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Impact of Digital Finance on rural households' financial behaviour in 2025

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Abstract

This report is an assessment of the level of digital device penetration, internet penetration, and the adoption of digital financial services in rural India as of 2025, including identification of the advances as well as the remaining challenges. The government survey, industry reports, and research studies show great progress in the smartphone ownership and internet penetration and the adoption of platforms such as UPI, mobile wallets, AEPS and digital banking. The states of Kerala, Maharashtra and Punjab are high-penetration states and differences exist with states like Bihar, Uttar Pradesh and Jharkhand that lag behind. The presence of gender and age disparities is quite significant as it is motivated by financial limitations, patriarchal culture, and social inhibitions.

It also examines how merchants are prepared to accept UPI payments, how programs such as PMGDISHA, BharatNet, and PM SVANidhi advance financial inclusion, and why digital wallets, microloans, and Aadhaar enabled payment systems are becoming more popular in rural economies. The casual interaction of the government with the intervention by the domestic financial industry (fintech) has extended the services that have been adopted. Nevertheless, lack of infrastructures, minimal digital literacy, trust, and increased incidences of cybercrimes remain as barriers to integration. The results imply policy interventions that are scaled to target specific areas, area-specific training, use of offline payment method, and enhanced cybersecurity are critical to closing the digital gap and inclusive economic growth of the rural economy.

Digital Device Penetration & Internet Access in Rural India

Penetration of digital devices stands at the very foundation of rural financial inclusion in India. For rural users to avail digital financial services such as UPI, mobile banking, digital wallets, AEPS, and so on, having a smartphone with internet connectivity is a must. This section of the report explores the dispositive situation that exists, in 2025, with respect to device ownership, network connectivity, usage behaviour, and disparities between states, genders, and social groups.

State	Smartphone Usage (%)	Feature Phone Usage (%)	Internet Penetration (%)
Kerala	96-99	<4	72
Maharashtra	~90	~10	70
Punjab	94-96 (Youth)	4-6	68

Jharkhand	~51	~49	46
Uttar Pradesh	~46	~54	41
Bihar	~47	~53	37

Household Mobile Device Ownership

According to the Comprehensive Modular Survey: Telecom, 2025, conducted by the Ministry of Statistics and Programme Implementation (MoSPI), during the months of January, February, and March 2025:
85.5% of the households in India have one smartphone at least.
A similar proportion of 86.3% accounts for the households that have internet access within their premises.

Among rural youth aged 15-29:

- 96.8% had used mobile phones in the period of three months at least once;
- 95.5% of those mobile phone-possessing youth use smartphones; and
- 92.7% had accessed the internet during the past three months at least once.

A total of 34,950 households were covered (19,071 rural and 15,879 urban) enumerating 1,42,065 individuals (82,573 rural and 59,492 urban).

State-Wise Mobile Device and Internet Penetration

Kerala, Maharashtra, and Punjab states have high smartphone and internet penetrations owing to the well-developed digital infrastructure, whereas in states like Bihar, Uttar Pradesh, and Jharkhand, there still exists a huge disparity against digital development, demanding policy attention in those areas.

Gender Disparity in Mobile Device Ownership

The findings from the GSMA Mobile Gender Gap Report 2024 and MoSPI reveals deep-rooted gender gaps in access to digital services.
51.6% of rural women (aged 15+) do not own a mobile phone, whereas, 80.7% of rural men own a smartphone.
Among the women who own a phone, only 75.6% of them use smartphones as compared to 79.2% of the men.

Age-Specific Gaps:

Among the age category of 15-24 years, the possession of smart phones among the rural male is 74.8% and that of the urban female is 51.7%.
The existence of this 23-percentage points difference proves the persistence of the challenges in the youth concerning access to devices.
The following are the main obstacles that were revealed by studies by Dvara Research (2021) and Google India:
Economic: Most of the trained women cannot afford a smartphone despite being trained.
Patriarchy: access to mobile phones of women is influenced by male members of the family.
Social norms: Females cannot use gadgets freely, because they are culturally restricted.

Internet Access and Usage Patterns:

According to the DataReportal 2025 and IAMAI-Kantar sources, India has about 806 million users of the internet with a 55.3% national penetration. In rural areas, the figure is projected to go to 504 million by

year ending 2025 representing approximately 55% of the 886 million total population of internet users in the country.

It has been stated in TRAI Annual performance Report 2024-25 that the average mobile data consumption per subscriber was 21.53 GB/per month and the internet was available to 90 per cent of the users daily. The main ones included the usage of social media, OTT viewership, communication, and digital payment apps to conduct transactions.

