literacy, cybersecurity and last-

mile connectivity to ensure that access translates into durable financial empowerment.

Keywords: Microfinance, SHGs, Financial Inclusion, Digital Transformation.

1. INTRODUCTION

The Digital India initiative was launched with the objective of transforming India's financial system, giving it a new dimension. This initiative has significantly transformed that digitally empowered society and fostered the growth of a knowledge economy. It can be described as an integrated framework encompassing digital infrastructure, digital services, and digital empowerment. While numerous financial reforms over the past few decades have shown good performance, this digital initiative ushered in a revolution, opening new dimensions and opportunities for growth. From here began the concept of Digital Financial Inclusion, which literally means that the reach of old financial services should be made available to the people in an affordable, accessible and responsible manner through digital infrastructure and with the help of new platforms such as Mobile Phones, Computers and Tablets. Its main objective was to make every person, be it rural or urban, woman or man, educated or uneducated, whoever is deprived or left out of financial benefits, a part of this process. All the three schemes under Trinity together have reinvented the financial services and promoted digital financial inclusion with transparency by minimizing all the leakages and glitches in between, right from receiving all the benefits from the government to their bank accounts. More comprehensively, it aims to provide every individual, especially those in neglected or remote areas, with convenient access to essential financial services. These include fundamental offerings like savings accounts, insurance, credit facilities and payment mechanisms, all accessible through digital technologies. These transformative approach leverages modern tools such as mobile phones, Internet banking portals, Automated Teller Machines (ATMs) and sophisticated digital payment applications to seamlessly integrate individuals into the formal banking system. India, a nation with a vast and diverse population, has historically grappled with the challenge of bringing a significant portion of its citizens into the formal financial fold. Prior to major governmental interventions, a substantial number of individuals lacked bank accounts or access to structured financial services. To address this monumental challenge, the Government of India launched several ambitious initiatives. Prominent among these was the Pradhan Mantri Jan Dhan Yojana, a flagship scheme that successfully enabled millions to open zero-balance bank accounts, thereby establishing a foundational layer of financial access.

This initiative, combined with the widespread adoption of Aadhaar, a unique 12-digit biometric identification system and the ubiquitous presence of mobile phones, collectively formed what is known as the JAM Trinity. Thus, PMJDY plays a crucial role in integrating economically weaker section into the formal financial system by providing banking, insurance, pension and credit facility through a single account.

2. LITERATURE REVIEW

Shettar, R. M. (2016) highlights the contribution of public sector bank, regional rural banks and private sector banks in financial inclusion under PMJDY scheme. which shows that the performance of public sector bank is more than the regional rural bank and private sector banks. Samant, P., et al. (2017) analyse that the technology can work as a catalyst in fostering inclusion What serval Remote reasons face issues of poor connectivity Digital literacy resistance in technology adoption. Goel, A. (2020) shows a positive impact of JAM Trinity on lack of education or trust on government a pain point implementation. Sushil, V. (2020) the existence of middle men frauds and political controversies have not helped the improvement of the implementation of the scheme. Goyal, P., et al. (2021) demonstrate a different methodology to build a financial inclusion index and evaluate the overall performance of financial inclusion in India. Fularia, K., Mishra, S. (2022) coined the need of awareness programs, financial improvement and targeted social schemes for rural areas in a district. Ozili, Peterson. K. (2024) studied three major factors to improve financial inclusion among people as cultural factors with religious beliefs, alternative financial system with protection and accountability mechanisms with technology. Govindan, P. (2024) explain the need of mobile phones especially for those who are connected to banks and wants to take the advantages of mobile banking services. This study finds that mobile banking is a revolutionary innovation that enhance services delivery in the banking industry. Divi, S. R., et al. (2024) explore the ethical and regulatory dimension of usage of AI in digital transaction and development of regulatory mechanism for AI in digital financial inclusion. India's revolution in Fintech and digital payment space is crucial for the colossal growth of the country. The leadership position of India in G20 forum ensures healthy growth of digital finance in country. Poornima, V. (2025) identify government initiatives launched between 2015 to 2025 and evaluate the performance of these schemes in terms of reach, efficiency, outcomes and effectiveness of financial inclusion efforts beyond 2025, this helped to bridge the gap between financial inclusion and previously excluded

population but challenges such as dormant accounts, limited financial literacy, digital divide and last-mile delivery hurdles persist.

