



International Journal of Financial Management and Economics

P-ISSN: 2617-9210
E-ISSN: 2617-9229
Impact Factor (RJIF): 5.97
IJFME 2025; 8(2): 1056-1062
www.theeconomicsjournal.com
Received: 24-08-2025
Accepted: 26-09-2025

Dr. Puspa Rani
Assistant Professor,
Department of Social Sciences
(Economics), Baba Mastnath
University, Asthal Bohar,
Rohtak, Haryana, India

Neha Verma
Research Scholar, Department
of Social Sciences (Economics),
Baba Mastnath University,
Asthal Bohar, Rohtak,
Haryana, India

Economic empowerment through technology: Understanding women's digital banking behavior

Puspa Rani and Neha Verma

DOI: <https://doi.org/10.33545/26179210.2025.v8.i2.643>

Abstract

Rising financial participation of Indian women reflects a decade of rapid account ownership growth, with initiatives like Pradhan Mantri Jan Dhan Yojana bringing nearly 300 million into the formal banking system. Despite holding 39% of accounts and deposits, women remain less active in digital payments, credit and savings, revealing a persistent digital gender gap. Limited smartphone ownership, weaker internet access, low financial literacy and socio-cultural restrictions especially disadvantage rural women, where fewer than one in three use the internet. Yet targeted programs, simplified fintech design and women-led digital literacy initiatives have shown significant potential. Closing these divides in digital banking is crucial for advancing gender equality, strengthening inclusive growth and unlocking women's economic empowerment in India.

Keywords: Digital gender gap, women's financial inclusion, UPI, rural-urban divide, inclusive growth, financial empowerment

Introduction

India's banking sector has rapidly digitized over the past decade, changing access to financial services. Digital platforms-such as internet banking, mobile apps, wallets and UPI-have broadened outreach beyond traditional branches (Mishkin, 2019) ^[21]. By 2023, the country stood among the leaders in digital adoption, with UPI handling nearly 80% of non-cash retail payments (Financial Express, 2025) ^[5]. Women's financial participation has expanded through targeted policies like Pradhan Mantri Jan Dhan Yojana (PMJDY), which increased account ownership from 53% in 2016 to 78.6% in 2021 (Kumar, 2022; IIPS, 2021) ^[16, 11]. Such progress underscores the link between financial access, poverty reduction and gender equality (GPFI, 2020; OECD, 2018) ^[6, 25]. Yet challenges remain. Access often does not translate into active digital use. Barriers include limited digital literacy, restrictive norms, safety concerns and products not designed for women (Klapper & Arora, 2022) ^[15]. While basic account ownership has nearly reached parity (World Bank, 2022) ^[33], gaps persist in transaction frequency, credit access and financial technology use (Klapper & Arora, 2022; EY & CII, 2023) ^[15, 4]. Addressing these divides offers significant opportunities for inclusive growth.

Women's Financial Inclusion in India: Progress in Account Ownership

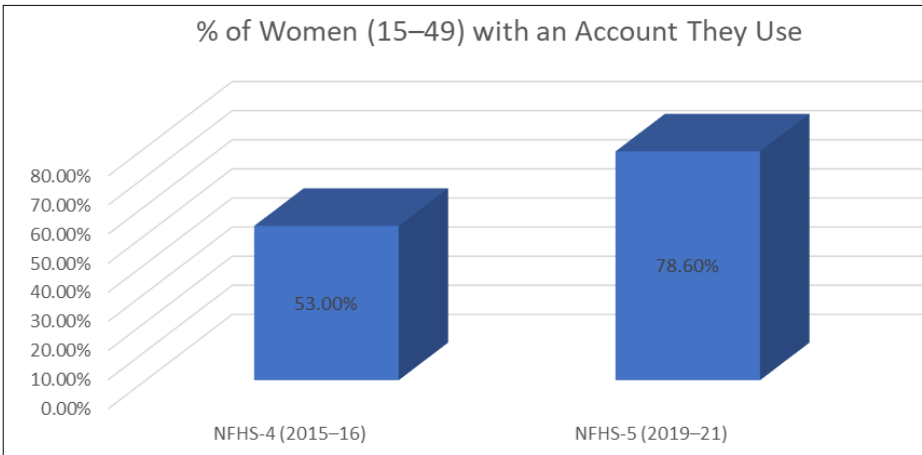
Financial inclusion in India has advanced rapidly, especially for women. The Pradhan Mantri Jan Dhan Yojana (PMJDY), launched in 2014, enabled millions of women to enter the formal banking network (Ministry of Finance, 2024) ^[18]. By 2023, women achieved their highest level of account access. National Family Health Survey (NFHS) data show that the share of women aged 15-49 with a bank or savings account they personally operate rose from 53% in 2015-16 to 78.6% in 2019-21 (IIPS, 2021) ^[11]. This 25.6-point rise within five years marks a historic improvement in women's financial inclusion.