Digital Financial Services in Rural India

There has been a significant increase in the usage of digital financial services in the rural regions of India particularly via the Unified Payments Interface (UPI). The percentage of rural youth between the ages of 15-29 years and who are digitally literate to carry out digital transaction using UPI is nearly 99.5%.

By June 2025, UPI has processed over lakh INR 24 crore worth of transactions. Rural UPI has increased significantly, with a current rate of 37 percent in FY 2023-24 against 12% in FY 2020 signifying the falling trend in digitalization of the rural economy. The Pradhan mantri Gramin digital saksharta abhiyan (PMGDISHA) has been very pivotal in the appreciation of this change.

Self-Help Groups (SHGs) and Digital Empowerment

This is an influential factor in creating socio-economic development in rural India as the self-help group (SHG) movement (over 67 million women in 6 million SHGs) has been organized. The number of digital wallet utilization among the trained SHG people showed a 63% increase that indicates the increasing utilization of the digital financial services.

The SLRM project in Rajasthan was able to access M-Pesa wallets in more than 800 SHGs and 9000 women hence they became economically empowered and incorporated. Such grass-root functions and campaigns bear witness to gravity of the utilization of the digital tools and literacy to educate the rurally positioned women and allow they being financially self-sufficient.

Infrastructure and Connectivity Challenges

As per TRAI data (May 2025); the rural tele-density of India and the rural telephone subscribers' number and overall nationwide broadband subscribers were 58.90%, 533.51 million and 944.12 million respectively.

Despite this trend, there are huge gaps in the infrastructure. The digital divide is vast and broadening largely in the regions that are considered outsiders attributed to issues of connectivity, and instability of the network. Other matters that contribute to the digital divide in the countryside include language dimensions where individuals possess poor understanding of English and limitations concerning gender issues. Access to internet in the rural environment remains 29% lower than in the urban surroundings, which indicates the need to have a unique and inclusive digital infrastructure and policy actions.

Merchant UPI Readiness & PM SVANidhi Scheme in Rural India

The issue of merchant UPI preparedness is therefore relevant to actual rural Indian inclusion of finance. The benefit of the households accessing a high level of digital payment has yet not been obtained in terms of its benefits unless the local businesses adopt them to accept the digital payments also. In the present report, we shall evaluate the new turn in the rural merchants UPI adoption, the infrastructure growth of the QR code, and the revolutionary response in the Prime Minister Street Vendor Atma Nirbhar Nidhi (PM SVANidhi) Scheme of formalization of the informal vendor.

UPI Adoption Among Rural Merchants -

Since introducing it in India in 2020, Unified Payments Interface (UPI) has swept the Indian payment landscape.

Transaction Volume - In May 2025, UPI registered about 1.87 billion transactions with Rs. 25.14 lakh crore - amounting to 33 percent increase in number of transactions and 23 percent growth in value over May 2024. It does not place the right to the emergency fund at the top of the list of priorities (Abhijeet Mukhopadhyay, 2025).

Merchant QR Codes - Although the claim of the 658 million UPI QR codes is not directly substantiated still the sources have confirmed that more than 5 million merchants accept UPI Pan India; numbers are rising each month on a month basic as many MSMEs, SMEs and rural merchants are now moving towards the mode of digital payment. According to Barry Elad (2025), this may be since your corporation did not hire the services of the company initially.

Growth in Rural Areas - Transactions of merchant rural and semi urban merchants increased by 33% on year over year basis (2024-25). It is important to note that within the age range of 15-24, the percentage of the rural youth that performed UPI payments was 86.7 in the early period of the year 2025, an upper limit compared to the urbanized representatives. This is explained by the fact that the best possible time viewed in a period is a good judgment (Abhijeet Mukhopadhyay, 2025).

Urban Patterns - The main users in the countryside are Kirana stores, vegetable sellers, dairy shops and the mobile recharge shops. The success of UPI can be attributed to its zero- cost of transactions (government also exempts it from MDR costs), multilingual support, and its minimal and mobile first design.

Rural QR Code Saturation

Regional Differences persists in QR code deployment

Region	QR Code Saturation (per 1,000 population)	Status
Kerala, Karnataka	>90	High Saturation
Maharashtra, Punjab	70-90	Moderate to High
UP, Bihar, Odisha	<50	Low, Scope to grow

In highly saturated states, the rate of acceptance of UPI is close to 100% among small entrepreneurs, such as tea stalls and pan shops.