3. OBJECTIVES OF THE STUDY

This paper is an approach to know how JAM Trinity has connected the vulnerable, poor, illiterate and neglected sections of the society through Digital Financial Inclusion. The aim of this research paper is to provide a comprehensive analysis of the expansion of JAM Trinity from the date of launch till now, spanning 10 years. The broad objectives of the paper are:

- To understand the JAM framework and its impact on adoption of Digital Financial Services.
- To highlight the expansion of digital financial inclusion through JAM Trinity.
- To analyse the performance of Jan-Dhan, Aadhaar and Mobile collectively.

4. RESEARCH METHODOLOGY

This study is based on a descriptive and conceptual research design. The present paper is primarily based on secondary data and policy analysis. The information and data for the research have been collected from government publications, published articles, journals, newspapers, reports and official websites of Pradhan Mantri Jan Dhan Yojana (PMJDY), Unique Identification Authority of India (UIDAI), Telecom Regulatory Authority of India (TRAI), RBI and World Bank Report (2021).

4. THREE PILLARS OF JAM TRINITY UNDER DIGITAL FINANCIAL INCLUSION

Jan Dhan (Pradhan Mantri Jan-Dhan Yojana - PMJDY): First Pillar was launched in 2014 with the goal of providing every individual in India with access to banking services - like bank accounts, remittance, credit, insurance and pension. As on 31/12/2025 PMJDY official a total of 57.33 crore Jan-Dan account has been opened under PMJDY with a deposit balance of Rs. 281918.33 crore. The average deposit balance is approx. Rs. 4917.47 per PMJDY account and RuPay debit card issued to beneficiaries around 39.59 crore. The Pradhan Mantri Jan Dhan Yojana (PMJDY) provides access to a Basic Savings Bank Deposit Account (BSBDA) that can be opened with zero minimum balance requirement.

These accounts offer essential banking services aimed at promoting financial inclusion. Account holders are provided with a free RuPay debit card, which enables ATM withdrawals, point-of-sale transactions and digital payments. Similar to regular savings accounts, PMJDY accounts earn interest on deposited funds, as per prevailing bank rates. An important credit facility under PMJDY is the overdraft facility, which allows eligible account holders to avail up to ₹10,000. This facility is extended to accounts that are satisfactorily operated for at least six months, subject to bank norms. PMJDY also offers insurance benefits to enhance financial security. Account holders who opened their accounts on or after 28th August 2018 are covered under an accidental insurance scheme of ₹2, 00,000. In addition, a life insurance cover of ₹30,000 is available for initial accounts opened under specified conditions. Along with that Pradhan Mantri Jeevan Jyoti Bima Yojana, Pradhan Mantri Suraksha Bima Yojana, Atal Pension Yojana, MUDRA loan schemes and other financial schemes are also available through the Jan-Dhan account.