By 2021, nearly four in five adult women in India had a bank account, up from just over half in 2016. The financial inclusion drive sharply reduced the gender gap: according to the World Bank, 77.5% of women and 77.6% of men held accounts in 2021, compared with a difference of over 20 percentage points a decade earlier (World Bank, 2022; Kumar, 2022) ^[33, 16].

Corresponding Author:
Dr. Puspa Rani
Assistant Professor,
Department of Social Sciences
(Economics), Baba Mastnath
University, Asthal Bohar,
Rohtak, Haryana, India

The gap in account ownership fell from 22 points in 2011 to negligible levels by 2021 (Klapper & Arora, 2022) ^[15], with programs such as PMJDY playing a central role. In 2023, women accounted for 39.2% of all bank accounts in India, compared with 35.2% in 2022 (MoSPI, 2025; MoSPI, 2023)

^[20, 19]. In rural areas, they made up 42.2% of account holders, with about 79.4 crore deposit accounts in their name. Women also contributed 39.7% of total deposits in 2024, a rise from about 20% only a few years earlier (MoSPI, 2025; MoSPI, 2023) ^[20, 19].



Source: Compiled from National Family Health Survey reports (IIPS, 2017; IIPS, 2021) ^[10, 11].

Fig 1: Women with Bank Accounts in India

Table 1: Gender-wise Share of Bank Accounts and Deposits in India

Indicator (All Banks)	Women’s Share (%)	Men’s Share (%)
% of total bank accounts	39.2% (female)	60.8% (male)
% of total bank deposits amount	39.7% (female)	60.3% (male)

Source: MoSPI Women and Men in India 2024 report (MoSPI, 2025) ^[20]. Data indicate female share in number of accounts and in deposit volume.

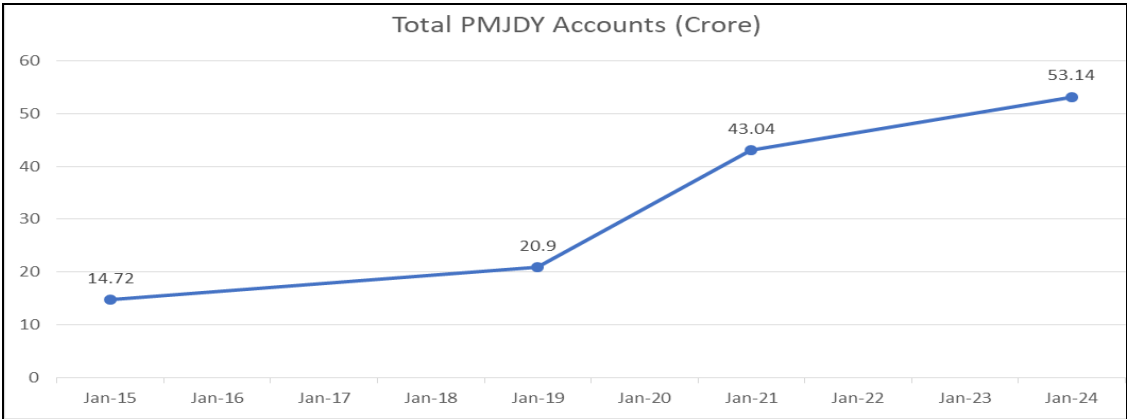
In 2023, women’s share of deposits was reported at 39.7%, compared with about 20% in 2022 (MoSPI, 2025; MoSPI, 2023) ^[20, 19]. The earlier figure likely reflected all scheduled bank deposits, including corporate accounts, while the

higher share relates more directly to personal accounts. This difference points to women holding a larger proportion of retail savings than before, marking a stronger role in the financial system. Women now own a notable share of bank accounts and contribute significantly to deposits, reflecting both policy support and growing financial capacity. The Pradhan Mantri Jan Dhan Yojana (PMJDY) was central to this progress. It prioritized zero-balance accounts for previously unbanked groups, with many accounts opened in women’s names in rural and low-income households. By August 2024, women held over 55.6% of all Jan Dhan accounts (Ministry of Finance, 2024) ^[18]. This demonstrates the scale of inclusion achieved under the scheme.

Table 2: Growth of Jan Dhan Yojana (PMJDY) Accounts and Female Ownership

Date	Total PMJDY Accounts (Crore)	Female Account Holders (%)	Female Accounts (Crore)
March 2015	14.72 crore	51.0%	7.5 crore
March 2019	20.90 crore	68.7%	14.37 crore
August 2021	43.04 crore	55.5%	23.87 crore
August 2024	53.14 crore	55.6%	29.56 crore

Source: Compiled from Ministry of Finance/PIB press releases and news reports (Times of India, 2021; Ministry of Finance, 2024) ^[18].



Source: Compiled from Ministry of Finance/PIB press releases and news reports (Times of India, 2021; Ministry of Finance, 2024) ^[18].