In the states with lower saturation, the absence of digital awareness and constraints related to the network has stagnated the development but the use of mobile is gaining traction very quickly.

Key Drivers of Merchant UPI Adoption

Private Sector Onboarding - Localized onboarding camps are being conducted by many fintech giants such as PhonePe, Google Pay, and BharatPe, whose target is the peri-rural and smaller towns. These programs will help in the installation of the QR code, digital training, and incentivization, which entails

the working capital loans, zero-MDR QR codes. Well, that is a dumbo-damned thing to do (Urvashi Kaushal, 2025).

UPI Lite & Offline Features - Even in the low-bandwidth UPI payments can be made using UPI Lite (on-device wallets so far only up to Rs. 500/-) and offline UPI modes (SMS/Bluetooth). The features are very popular at the weekly markets or the areas of spotty connectivity. It is recommended to lock the whole apartment to avoid accidents and injuries at home (Himanshu Bhuyan, 2025).

Consumer Demand - High digital literacy and the use of DBT (Direct Benefit Transfer) schemes will lead to an expansion of the existing customers of UPI forcing the merchants to switch to digital payments as a way of maintaining the business.

The PM Street Vendor's Atma Nirbhar Nidhi (PM SVANidhi) Scheme

Launched in June 2020, PM SVANidhi provides collateral-free working capital loans to street vendors with incentives for digital payments and a push to establish credit histories.

2025 Updates & Outcomes.

By 2025, there are more than 6.8 million street vendors who have been served by the scheme. Additions to UPI-linked RuPay credit cards (Rs. 30,000 limit), and capacity-building programs are also planned as new additions. The interest subsidies are provided to the digitally active vendors and on time repayment and the use of digital, increment loans of Rs. 10. 000/-, Rs. 20. 000/- and 50. 000/- are provided. (Nikitha Devi, 2025) UPI acceptance is almost universal across small businesses such as tea stalls, pan shop etc in the high saturation states.

The absence of digital awareness and the restrictions to the networks has retarded the growth in lower-saturation states, although mobile adoption is gaining pace.

Key Drivers of Merchant UPI Adoption

Private Sector Onboarding - Localized onboarding camps are being operated by many fintech giants such as PhonePe, Google Pay and BharatPe and their target is the peri-rural and smaller towns. These programs will help in the installation of QR code, digital training, and incentives in terms of working capital or zero-MDR QR codes. In Urvashi Kaushal (2025), the murky waters of state politics are once again realized thus they cannot lie or hide.

UPI Lite & Offline Features - UPI Lite (on-device wallets for transactions under Rs. 500/-and offline UPI modes (SMS/Bluetooth) now enable digital payments even in the low-bandwidth environments. These features see significant uptake in the weekly markets and areas with intermittent connectivity. (Himanshu Bhuyan, 2025)

Consumer Demand - The rising digital literacy and DBT (Direct Benefit Transfer) programs increase the number of customers shifting toward UPI to avoid loss of their business, thus mandating merchants to accept online money.

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2025 Updates & Outcomes

By 2025 more than 6.8 million street vendors have enjoyed the scheme. Among the new additions is the UPI-linked RuPay credit cards (up to Rs. 30,000 limit) and the increased capacity-building programs.

They provide interest subsidy to the digitally active vendors an incremental loan of 10000/-, 20000/- and the maximum amount is 50000/- given to vendors when there is a repayment and digitalized usage. In case number two, the legal system is coming out to the defense of the government (Nikitha Devi, 2025).

Loan Cycle	Loan Amount	Digital Benefit
1st	Rs. 10,000/-	Cashback for digital payments
2nd	Rs. 20,000/-	Faster processing, subsidy
3rd	Rs. 50,000/-	Interest rebate, credit card

Rural Penetration

Initially urban based vendors were the exclusive target of the scheme, currently the scheme also covers rural herald sellers, mobile traders, roadside sellers, and SHG (Self-Help Group) micro enterprises are also being on-boarded. In Morena and Gwalior districts 6,000+ rural vendors got loans of Rs. 10,000/- in three months 80 percent incorporated the QR and 40 percent received increased loans thereafter.

Challenges to Merchant UPI Readiness - (Harsh Kumar, IGNOU 2025)

1. Most of the vendors continue to use shared or basic telephones thus their ability to access the digital world can only be limited.
2. Inadequate knowledge of the applications, PIN management, and digital troubleshooting.
3. There are fears of perpetrated frauds on transactions, accidental transfers, and freezing of accounts without authorisation.
4. The unreliability of the signal strength and outages lead to failure of transactions, particularly in underserved regions.
5. Cash remains more immediate and safer to most people especially older people or the less digitally literate.
6. Others are afraid of being followed digitally leaving tax inspectors more room to view them or endanger access to subsidies or welfare.