Aadhaar: Second pillar was formed on 28th January 2009 by UIDAI (Unique Identification Authority of India) through which first Aadhaar issued in September 2010. This is world's largest biometric 12 Digit identification system to all resident of India based on biometric and demographic data. with the help of this system government can ensure that benefits reach the intended beneficiaries. Aadhaar has streamlined the process of Direct Benefit Transfer (DBT) by providing a unique identification number to every resident. According to UIDAI 134.25 crore Aadhaar number has been assigned till 30th Nov 2025. Aadhaar card provides a biometric-based identity that includes fingerprints, iris scans and a photograph. It is a highly accurate and reliable system for identity verification and is also available in digital forms such as e-Aadhaar and m-Aadhaar, which support paperless governance. Aadhaar has lifetime validity, although biometric details can be updated when required. Government has taken the initiative of Aadhaar seeding by linking Aadhaar with bank accounts, mobile numbers, PAN and various welfare schemes. Aadhaar-linked bank accounts ensure the direct transfer of government subsidies to beneficiaries, known as the Direct Benefit Transfer (DBT) system. through this system, LPG subsidies, MGNREGA wages, PM-KISAN benefits, scholarships and pensions are directly provided to beneficiaries, reducing leakages and fraud. Aadhaar-based authentication facilitates easy e-KYC and speeds up service delivery in banking, telecom and financial institutions, thereby reducing administrative and transaction costs by eliminating manual verification.

Mobile: Third pillar of JAM Trinity is mobile phone which is regulated by Government of India TRAI (Telecom Regulatory Authority of India) Act, 1997. Mobile phones are the delivery bridge that connects people to digital financial services even in remote areas. It is a powerful tool of JAM Trinity that enables people to access banking services, government benefits, payments, and communication possible anytime, anywhere. Mobile phone is the demand side tool that turns bank accounts and Aadhaar into real, usable access to financial services this empowering people to receive, save, spend and grow their money securely. According to TRAI the number of mobile users, including both wireless and wireline subscribers, reached 122.89 crore on 30th September 2025. Mobile phones have now become a universal communication device. Due to their high penetration and portability, mobile phones enjoy widespread ownership across both rural and urban India, making them the most accessible digital tool. Through internet connectivity, smartphones provide affordable access to mobile internet and through Aadhaar seeding, mobile numbers are linked with Aadhaar and bank accounts, creating a unique digital identity layer that supports both smartphones and feature phones through services such as e-KYC, UPI, USSD, IVR and SMS. Mobile phones function like a “bank in the palm of the hand” enabling access to digital financial services anytime and anywhere. Digital payments through mobile phones reduce transaction costs for both users and service providers, while SMS alerts and real-time confirmations improve transparency, build trust and reduce corruption. Mobile phones also facilitate emergency cash transfers, disaster relief payments and access to health and other essential services.

5. IMPACT OF JAM TRINITY ON ADOPTION OF DIGITAL FINANCIAL SERVICES

- **Expansion of Formal Banking Base:** - The JAM Trinity has fundamentally altered the structure and reach of the formal banking system by embedding digital financial services into the everyday economic lives of individuals who were previously outside the institutional financial framework. Its contribution to the expansion of the formal banking base lies not merely in increasing the number of accounts, but in transforming financial identity, accessibility, usage and continuity within the banking ecosystem.
- **Platform for Digital Financial Behaviour:** - The launch of the Pradhan Mantri Jan Dhan Yojana (PMJDY) served as a cornerstone for fostering financial discipline and banking literacy across the population. The introduction of supplementary services including ATMs, RuPay debit cards and Direct Benefit Transfer (DBT) - effectively bridged the gap between traditional banking and the

modern user. Furthermore, the advent of SMS notifications and Unified Payments Interface (UPI) services established a seamless digital infrastructure. Collectively, these advancements have catalyzed a shift toward digital financial behavior, empowering citizens to embrace a more transparent and technology driven economy.