Fig 2: Total PMJDY Accounts (Crore)

The number of PMJDY accounts grew from about 17 crore in 2015 to over 43 crore in 2021 and more than 53 crore in 2024, with women holding the majority throughout. In the early years nearly 69% of accounts were in women’s names and although this later balanced to around 55–56% from 2021 onward as male participation increased, women remain the main beneficiaries. By August 2024, they owned 29.56 crore of the 53.14 crore accounts, meaning nearly 300 million women were brought into the formal banking system, while deposits in these accounts rose to ₹2.31 lakh crore (Ministry of Finance, 2024) ^[18]. India has effectively achieved near-universal banking access for adult women, with overall account ownership at 80–89% of adults by 2021–22 (World Bank, 2022; Financial Express, 2025) ^[33, 5]. The Global Findex 2021 recorded a gender gap of almost 0%, compared with more than 20 percentage points in 2014 (Demircuc-Kunt *et al.*, 2018; Klapper & Arora, 2022) ^[3, 15] and by 2022–23, 89.2% of women had a financial account, virtually the same as men (Financial Express, 2025) ^[5]. Gains are evident across states, with Bihar rising from about 26% female account ownership in 2016 to 76% in 2021 (Singh, 2025) ^[28], Puducherry surpassing 90% and even the lowest state, Nagaland, reaching 64% (Kumar, 2022) ^[16]. These outcomes highlight the scale of financial inclusion achieved through programs like PMJDY, supported by India’s digital public infrastructure including Aadhaar and mobile connectivity (Nanavaty & Goodwin-Groen, 2022) ^[22].

The Digital Banking Revolution in India and Its Impact on Women

India’s banking system is undergoing rapid digital transformation, with online platforms, mobile apps and payment systems reshaping service delivery (EY & CII, 2023) ^[4]. This shift opens new opportunities for women but also raises concerns about equal participation. The most powerful marker of this change is the Unified Payments Interface (UPI), launched in 2016, which simplified peer-to-peer and merchant transactions through mobile phones. Its adoption has been extraordinary: in FY 2017–18 the value of UPI transactions was about ₹1 lakh crore, rising to nearly ₹139 lakh crore by FY 2022–23, reflecting a 168% compound annual growth rate.

Table 3: UPI Transactions Growth in India

Year	Total Annual UPI Transaction Value	Total Annual UPI Transaction Volume
FY 2017–2018	₹1 lakh crore	92 million
FY 2022–2023	₹139 lakh crore	8,375 million

Source: NPCI data reported in RBI Payments Vision 2025 and Wikipedia (NPCI, 2023; Wikipedia, 2023). *UPI’s value grew at 168% CAGR over 5 years; volume grew at 147% CAGR.*

By 2023–24, UPI was handling about 12 billion transactions monthly and nearly 80% of all retail digital payments in India (Shaktikanta Das, cited in Financial Express, 2025) ^[5]. Other services such as mobile banking apps, wallets like Paytm, Google Pay, PhonePe and internet banking portals have also expanded rapidly. Digital platforms are especially significant for women as they reduce barriers linked to branch visits and allow private, convenient access (Nanavaty & Goodwin-Groen, 2022) ^[22]. SEWA trained 400,000 rural women to use digital apps during COVID-19, enabling them to keep small businesses running (Nanavaty

& Goodwin-Groen, 2022) ^[22]. Government programs have reinforced this shift through direct benefit transfers into women’s Jan Dhan accounts, UPI 123PAY for feature phones (NPCI, 2022) and the “UPI for Her” initiative in 2023–24 (Women’s World Banking & NPCI, 2024) ^[32]. Yet women’s participation remains limited: only about 25% of active UPI users are female, meaning three out of four users are men, with even lower engagement in semi-urban and rural areas (Bansal, 2023, cited in WWB, 2024; NPCI, 2023).

Table 4: Women’s Share of UPI Digital Payment Users in India

Year	Women as % of UPI Users	Men as % of UPI Users
2022	30% (female users)	70% (male users)
2023	37% (female users)	63% (male users)

Source: NPCI data highlighted in “UPI for Her” research (Women’s World Banking & NPCI, 2024) ^[32].

Women’s share among digital payment users rose from about 30% in 2022 to 37% by mid-2023, yet they remain a minority. This imbalance reflects gaps in digital access, literacy and social norms shaping women’s use of financial technology. The banking digital shift is not inherently inclusive and may widen inequalities without targeted support (GPFI, 2020) ^[6]. Men tend to adopt fintech services more quickly, while women often face barriers of limited digital confidence and familiarity (EY & CII, 2023) ^[4].