Policy and Ecosystem Enablers

Government Incentives

DigiDhan Mission - Distributes the QR kits to promote last-mile digital enablement.

RBI's Payments Infrastructure Development Fund (PIDF) - Subsidizes the cost of QR code and POS device for rural merchant. (Santosh Kumar, 2025)

Fintech Partnerships - NPCI has launches missions to get at least 1 lakh rural merchants on monthly basis under Digital Dakshata Mission. (Abhijeet Mukhopadhyay 2025)

Expansion of Digital Financial Services beyond UPI in Rural India

In rural India, the scope of the digital finance inclusion will go well beyond UPI by 2025. Mobile wallets, digital micro loans, insurance, mobile, net banking, digital utility payments, and Aadhaar enabled services are increasing economic agency and reducing urban-rural divide as they become more accessible to rural population.

Mobile Wallets: The Second Layer

Persistence of Wallet Use - Paytm, PhonePe and Amazon pay are mobile wallets that dominate the rural region because of offline scope, value accumulation, and elastic application. The penetration rate of wallet is projected to be greater than 70 percent among the mobile internet users, which is above 400 million across the country. Even jars, usually in groups of 10 or 20 and much less frequently in groups of 30, are found at Yesha and at Vyas; but they are not generally inscribed with the names of persons, and are quite numerous at the latter place. (Yesha Vyas, KUEY 2024)

Offline Transactions - The wallet balances that are pre-loaded come in handy where there is adverse internet connectivity, and this is beneficial to the rural users.

Cashback & Loyalty - Digital wallets also provide good cash backs, particularly in payment of utilities bills and mobile top up, which can be used to endorse regular behaviour of digital payments.

Assisted Digital Services - The crucial factors that play an intermediation role to the agent (e.g., PayNearby, CSC) include wallets, which provide a service to those customers without smartphones or bank accounts, facilitating the bottom of the pyramid financial inclusion.

Micro-Loans & Digital Lending Platforms -

App-based Lending - Digital lending platforms such as KreditBee and CASHe have witnessed a rapid pace of growth that has made credit available to Tier 3/4 towns. Micro loans are provided to rural and non-metro locations that have crossed 40 million in 2025 with average tick sizes of about Rs. 4,200/- and easy repayment terms (3-6 months).

Fintech-NBFC Collaboration - Sachet loans are one of the features of such lending platforms where they use alternate data (mobile payments, utility bills, and so on) to assess the credit. This has filled in the gaps of the people with no formal credit histories.

Use Cases - The most prevailing uses of loans are education, agri-inputs, emergency healthcare and small business expansion of MSMEs and SMEs.

Challenges - The main barriers continue to be the high interest rates charged on such loans (usually 4%-36% per year), repayment risks associated with uncertain rural incomes, and the lack of financial literacy, and the forceful recovery efforts of some of the unregulated lenders.

AEPS - Aadhaar Enabled Payment System -

Scale & Usage - AEPS serves as a pillar when it comes to the unbanked/semi-literate as it enables the withdrawal, checking of balances, and money transfer to take place through biometrics. AEPS transactions of over 500 million were recorded monthly with transactions ranging towards Rs. 26,000 - Rs. 28,000 Crore. 2025 (Dharmendra Tiwari, 2025)

Top States - Uttar Pradesh, Bihar, Madhya Pradesh, Odisha, and Rajasthan have had the highest adoption of AEPS.

Demographic Reach - AEPS is virtually overused by women, old age, and SHG (Self-Help Groups) members as it is convenient, cardless and bank less.

Challenges - Biometric mismatches and intermittent transaction failures which presently recur, especially among manual labour and elderly people are the setbacks faced by them.

Mobile & Net Banking -

RRBs' Digital Shift - The Regional Rural Banks (RRBs) have reached almost 280 million depositors and has also mainstreamed into super-app and mobile banking platforms, which includes multiple services such as payment, commerce, and account management. (Mayank Patil, 2024)

Adoption Pattern - The typical rural applications are access to accounts, transfer of funds, payment of RD/EMI and receipt of agricultural/dairy receipts digitally.

Digital Integration - Digitalization of RRB, promoted by the NABARD, is currently expected to be completed in 2025, with more inclusivity expected.