- **Simplification of Customer Verification Through Aadhaar:** - The Aadhaar - Enabled Payment System (AEPS) has significantly streamlined the end-to-end process of identity verification and authentication. By leveraging the unique biometric data of individuals, the system has effectively mitigated fraud and eliminated identity duplication. This has bolstered transparency in the disbursement of essential services, including government subsidies, Direct Benefit Transfer (DBT), pensions, Kisan Credit, and medical assistance. Consequently, the government can now ensure that vital resources reach the intended beneficiaries with higher precision and accountability.
- **Mobile Technology as a Catalyst for Digital Banking:** - The integration of mobile technology through Financial Inclusion initiatives specifically the linking of mobile numbers to bank accounts has established an expansive telecommunications network that serves as the backbone of digitalization. By embracing this vision, developers have engineered a robust technological ecosystem where banking services, fund transfers, credit facilities and insurance are accessible with a single click.
- **Improved Account Activity and Usage Intensity:** - The JAM (Jan Dhan-Aadhaar-Mobile) Trinity not only facilitated the opening of accounts on a massive scale but also drove continuous efforts to reactivate dormant accounts. Key initiatives such as Aadhaar seeding and mobile number integration played a pivotal role. Furthermore, the impact of demonetization, alongside the implementation of Direct Benefit Transfer (DBT) schemes for LPG subsidies and social security pensions (such as those for widows), incentivized banking activity, leading to a significant rise in active account holders.
- **Promotion of Digital Transactions Through Direct Benefit Transfer (DBT):** - The government transformed the delivery of welfare facilities to citizens through Direct Benefit Transfer (DBT), replacing the slow paper-based system with a fast and efficient digital mechanism. Digital DBT significantly reduced leakages by eliminating fake beneficiaries and intermediaries who earlier diverted a portion of the funds. This reform led to better targeting, timely payments, enhanced transparency and greater digital financial inclusion. It also contributed to women's empowerment

and proved crucial for effective crisis management during the COVID-19 pandemic.

- Growth of Participation in Digital Payment System Through UPI: - Unified Payments Interface (UPI) has emerged as a key driver of inclusive digital finance in India by offering a simple, fast and affordable mode of payment to people across income groups. It allows individuals, small vendors and rural users to participate in the formal financial system using only a mobile phone and bank account. In 2024-25, UPI recorded over 180 billion transactions with a total value exceeding ₹260 lakh crore, highlighting its widespread adoption

6. DATA ANALYSIS AND INTERPRETATION

Performance of JAM Trinity is analysed by taking various factors of respective pillars. Factor includes: No. of Jan-Dan account opened from 2015 to 2025 under PMJDY and the percentage growth of accounts opened, No. of Aadhar card issued from 2010 to 2025 with percentage growth and No. of Mobile phone subscribers from 2015 to 2025 along with percentage growth.

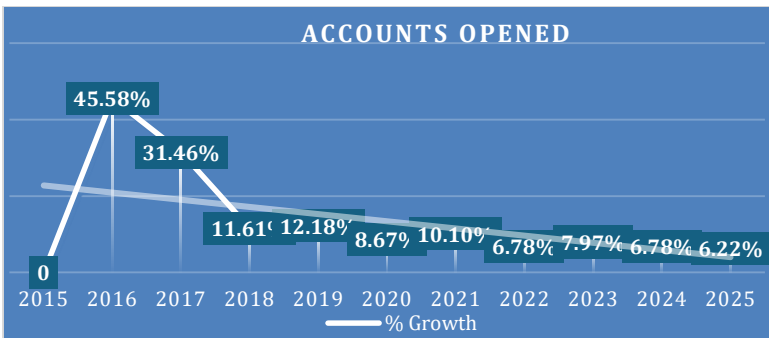


Figure 1: Number of Jan-Dhan Accounts Opened
Sources: www.pmjdy.gov.in

The PMJDY account opening trend indicates an initial phase of rapid expansion followed by gradual consolidation. The exceptionally high growth rate in 2016 by 45.58% reflects the combined impact of the scheme’s early rollout and demonetisation. Although the total number of accounts continued to increase after 2017, the declining growth rate suggests saturation of newly bankable households. Moderate growth during 2018-19 indicates institutionalisation of PMJDY through DBT-linked welfare schemes. The temporary rise in 2020-21 can be attributed to COVID-19 relief transfers routed through Jan Dhan accounts. From

2022 onwards, steady account numbers with low growth highlight a policy shift from account expansion to enhanced usage and digital financial deepening.