Gender Gaps in Digital Access and Literacy

Indian women have reached near parity in bank account ownership but a wide digital divide remains in access to technology and skills. This “digital gender gap” limits women’s ability to use mobile-based and online financial services (UNDP, 2023) ^[31]. Despite over 750 million internet users nationally, women are disproportionately excluded or minimally connected. Mobile access is a core barrier: in 2022, 14% of women lacked a phone while male ownership was nearly universal and women were 18% less likely than men to own smartphones in low- and middle-income countries, with India showing one of the largest gaps (GSMA, 2023; IMF, 2022) ^[8, 12]. Many women must borrow phones from male relatives, reducing privacy and independence (Kumar, 2022) ^[16]. Connectivity gaps further deepen inequality: in 2022 about 57% of Indian men but only 34% of women used the internet, a 23-point gap that has even widened (ICRIER, 2023) ^[9]. Rural women are especially disadvantaged, with fewer than one-third online compared with nearly two-thirds of urban women (Mishra *et al.*, 2023) ^[9].

Table 5: Internet use among Women in India by Location (2022)

Category	Women Using Internet (%)	Men Using Internet (%) (est.)
Urban Women	63% (use internet)	73% (use internet)
Rural Women	29% (use internet)	49% (use internet)
All-India	34–37% (female)	50% (male)

Source: Compiled from ICRIER SIDE Report 2023 (Mishra *et al.*, 2023) ^[9] and ITU estimates.

Rural women remain the least connected group, with only about one in three using the internet, compared with roughly half of rural men and about two-thirds of urban men and women. Since most digital banking platforms depend on smartphones and internet access, a majority of rural women

lack the minimum connectivity to use them. Uneven network coverage and low smartphone penetration particularly disadvantage women in remote areas (UNDP, 2023) ^[31]. Although public Wi-Fi and affordable devices offer some support, many still rely on basic phones; the RBI estimated that 42% of Indian adults did not own a smartphone in 2022, a share disproportionately female (Financial Express, 2025) ^[1, 5]. Access alone is not enough—digital literacy is also limited. PLFS data show only 27.5% of adult women reported being able to use a computer or conduct online financial transactions, compared with 47% of men (Chandrasekhar, 2024; MoSPI, 2023) ^[1, 19]. Among youth, 51% of men aged 15–29 could perform online banking versus just 29% of women (Chandrasekhar, 2024).

Table 6: Ability to Perform Online Banking Transactions (Age 15–29)

Gender (15–29 age)	% Who Can Perform Online Banking (2022)
Male Youth	51%
Female Youth	29%

Source: Compiled from PLFS unit data reported by S. Chandrasekhar (2024), *New Indian Express*.

Education strongly influences digital literacy, with less-schooled women less likely to be digitally capable (UNDP, 2023) ^[31]. Socio-cultural restrictions also play a role, as families may limit girls' phone use, reducing exposure (Kumar, 2022) ^[16]. An ORF study in 2022 highlighted how norms, low education and language barriers—since most apps were initially in English—constrain women's digital financial literacy. Even when women access mobile internet, their use

is often limited to social media or messaging, while awareness of banking apps remains low. Confidence is another barrier: OECD surveys show women score lower in digital skills (OECD, 2018) ^[25] and Women's World Banking reported unbanked women were 25% less likely than men to feel they could manage a mobile financial account independently (Kelly, 2022; WWB, 2022). Concerns about fraud and privacy further deter adoption, despite data showing women are 50% less prone to fraud than men (EY & CII, 2023; WWB & NPCI, 2024; Kumar, 2022) ^[4, 16]. To address these barriers, initiatives include UPI 123PAY for basic phones (Financial Express, 2025) ^[1, 5], local-language app interfaces and community-based training. Programs like Google's *Internet Saathi* and the NPCI–WWB pilot, where 90% of initially hesitant women gained confidence after guided training, illustrate how tailored interventions and female-led outreach can significantly strengthen women's independent use of digital finance (WWB & NPCI, 2024).

Women's Usage of Digital Banking Services: The Gender Usage Gap

Despite near-parity in account ownership, Indian women remain less active in using digital financial services. Studies consistently show that women conduct fewer transactions, keep more accounts inactive and use products like loans or credit cards less often than men (Klapper & Arora, 2022; MoSPI, 2023) ^[19, 15]. Digital payments highlight this gap: in 2021, women were 13 percentage points less likely than men to have made or received a digital payment, with usage reported at 48% for men and 35% for women (World Bank, 2022; Kumar, 2022) ^[33, 16].

Table 7: Adults Making Digital Transactions by Gender in India

Year	% of Men (15+ age) who made a digital payment	% of Women (15+ age) who made a digital payment	Gender Gap (Men – Women)
2017	24% (men)	14% (women)	10 ppt gap
2021	47.8% (men)	29.8% (women)	18 ppt gap
2024	52% (men)	45% (women)	7 ppt gap

Source: Compiled from World Bank Global Findex 2017 & 2021 (World Bank, 2022; Sunaina Kumar, 2022) ^[33] and Global Findex 2025 preliminary data (Financial Express, 2025) ^[1, 5].