Utility & Bill Payments -

Widespread Adoption - The expectation is about 400 million monthly utility bill transactions by the year 2025 with the use of BBPS and UPI - or wallet-integrated solutions.

Service Spectrum - Payments of services in rural India are typically provided to buy electricity, water, LPG, mobile recharge, DTH and even education fees.

Platform Integration - The available bill payment solutions in rural areas where the rural banks particularly RRBs are providing bill payment in their apps and using the business correspondents has increased digital payment literacy in the rural region.

Metrics - According to a latest survey by NPST, more than 60 per cent of the rural households of Tier 4 and 5 towns have at least one of their bill payments digitally through the last quarter.

Digital Literacy, Trust, and Training Initiatives in Rural India

Although the situation has significantly changed regarding access to digital tools and digital financial services provision, Digital inclusion in Rural India is still missing due to the disparities in Digital Literacy and Trust levels. Most of the households in the rural areas remain delusional in adopting digital services because of the lack of knowledge and fear that they could be defrauded financially or misused technologically.

Initiatives to improve Digital Literacy in Rural India

PMGDISHA: Pradhan Mantri Gramin Digital Saksharta Abhiyan should be launched, which is aimed at improving digital literacy in rural areas, in 2017. This project sensitizes rural population to utilize digital gadgets on projects such as accessing Government services, search information and conduct Cashless transactions.

As of 2024, 6.45 crore rural citizens were trained and 4.83 crore citizens became certified under the scheme.

- As per Annual Status of Education Report 2024, 84% of rural households own a smartphone, compared to 36% in 2018.
- 82% of all children in the age group 14-16 reported that they know how to use a smartphone, with 27% of 14-year-olds and 37.8% of 16-year-olds reported having their own smartphone.
- Digital payment usage increased from 53% to 91% among the participants

BharatNet: It is a Government of India Initiative aimed at providing unrestricted access to broadband connectivity to all Gram Panchayats (GP) in India. This initiative is supported by the National Broadband Mission (NBM), which was launched on 17th January, 2025.

- As of March 2025, 218347 GPs have been made ready for service under BharatNet project.
- 12,21,014 Fibre-To-The-Home (FTTH) connections are commissioned.

SoochnaPreneur: It is an initiative taken by Digital Empowerment Foundation (DEF) NGO. The initiative focuses on providing rural women with digital and financial literacy by providing hands-on-training on digital payments, accessing government schemes and online information.

- 92% of women learners have reported having access to a digital device, with 75% having devices of their own.

- As per the baseline survey conducted in 2016, 53% of respondents used digital payment services, which increased to 91% in 2024, with most of the women using digital payments primarily for UPI transactions and few using Net Banking, Debit Cards, and mobile wallets.

Although the Government of India has made commendable efforts to expand digital access, literacy, and financial services in rural areas, a persistent lack of trust among citizens continues to hinder their widespread adoption. Cybercrime cases going up by 31.7% from 2020 to 2022 is a direct indication of this fear with the rural citizens of India, who already have limited financial resources.

Even though India has strong cyber-security laws, enforcement in rural areas face several challenges like the weak implementation of IT Act, 2000 in rural areas, delayed justice for cyber fraud victims and the lack of awareness about grievance redressal. Another main drawback is the jurisdictional issues with cybercrimes, as they are often cross-state crimes, making jurisdiction enforcement difficult.

Digital Literacy initiatives like PMGDISHA and Cyber security initiatives like Indian Cyber Crime Coordination Centre (I4C), Joint Cyber Coordination Teams (JCCT) and the Citizen Financial Cyber Fraud Reporting and Management System can help citizens protect themselves from cybercrimes.

- More than Rs. 1200 Crore have been saved in more than 4.7 lakh complaints with the I4C. A Toll-free helpline number (1930) has been started to file cyber complaints.
- More than 3.2 lakh SIM Cards and 49000 IMEIs have been blocked by the Government.

Role of Private Companies in Driving Rural Digital Finance

Government programs like PMGDISHA and BharatNet have been successful in increasing digital literacy and digital finance in rural India by laying the foundational structure for citizens to use the services. But, the private sector in India also plays a huge role in accelerating the use of digital finance services in rural India. Fintech ecosystems help in bridging gaps in access to financial services by providing digital platforms that cater to previously excluded populations, although certain levels of infrastructure and literacy must be met before digital financial tools translate into improved livelihoods

Some of the startups that paved the way for Fintech in rural India are:

- **BharatPe:** BharatPe provides services like UPI payments and loans to merchants and small business owners that are disbursed within 24 hours with less documentation.
- **BankSathi:** With their extensive network of 1.5 million financial advisors and operating in 19000+ cities, BankSathi provides financial services to India's Tier 2, Tier 3 and remote locations across India.