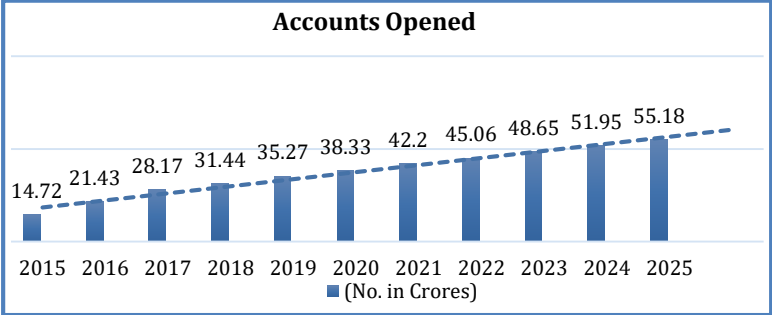


Figure 2: % Growth of Jan-Dhan Accounts Opened
Sources: www.pmjdy.gov.in

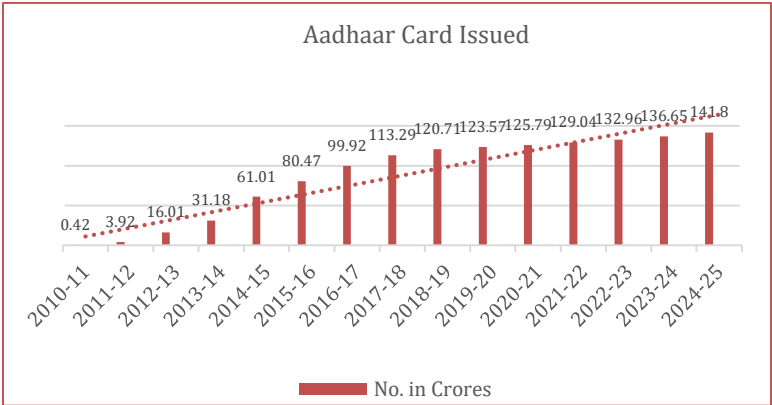


Figure 3: Number of Aadhaar Card Issued
Sources: www.uidai.gov.in

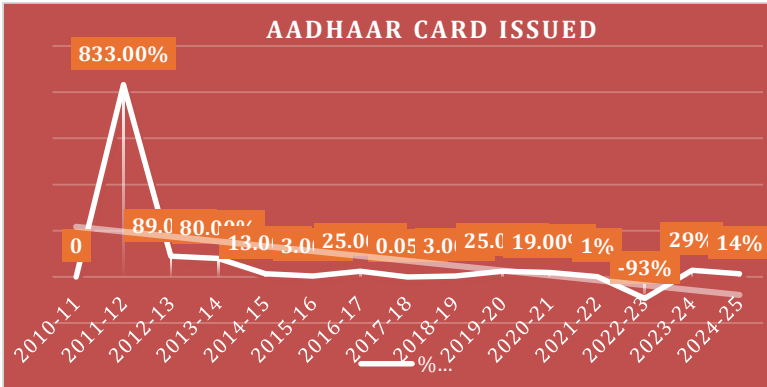


Figure 4: % Growth of Aadhaar Card Issued
Sources: www.traai.gov.in

The data shows a rapid expansion of Aadhaar issuance during the initial years, with an exceptionally high growth of about 833% in 2011-12, reflecting the transition from pilot to national rollout. Aadhaar numbers increased steadily from 0.42 crore in 2010-11 to over 113 crores by 2017-18, driven by policy mandates and welfare linkages. After 2018-19, growth rates declined to single digits (around 3-5%), indicating near saturation of the eligible population. In recent years, issuance growth revived marginally (14-29% during 2023-25), largely due to enrolment of newborns and residual populations. This phase reflects a mature Aadhaar ecosystem where emphasis has shifted from new issuance to updation, authentication and demographic corrections.