In 2017, only 14% of women had made a digital transaction compared with 24% of men. Usage rose for both genders by 2021, partly due to COVID-19, yet the gender gap widened to 18 percentage points. By 2024 it narrowed to about 7 points, though nearly half of women still did not use digital payments (Financial Express, 2025) ^[1, 5]. Government transfers during the pandemic were a main driver of women's first-time use, as benefits were deposited directly into women's accounts; men and women were equally likely to open an account or make an initial digital payment for

this purpose (Klapper & Arora, 2022; Women's World Banking, 2022) ^[15]. However, men adopted regular usage more readily. An Omidyar survey found that while 69% of women had tried digital banking, only 44% were regular monthly users, compared to higher male engagement (EY & CII, 2023) ^[4]. Account inactivity underscores this divide: in 2021, 42% of women's accounts were inactive against 30% for men, leaving women 12 points more likely to hold dormant accounts (Klapper & Arora, 2022; World Bank, 2022; Financial Express, 2025) ^[15, 33, 5].

Table 8: Account Inactivity Rates by Gender (India, 2021)

Gender	Share of Account Owners with Inactive Account (no txn in past year)
Male	30% inactive (of men with accounts)
Female	42% inactive (of women with accounts)
Gap	Women 12 percentage points more likely inactive

Source: Compiled from Global Findex 2021 (Klapper & Arora, 2022; Financial Express, 2025) ^[15, 5].

This means nearly half of women account holders remain inactive users, while most men use their accounts at least occasionally. Overall inactivity has declined in India, with the RBI reporting a fall from 35% in 2017 to 16% by 2023—

24 (Financial Express, 2025) ^[1, 5]. Yet gender differences continue: the World Bank's 2025 update shows the inactivity gap narrowed from 12 percentage points in 2021 to about 7 points in 2024, aided by women's greater use of

accounts for government transfers (Financial Express, 2025) ^[5]. Even so, millions of women are still passive participants in the financial system despite being formally included.

Why are women’s accounts more likely to be dormant or low-use? Several reasons emerge

Women’s accounts are more likely to remain dormant due to a mix of economic, social and structural factors. Lower incomes and labor force participation limit the volume of transactions; in 2023, female labor force participation was 25% compared with 76% for men (Mazumdar & Chaudhary, 2022) ^[17]. Many women’s accounts, especially Jan Dhan, see only occasional deposits such as subsidies, with little other activity. Confidence barriers also matter: studies show women often withdraw transfers in cash

immediately and avoid further use of the account (Kumar, 2022) ^[16]. Social norms sometimes leave men controlling accounts opened in women’s names, particularly for welfare payments (Khera *et al.*, 2020) ^[29]. Physical access constraints add to the problem, as limited ATMs or agents make transactions harder for rural women (Klapper & Arora, 2022) ^[15]. Gaps extend beyond payments: only 18% of women held a debit card in 2021 versus 25% of men (Kumar, 2022) ^[16] and formal borrowing was just 10% for women against 15% for men (Klapper & Arora, 2022) ^[15]. Credit allocation is also unequal, with women receiving only 27% of loans relative to deposits compared to 52% for men, showing both lower demand and possible approval bias (Klapper & Arora, 2022) ^[15].

Table 9: Formal Credit (Borrowing) Incidence by Gender (2021)

% of Men who borrowed from formal source	% of Women who borrowed from formal source	Gender Gap
15% (male adults)	10% (female adults)	5 ppt gap

Source: Compiled from Global Findex 2021 (Klapper & Arora, 2022) ^[15]. *Formal borrowing includes bank, cooperative, microfinance, etc.*

Women remain less likely than men to access formal loans, with borrowing reported at about 10% for women compared to 15% for men. The larger concern is that women borrow far less relative to their savings, reflecting barriers such as lack of collateral, thin credit histories from dormant accounts and lender bias (Klapper & Arora, 2022) ^[15]. Account activity also differs: an Omidyar survey found 64% of women digital payment users were regular users, versus 75% of men (YouGov, 2022). Women often use accounts mainly to receive money, especially government transfers, while men use them for a wider range of services including payments and purchases (Kumar, 2022) ^[16]. Studies show this is not due to disinterest-when onboarding is simplified, adoption rises sharply. In a WWB pilot, a prepaid UPI wallet led 63% of participating women shopkeepers to become active users and women were found to be more loyal and less prone to fraud than men (WWB & NPCI, 2024). Progress is visible: the share of women receiving transfers digitally increased from 13% in 2021 to 24% in 2024, the active usage gap narrowed from 12 to 7 points and women’s presence among UPI users rose from 30% to 37% (Financial Express, 2025; WWB & NPCI, 2024) ^[5]. These shifts suggest that with targeted support, the remaining divide can be closed.