References

1. Abdul, J., & Saifi, F. (2022). UPI and financial inclusion in rural India: A case study. Materials Today: Proceedings, 64(2), 953–958.
2. https://doi.org/10.1016/j.matpr.2022.07.002
3. Shukla, A., Agarwal, S., & Yadav, S. (2024). Understanding UPI payment adoption among rural women. SSRN Electronic Journal. https://doi.org/10.2139/ssrn.4258890
4. Pathak, M., & Biswa, R. (2023). Adoption of UPI and implementation of UPI-ATM in India. International Journal of Development Research, 13(2), 61970–61972. https://www.journalijdr.com/adoption-upi-and-implementation-upi-atm-india
5. Vaidya, G., & Pandya, A. (2022). Acceptance of digital payment in rural India: Challenges ahead. European Economic Letters, 11(1), 25–32. https://www.eelet.org.uk/index.php/journal/article/view/20

6. Agarwal, M., & Maheshwari, P. (2024). Impact of digital payment systems on financial inclusion in rural India. SSRN Electronic Journal. https://doi.org/10.2139/ssrn.3504698
7. Sharma, R., & Mishra, N. (2023). Digital payments in India—Analyzing the adoption of UPI. Library Progress (International), 43(1), 158–164. https://www.lpijournal.com/index.php/lpi/article/view/918
8. Sharma, P., & Sharma, R. (2021). An impact study of PM SVANidhi Yojana on the economic growth of street vendors in Indore. Journal of Management and Social Research, 8(1), 16–25. https://journal-jmsr.net/index.php/jmsr/article/view/91
9. Mehta, B., & Chauhan, D. (2021). PM Svanidhi scheme: A gateway to micro loans for street vendors. South Eastern European Journal of Public Health, 16(1), 1–8. https://seejph.com/index.php/seejph/article/view/476
10. Dangi, N., & Chaudhary, K. (2022). An empirical study of the socio-economic impact of PM SVANidhi Yojana among beneficiaries in Indore. Journal of Management and Social Research, 9(1), 134–145. https://journal-jmsr.net/index.php/jmsr/article/view/122
11. Prakash, R., & Rani, M. (2022). A heuristic study on Pradhan Mantri Street Vendor's Atmanirbhar Nidhi Yojana (PM SVANidhi): With special reference to Dehradun city. Asian Journal of Agricultural Extension, Economics & Sociology, 40(1), 83–89. https://doi.org/10.9734/ajaees/2022/v40i130822
12. Agarwal, M., & Maheshwari, P. (2024). Impact of digital payment systems on financial inclusion in rural India. *SSRN Electronic Journal.* https://doi.org/10.2139/ssrn.3504698
13. Vaidya, G., & Pandya, A. (2022). Acceptance of digital payment in rural India: Challenges ahead. *European Economic Letters*, 11(1), 25–32. https://www.eelet.org.uk/index.php/journal/article/view/20
14. Sharma, R., & Mishra, N. (2023). Digital payments in India—Analyzing the adoption of UPI. *Library Progress (International)*, 43(1), 158–164. https://www.lpijournal.com/index.php/lpi/article/view/918
15. Pandya, A., & Sharma, T. (2024). Exploring consumer behavior towards mobile wallets in the rural outskirts of Surat. *Educational Administration: Theory and Practice*, 30(1), 3912–3921. https://doi.org/10.53555/kuey.v30i1.7636
16. Dey, S., & Ghosh, S. (2022). Mobile wallets and rural financial inclusion: Evidence from India. *International Journal of Financial Services Management*, 13(4), 245–263. https://doi.org/10.1504/IJFSM.2022.126304
17. Abdul, J., & Saifi, F. (2022). UPI and financial inclusion in rural India: A case study. *Materials Today: Proceedings*, 64(2), 953–958. https://doi.org/10.1016/j.matpr.2022.07.002
18. Chavan, P., & Agrawal, B. (2024). Adoption of digital insurance in rural India: A study of consumer perception and awareness. *Indian Journal of Economics and Development*, 20(1), 72–82.
19. Bansal, S. (2023). AEPS adoption and challenges for rural banking in India. *International Journal of Rural Management*, 19(2), 134–147. https://doi.org/10.1177/09730052231108256
20. Raj, R., & Balaji, M. S. (2023). Digital utility payments and rural transformation in India. *South Asian Journal of Business and Management Cases*, 12(1), 33–41. https://doi.org/10.1177/22779779231154321
21. Rathore, H. S., & Verma, A. (2024). Voice-enabled digital banking for the unbanked rural population: Opportunities and constraints. *Journal of Rural Studies*, 98, 231–242. https://doi.org/10.1016/j.jrurstud.2023.09.014
22. Press Information Bureau. (n.d). *7.35 crore candidates enrolled and 6.39 crore trained under Pradhan Mantri Gramin Digital Saksharta Abhiyan; 4.78 crore candidates certified under the scheme*. (n.d.)