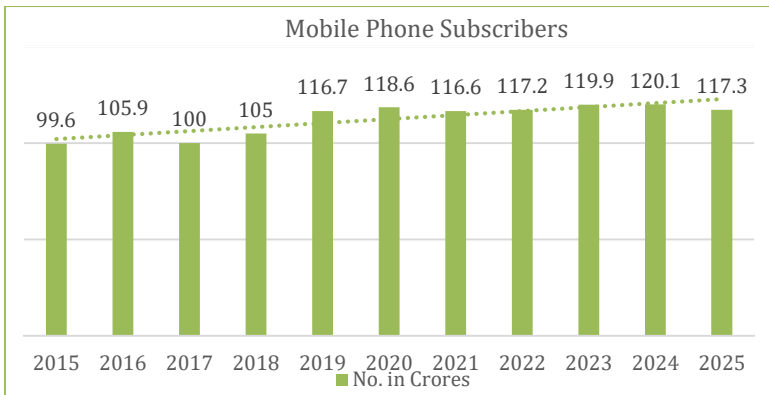


Figure 5: Number of Mobile Phone Subscriber
Sources: www.traai.gov.in



Figure 6: % Growth of Mobile Phone Subscribers
Sources: www.trai.gov.in

The number of mobile phone subscribers in India increased from 99.6 crore in 2015 to 120.1 crore in 2024, indicating a steady expansion of digital connectivity. After a decline of about 5.6% in 2017, mainly due to SIM rationalisation and telecom consolidation, subscriptions rebounded strongly with an 11.1% growth in 2019, supported by low-cost data and smartphone penetration. During the COVID-19 period (2020-21), growth slowed (around 1.6% in 2020 and -1.7% in 2021), reflecting market saturation, though mobile usage intensified for UPI payments, Aadhaar-linked DBT and digital services. Post-pandemic, modest growth (around 2.3% in 2023) highlights the role of mobiles as a critical infrastructure for Aadhaar authentication, UPI-based transactions, and financial inclusion, even as subscriber numbers approach saturation.

7. CONCLUSION

This study confirms that the JAM Trinity - Jan Dhan, Aadhaar and Mobile has fundamentally reshaped India’s approach to digital financial inclusion by combining universal banking access, biometric identity and mobile-based delivery systems. The PMJDY programme witnessed exceptionally rapid expansion in its early years, with account growth peaking at about 45.6% in 2016, driven by large scale enrolment and the impact of demonetisation. Although growth rates moderated after 2017 as coverage widened, the temporary acceleration during 2020-21 highlights the role of Jan Dhan accounts in channelling COVID-19 relief payments. In recent years, low single-digit growth reflects a transition from expanding account numbers to strengthening usage and digital engagement. Aadhaar enrolment followed a similar trajectory, surging

by more than 800% in 2011-12 during the national rollout phase and rising steadily to over 113 crores by 2017-18. Subsequent growth slowed to around 3-5%, indicating near-universal coverage, before modest revival in 2023-25 due mainly to new births and residual enrolments. Mobile subscriptions also expanded steadily from about 100 crores in 2015 to over 120 crores by 2024, despite a brief contraction in 2017 caused by SIM rationalisation and slower growth during the pandemic years. Post-COVID, modest increases underline the role of mobiles as essential infrastructure rather than a rapidly expanding market.

Alongside these coverage indicators, the payment layer has deepened dramatically. UPI's rise to over 180 billion transactions worth more than ₹260 lakh crores in 2024-25 illustrates how the JAM ecosystem has matured from access creation to intensive usage. Together, these growth patterns demonstrate a clear policy evolution—from rapid inclusion in the initial phase to consolidation and behavioural transformation in the later years. While JAM has succeeded in bringing most citizens into the formal financial system, the next challenge lies in enhancing digital literacy, cybersecurity resilience and service quality so that widespread access translates into lasting financial empowerment for all sections of society.

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