Rural vs Urban Divide in Women’s Digital Banking Adoption

Significant disparities remain between rural and urban women in digital banking adoption. While account ownership is now near universal-81% of rural women and 83% of urban women reported operating accounts in 2019–21 (Singh, 2025) ^[28]-the real gap appears in digital usage. Urban women benefit from better smartphone access, internet connectivity and financial infrastructure, while rural women face patchy networks, fewer outlets and lower digital literacy. In 2023, 63% of urban women used the internet versus only 29% of rural women (Mishra *et al.*, 2023) ^[9] and mobile app usage exceeded 35% in metros but was under 15% in rural areas (KPMG, 2020). UPI adoption is similarly skewed, with most female users concentrated in urban centers; urban women were about twice as likely as rural women to make digital payments (Kumar, 2022) ^[16]. Structural issues like low phone ownership deepen the

divide-only 42% of rural women in Uttar Pradesh had a personal phone, compared to far higher rates in southern states (IIPS, 2021) ^[11]. Limited female banking correspondents (under 10% of BC agents in 2022) also constrain rural women’s access (UNDP, 2023) ^[31]. Still, targeted interventions have shown promise: rural women’s online banking awareness rose from 17% in 2020 to 30% in 2022–23 and active users doubled over the same period (Women Entrepreneur’s Review, 2023). State variations are stark-Puducherry’s rural women report inclusion above 96%, while Nagaland lags at 55% (Singh, 2025) ^[28]. Assisted models such as “DigiPay Sakhis” and India Post Payments Bank demonstrate effective pathways, with over half of IPPB’s accounts held by women (IPPB Report, 2021; RBI Innovation Hub, 2022). Despite persistent gaps, these examples show that with improved infrastructure, training and local female agents, rural women can engage with digital finance at scale.

Variations in Women’s Digital Banking

Women’s digital banking in India varies widely across states, shaped by literacy, socio-cultural norms and infrastructure. NFHS-5 (2019–21) shows most states with over 70% women account ownership, ranging from 92.6% in Puducherry to 64% in Nagaland (IIPS, 2021; Singh, 2025; MoSPI, 2025) ^[11, 28, 20]. Southern and western states like Kerala, Tamil Nadu and Maharashtra combine high literacy with strong banking networks, enabling women’s digital adoption, while Bihar and Uttar Pradesh, though historically low, saw major gains due to PMJDY-Bihar rose from 26% to 76% female ownership between NFHS-4 and 5 (Singh, 2025) ^[28]. Usage diverges more sharply: Tamil Nadu and Punjab show small gender internet gaps (<10%), while Rajasthan and U.P. exceed 25% (Mishra *et al.*, 2023) ^[9]. Urbanized states like Maharashtra and Delhi report high women’s digital engagement, while rural areas rely heavily on cash and male-operated accounts. State programs also matter-Rajasthan’s *Bhamashah Yojana* routed benefits through women’s accounts but often left men in control, while West Bengal’s *Lakshmir Bhandar* and Odisha’s *MAMATA* improved women’s direct use (MoSPI, 2023) ^[19]. In the northeast, Mizoram’s high literacy and mobile penetration foster adoption, contrasting Nagaland’s lag

(Singh, 2025) ^[28]. Assisted models like “DigiPay Sakhis” and India Post Payments Bank, where over half of accounts belong to women, show rural solutions (IPPB Report, 2021). Overall, states with literacy, infrastructure and supportive norms see stronger women’s digital finance uptake, while north-central states face larger divides, underscoring the need for localized strategies.

Barriers Facing Women in Adopting Digital Banking

Women in India face multiple barriers in adopting digital banking, despite expanded access. The first is limited technology access: smartphone ownership is still unequal, with only 25% of women owning smartphones in 2020 and gaps persisting into 2022 (GSMA, 2022; GSMA, 2023) ^[7, 8]. Without a device or data, advanced services like UPI apps remain inaccessible and cost or household resource control often restricts women’s ability to recharge or replace phones (Kumar, 2022) ^[16]. Digital literacy and confidence form the second barrier—only 29% of young women could perform online banking in 2022 versus 51% of young men (Chandrasekhar, 2024) and many fear errors or fraud (OECD, 2018) ^[25]. Cultural norms also limit women’s autonomy: accounts may be in their names but controlled by men, while fewer female staff (<10% of BCs, 23% of officers) reduces women’s comfort in seeking help (Klapper & Arora, 2022; GPFI, 2020) ^[15, 6]. Trust and security concerns are widespread, with women perceiving digital payments as risky, lacking awareness of grievance redressal (Microsave, 2019) and fearing transaction visibility (Kumar, 2022) ^[16]. Product design adds another obstacle: early apps were English-heavy, OTP-linked and complex, excluding low-literacy users, while missing female-centric features (WWB & NPCI, 2024). Institutional barriers like KYC documentation, lack of collateral and limited sex-disaggregated data further restrict women’s uptake (GPFI, 2020; MoSPI, 2023) ^[6, 19]. Finally, time poverty, language gaps and heavy workloads reduce opportunities for women to learn and practice digital banking (UNDP, 2023; SEWA Bharat, 2021) ^[31, 27].