23. https://www.pib.gov.in/PressReleasePage.aspx?PRID=2037600
24. Kaur, A., Kumari, A., & Negi, G. (2025). The impact of digital literacy on women's empowerment. *International Journal for Multidisciplinary Research (IJFMR)*, *7*(2), 1–3. https://www.ijfmr.com/papers/2025/2/39357.pdf
25. *ASER 2024 - ASER: Annual Status of Education Report*. (n.d.). ASER: Annual Status of Education Report. https://asercentre.org/aser-2024/
26. Kumari, S., Singh, M., Shruti Narula, Ashraf Jawaid, & Satish Kumar. (2024). Safeguarding rural India through critical digital literacy. In Digital Empowerment Foundation, *Digital Empowerment Foundation* [Report]. Digital Empowerment Foundation. https://www.defindia.org/wp-content/uploads/2024/12/Aspen-Endline-Report_14-Oct-2024-2-1.pdf
27. *BharatNet*. (n.d.).
28. https://www.pib.gov.in/PressReleaseIframePage.aspx?PRID=2123137
29. *Government of India takes measures for digital infrastructure upgradation in villages*. (n.d.).
30. https://www.pib.gov.in/PressReleasePage.aspx?PRID=2117923#:~:text=Government%20of%20India%20Takes%20Measures,and%20Meaningful%20Connectivity%20for%20all
31. *Giriranjan, R. & Ministry of Panchayati Raj. (2025). Digitalisation of Gram Panchayats in Rajya Sabha.*
32. https://sansad.in/getFile/annex/267/AU2155_28gbez.pdf?source=pqars
33. World Bank Group. (2025). The Global Findex Database 2025. In *World Bank*. https://www.worldbank.org/en/publication/globalfindex
34. *INCREASE IN CYBER CRIMES*. (n.d.).
35. https://www.pib.gov.in/PressReleaseIframePage.aspx?PRID=2003505
36. Baldwa, A., Bhagwant University, Ajmer Department of Law, Agarwal, S., & Bhagwant University, Ajmer Department of Law. (2025). The role of Cyber Law in promoting digital financial inclusion in rural India [Journal-article]. *International Journal of Creative Research Thoughts (IJCRT)*, *13*(2), a724–a727. https://ijcrt.org/papers/IJCRT2502087.pdf
37. Government of India. https://www.mospi.gov.in/sites/default/files/publication_reports/CMST_report_m.pdf
38. Ministry of Statistics and Programme Implementation. (2025, May 29). Press Note on Results of Comprehensive Modular Survey: Telecom, 2025 (January – March, 2025) [Press release]. Government of India. https://www.pib.gov.in/PressReleasePage.aspx?PRID=2132330
39. Telecom Regulatory Authority of India. (2025). *Highlights of Telecom Subscription Data as on 31st May 2025* [Press Release No. 51/2025]. https://www.trai.gov.in/sites/default/files/2025-06/PR_No.51of2025_0.pdf
40. Press Information Bureau, Government of India. (2022, July 20). Digital literacy in rural areas [Press release]. https://www.pib.gov.in/PressReleaseIframePage.aspx?PRID=1843061
41. GSMA. (2024). *The Mobile Gender Gap Report 2024.* GSMA Connected Women. https://www.gsma.com/r/wp-content/uploads/2024/05/The-Mobile-Gender-Gap-Report-2024.pdf
42. GSMA. (2025). *The Mobile Gender Gap Report 2025.* GSMA Connected Women. https://www.gsma.com/r/gender-gap-2025/
43. Internet and Mobile Association of India & Kantar. (2024). *Internet in India Report 2024.* https://www.iamai.in/sites/default/files/research/Kantar_%20IAMAI%20report_2024_.pdf