Strategies to Enhance Women’s Digital Financial Inclusion

Closing the gender gap in digital banking requires coordinated action from government, financial institutions and communities. Access must come first: programs to subsidize or distribute smartphones to women, expand rural broadband under BharatNet and promote feature-phone options like UPI 123PAY can help (NPCI, 2022; GSMA, 2023) ^[8]. Affordable data plans and community digital kiosks can also provide interim solutions (UNDP, 2023) ^[31]. Digital literacy is equally crucial. Training camps in local languages, peer learning through self-help groups and mentoring by “Digital Sakhis” or female Bank Mitras have proven effective. For example, SHG-led BHIM UPI training in Odisha led thousands of women to transact digitally (NRLM, 2021), while the WWB–NPCI pilot showed 90% of hesitant women gained confidence with in-person onboarding (WWB & NPCI, 2024).

Services must be redesigned to suit women’s needs. Simplified interfaces, local language and voice options, group savings features and alternate credit scoring for small loans can encourage adoption (Klapper & Arora, 2022) ^[1, 15]. Increasing female banking staff and BCs—currently under 10%—is vital to create trust and comfort (GPFI, 2020) ^[6].

Trust-building is another pillar. Tailored fraud-awareness campaigns, responsive grievance redressal with local-language helplines and leveraging trusted institutions like India Post Payments Bank can strengthen confidence (IPPB Report, 2021; Microsave, 2019). At the policy level, regulators should mandate gender-disaggregated data, set explicit targets for reducing digital gaps and support fintech innovation with women-focused solutions (MoSPI, 2025) ^[20]. Collaborations with NGOs and SHG networks will deepen outreach. Ultimately, strengthening women’s economic empowerment—through jobs, education and financial autonomy—will naturally accelerate digital banking adoption.

Conclusion

India has achieved major progress in women’s financial inclusion. By 2021, women’s account ownership matched men’s at 77–80% (IIPS, 2021; Klapper & Arora, 2022) ^[11, 15] and women now hold nearly 40% of accounts and deposits (MoSPI, 2025) ^[20]. This success reflects Jan Dhan Yojana, UPI expansion and targeted transfers. However, usage remains unequal. Only 30% of women made digital payments in 2021 compared to 48% of men and 42% of women’s accounts were inactive versus 30% of men’s (World Bank, 2022; Klapper & Arora, 2022) ^[33, 15]. Barriers include lower smartphone access (GSMA, 2023) ^[8], weak digital literacy (Chandrasekhar, 2024), restrictive norms (Kumar, 2022) ^[16] and product designs unsuited to low-literacy users. Rural women are most disadvantaged, with only 29% using the internet compared to 63% of urban women (Mishra *et al.*, 2023) ^[9]. State differences show Kerala and Tamil Nadu leading, while U.P. and Rajasthan lag (Singh, 2025; ORF, 2022) ^[28, 24]. Evidence proves women adopt quickly with support: pilots showed 60% became active users after training (WWB & NPCI, 2024) and COVID-19 transfers drove equal adoption (Women’s World Banking, 2022). Closing gaps needs affordable devices, gender-focused training, more female agents and women-friendly products (EY & CII, 2023; GPFI, 2020) ^[7, 6]. True empowerment will come when women use digital finance not just for access but for savings, credit and security—unlocking gains for families and the economy.

References

1. Aparna S. Study of Access and Usage of Traditional and Digital Banking by Rural Women Workers. SSRN Electron J. 2022 Dec 28.
2. Chandrasekhar S. How good data sharpens India’s policy approach. New Indian Express [Internet]. 2024 Feb 19 [cited 2025 Oct 27]. <https://www.newindianexpress.com/opinions/2025/Feb/19/how-good-data-sharpens-indias-policy-approach>
3. Demircuc-Kunt A, Klapper L, Singer D, Ansar S, Hess J. The Global Findex Database 2017: Measuring Financial Inclusion and the Fintech Revolution. Washington, DC: World Bank; 2018. <https://documents1.worldbank.org/curated/en/09991031112823504/pdf/P166029-0e720f0c-06b6-4a51-b210-0b8c99d56f81.pdf>
4. EY, CII. Financial inclusion through technology and literacy in India: Strategies for sustainable growth. Ernst & Young and Confederation of Indian Industry Report [Internet]. 2023 [cited 2025 Oct 27]. https://www.ey.com/en_in/financial-services/financial-