44. DataReportal. (2025). *Digital 2025: India — DataReportal Global Digital Insights.* https://datareportal.com/reports/digital-2025-india
45. Chaudhuri, A. (2024). Analysing the Digital Divide Factors: Evidence of a Rural-urban Comparison from an Indian District. *Journal of Scientific Research and Reports, 30*(5), 243-250. https://doi.org/10.9734/jsrr/2024/v30i51939
46. Singh, A., & Meganathan, N. (2024). To what extent has UPI contributed to increasing the penetration of digital financial services in rural India, and what challenges remain? *International Journal of Scientific Research and Publications, 14*(09). https://www.ijsrp.org/research-paper-0924/ijsrp-p15323.pdf
47. Sonne, L. (2021). *Women's Mobile Phone Access and Use: A Snapshot of Six States in India.* Dvara Research Working Paper. https://dvararesearch.com/wp-content/uploads/2024/01/Womens-Mobile-Phone-Access-and-Use-A-Snapshot-of-Six-States-in-India.pdf
48. Sonne, L. (2021). *Women's Mobile Phone Access and Use: Implications for Financial Services Providers.* Dvara Research Practitioner Brief. https://dvararesearch.com/wp-content/uploads/2024/01/Womens-Mobile-Phone-Access-and-Use-Implications-for-Financial-Services-Provider.pdf
49. Khalid, S. R., & Sultana, N. (2025). Post-COVID Digital Payment Adoption and Financial Inclusion in India: Empirical Insights and Policy Implications. *European Journal of Applied Sciences, 15*(2), 4506-4525.
50. Malhotra, C. (2021). *PMGDISHA Impact Assessment Report.* Indian Institute of Public Administration, New Delhi. https://www.iipa.org.in/publication/public/uploads/article/25761684475572.pdf
51. World Bank. (2020). *Self-Help Group Members as Banking Agents for Deepening Financial Inclusion: The Bank Sakhi Model.* https://documents1.worldbank.org/curated/en/662851590658776125/pdf/Self-Help-Group-Members-as-Banking-Agents-for-Deepening-Financial-Inclusion.pdf
52. National Payments Corporation of India. (n.d.). *UPI For Her - Enabling Digital Payments for Women in India* [White Paper]. https://www.npci.org.in/PDF/npci/knowledge-center/partner-whitepapers/UPI-For-Her-Enabling-Digital-Payments-for-Women-in-India.pdf
53. EY & Confederation of Indian Industry. (2024). *Financial Inclusion through Technology and Literacy in India: Strategies for Sustainable Growth.* https://www.ey.com/en_in/newsroom/2024/12/upi-most-preferred-payment-mode-for-38-percent-indians-in-rural-and-semi-urban-areas
54. Ministry of Electronics and Information Technology. (2018). *Pradhan Mantri Gramin Digital Saksharta Abhiyan (PMGDISHA): A Unique Initiative for Digital Literacy in Rural India.* CSC e-Governance Services India Limited. https://it.assam.gov.in/sites/default/files/public_utility/PMGDISHA%20scheme%20detail%20booklet.pdf
55. Ministry of Statistics and Programme Implementation. (2025). *Comprehensive Modular Survey: Telecom, 2025 - NSS 80th Round.* Report No. 593 (80/CMS/1). Government of India. https://www.mospi.gov.in/sites/default/files/publication_reports/CMST_report_m.pdf

56. Press Information Bureau, Government of India. (2023, November 27). *Total digital payment transactions volume increased from 2,071 crore in FY2017-18 to 13,462 crore in FY2022-23 at a CAGR of 45% [Press release].* https://www.pib.gov.in/PressReleasePage.aspx?PRID=1985240
57. Joydeep Mookerjee, Ms. Kamini Bhuriya, Dr. R. Josphin, G V Radhakrishnan, Gurulingu.P. (2025). *Digital Banking and Financial Inclusion in Rural Economies. South Eastern European Journal of Public Health, 954–963.* https://doi.org/10.70135/seejph.vi.3797
58. Anchit Jhamb (2025) FinTech Adoption and Financial Inclusion in Rural India. *Journal of Neonatal Surgery,* 14 (32s), 3054-3062 https://jneonatalsurg.com/index.php/jns/article/view/7884/6894
59. Priyadarshi, A., & Prasad, D. (2024). An Analysis of Rural Consumers' Financial Behavior in the Context of Financial Inclusion through FinTech [Research paper]. *Parikalpana - KIIT Journal of Management*, *20–2*, 44. https://doi.org/10.23862/kiit-parikalpana/2024/v20/i2/226735