- inclusion-through-technology-and-literacy-in-india
5. Financial Express. India hits 89% financial account ownership but inactivity remains a challenge, says World Bank report. Finan Express [Internet]. 2025 Jul 17 [cited 2025 Oct 27]. <https://www.financialexpress.com/business/banking-finance-india-hits-89-financial-account-ownership-but-inactivity-remains-a-challenge-says-world-bank-report-3917566/>
 6. GPFI. Advancing Women's Digital Financial Inclusion. G20 Global Partnership for Financial Inclusion, Policy Paper [Internet]. 2020 [cited 2025 Oct 27]. https://www.gpfi.org/sites/gpfi/files/sites/default/files/s-audig20_women.pdf?
 7. GSMA. The Mobile Gender Gap Report 2022 [Internet]. GSM Association; 2022 [cited 2025 Oct 27]. Available from: <https://www.gsma.com/solutions-and-impact/connectivity-for-good/mobile-for-development/wp-content/uploads/2022/06/GSMA-The-Mobile-Gender-Gap-Report-2022.pdf>
 8. GSMA. The Mobile Gender Gap Report 2023 [Internet]. GSM Association; 2023 [cited 2025 Oct 27]. <https://www.gsma.com/r/wp-content/uploads/2023/06/The-Mobile-Gender-Gap-Report-2023.pdf>
 9. Mishra D, Kedia M, Reddy A, *et al.* State of India's Digital Economy Report 2023. ICRIER-Prosus Centre for Internet and Digital Economy [Internet]. 2023 [cited 2025 Oct 27]. <https://icrier.org/>
 10. International Institute for Population Sciences (IIPS). National Family Health Survey-4 India Report (2015-16). Mumbai: IIPS; c2017. <https://dhsprogram.com/pubs/pdf/FR339/FR339.pdf>
 11. International Institute for Population Sciences (IIPS). National Family Health Survey-5 India Report (2019-21). Mumbai: IIPS; c2021.
 12. International Monetary Fund (IMF). The Digital Gender Gap. IMF [Internet]. 2022 Dec [cited 2025 Oct 27]. <https://www.imf.org/external/error.htm?URL=https://www.imf.org/en/Publications/fandd/issues/2022/12/the-digital-gender-gap>
 13. Kelly S. Global Findex 2021: Women's World Banking Response. Women's World Banking Blog. 2022 Jun 29.
 14. King R, Levine R. Finance and Growth: Schumpeter Might be Right. *Q J Econ.* 1993;108(3):717-737.
 15. Klapper L, Arora T. Improving women's access to credit in India. World Bank Blogs – All About Finance; c2022.
 16. Kumar S. Financial Inclusion of Women: Current Evidence from India. ORF Issue Brief No. 600. New Delhi: Observer Research Foundation; c2022.
 17. Mazumdar S, Chaudhary R. Women's Labor Force Participation in India Rises but Job Quality Remains a Concern. Bloomberg Economics; c2022.
 18. Ministry of Finance – Press Information Bureau. PMJDY – National Mission for Financial Inclusion completes a decade of successful implementation. PIB Delhi Press Release; c2024.
 19. Ministry of Statistics and Programme Implementation (MoSPI). Women and Men in India 2022: Selected Indicators. MoSPI Publication; c2023.
 20. Ministry of Statistics and Programme Implementation (MoSPI). Women and Men in India 2024: Selected Indicators and Data. MoSPI Publication. 26th ed. 2025 Apr.
 21. Mishkin FS. The Economics of Money, Banking and Financial Markets. 13th ed. Pearson Education; c2019.
 22. Nanavaty R, Goodwin-Groen R. How digital payments bring new economic opportunities for women in rural India. World Economic Forum article; c2022.
 23. National Family Health Survey-5 (NFHS-5) – Union Health Ministry, IIPS. NFHS-5 National Fact Sheet and Key Indicators; c2022.
 24. Observer Research Foundation (ORF). Bridging the Gender Gap in UPI Adoption. ORF Expert Speak. 2022 Oct.
 25. OECD. Bridging the Digital Gender Divide: Include, Upskill, Innovate. Paris: OECD; 2018.
 26. Nanavaty R. Interview in Better Than Cash Alliance blog. 2020 Jul.
 27. SEWA Bharat. Digital Financial Inclusion of SEWA members – Field Survey. Self Employed Women's Association report; c2021.
 28. Singh N. Financial Empowerment of Indian Women: Insights through NFHS Data. Tatvita Analysts; c2025.
 29. Khera S, *et al.* Closing the Gender Gap in Financial Inclusion: Indian Scenario; c2020.
 30. Times of India. Jan Dhan accounts swell to 43 crore with total deposits over Rs 1.46 lakh crore. TOI Business; c2021.
 31. United Nations Development Programme (UNDP). Digital Technology as an Instrument to Bridge the Gender Gaps in India. UNDP India Policy Brief. 2023.
 32. Women's World Banking, NPCI. Enabling Digital Payments for Women in India – UPI for Her Report. WWB and NPCI collaborative research; c2024.
 33. World Bank. The Global Findex Database; c2021: Financial Inclusion, Digital Payments and Resilience in the Age of COVID-19. Washington, DC: World Bank; c2022.
 34. World Economic Forum. DigiGender Divide Worsened in India in Recent Years, says report. Bus Stand; c2023.