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Adoption of Mobile Financial Services Among Rural Customers in Jharkhand

Mr. Vaivaw Kumar Singh [1]

Research Scholar, Department of Business Management, Sarala Birla University, Ranchi, Jharkhand.
vaivawsingh@gmail.com

Dr. Kunal Sinha [2]

Assistant Professor, Department of Commerce, Sarala Birla University, Ranchi, Jharkhand.
kunal.sinha@sbu.ac.in

Ms. Rishika Gupta [3]

Research Scholar, Department of Business Management, Sarala Birla University, Ranchi, Jharkhand.
mahima771@gmail.com

ABSTRACT

This research investigates the determinants of initial take-up and continued usage of mobile financial services (MFS) by rural clients of Jharkhand. This research investigates differences in mobile financial service (MFS) usage in five rural districts in Jharkhand and the determinants of such patterns. Adoption is highest in the most device-owned and agent-available district, and lowest in the most limited digital skills and local service points district. The intermediate districts are moderately engaged, indicating diverse levels of network coverage, literacy, and community trust. All these inter-district differences emphasize the important roles of smartphone access, agent networks, and user technology comfort in shaping MFS adoption. To bridge the gap, specialized programs like digital literacy training in communities, incentives for agent increase in underserved regions, and initiatives for enhancing support networks at the grassroots level are suggested. By overcoming both infrastructural and socio-cultural challenges, policymakers and service operators can create more inclusive and durable financial coverage across rural pockets in Jharkhand.

Keywords: *Mobile Financial Services (MFS), Rural Customers in Jharkhand.*

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I. Introduction

Mobile financial services (MFS) involve a variety of digital channels like mobile banking, mobile money, and mobile payment apps—that enable consumers to conduct financial transactions via their cellular telephones (Islam & Salma, 2016). Such services commonly involve balance checks, person-to-person transfers, bill payments, and merchant payments independent of conventional brick-and-mortar infrastructure (Islam & Salma, 2016; Islam & Slack, 2016). In remote areas where banking services are limited, and physical infrastructure is weak, MFS provide a potentially revolutionary vehicle for reaching the underserved with low-cost and accessible financial services (Bansal, 2014).

The development of MFS has kept pace with the growth in information and communication technologies (ICT). Traditional SMS-based systems offered mere notifications and transactional functions, while modern smartphone applications allow for more advanced features like biometric authentication, in-app credit scoring, and embedded savings wallets (Karjaluoto, Shaikh, Saarijärvi, & Saraniemi, 2019). At the same time, agent-based models where local traders are used as cash-in/cash-out points have pushed the effective range of digital financial services to far-flung communities (Munyegera & Matsumoto, 2018). Hybrid delivery modes cut transaction costs and travel burdens for rural consumers, promoting financial inclusion and resilience in livelihoods (Munyegera & Matsumoto, 2018; Kabir, Huda, & Faruq, 2020).

Albeit technical viability, MFS hinges significantly on the digital literacy, trust in technology, and robustness of the supporting infrastructure of users (Liu, 2022). Research in Society 5.0 environments identifies that digital exclusion continues to affect those without necessary cognitive authority, safety consciousness, and proper use of digital media (Sá, Santos, Serpa, & Ferreira, 2021). In rural contexts, low network coverage, on-off power supply, and low smartphone penetration tend to worsen such exclusion, curtailing the inclusive growth potential of MFS (Liu, 2022; Sá et al., 2021).

In India, the rural environment poses opportunities as well as challenges for MFS uptake. The growth in smartphone penetration and government initiatives—Jan Dhan Yojana and Digital India—have put in place a supporting context for digital finance (Joshi & Oppliger, 2024). However, usability concerns, intermediary dependence, and fraud threats are still major barriers for rural customers, who are financially illiterate and lack strong security measures (Rahman & bin Ahsan, 2024). Comprehension of this intricate interaction of policy environment, socio-economic conditions, and technology is necessary to leverage MFS for inclusive development, especially in states such as Jharkhand where infrastructural shortages and tribal groups coexist.

1.1 Global Perspectives on Mobile Financial Services Adoption in Rural Contexts

Widespread empirical studies throughout sub-Saharan Africa highlight mobile money's transformative power in rural areas. Batista and Vicente (2025) implemented a randomized field experiment on Mozambican villages, showing that mobile money lowered remittance transaction costs considerably, enhanced household wellbeing, and heightened flood and idiosyncratic shock resilience—although accompanied by trends towards urban migration and less agricultural

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investment. Likewise, Munyegera and Matsumoto (2018) discovered in Uganda that the adoption of mobile money services increased saving and borrowing levels among rural households due to decreasing travel costs to agents, where proximity to cash-out points was a determinant of usage.

In Ghana, Mahama et al. (2024) pointed out how m-money has emerged as the most sought-after financial channel among low-income groups through balance inquiries and transfers independent of fixed infrastructure. Their PLS-SEM findings indicated that perceived benefits enhance consumer attitude, while barriers in the form of usability difficulties discourage long-term usage. Yakubu's (2021) research in the Asikuma-Odoben-Brakwa District also reported that mobile money outpaced banks twenty times in access performance metrics, but also that poor awareness of interoperability and cyber fraud posed significant threats to user confidence.

In Chinese countryside, Assimakopoulos, Carayannis, and Zeng (2025) used a developed Individual-Technological-Organizational-Environmental (I-TOE) framework on six Base-of-the-Pyramid cases and found cultural-specific elements—like Hukou status and family-based social relationships—to play significant roles in influencing mobile finance innovation (MFI) diffusion. Their multi-level 67 interview-395 survey design affirmed that rural financial literacy drives ecosystem emergence. Yang, Yang, Shi, and Sun (2022) also showed that mobile payments in China increased rural household spending by as much as 52.3%, mitigating liquidity shortages and diversifying consumption options without displacing offline purchases.

Bangladesh provides other perspectives on MFS continuance and inclusion. Rizvee, Siddik, and Kabiraj (2025) applied the Expectation Confirmation Model (ECM) to rural mobile consumers and found that perceived value, risk, cost, government support, and trust have a notable impact on satisfaction, which in turn affects continuance intention. Nipa et al. (2025) and Pooja, Saha, and Rahman (2022) also highlighted the importance of digital literacy, mobile penetration, transaction charges, and institutional regulations in influencing MFS success, although the two studies indicated that cross-sectional designs are not ideal for establishing causality.

In sub-Saharan countries outside East Africa, Adeleke (2024) identified that women's use of mobile money in Nigeria varies spatially, with more contextual challenges in rural women, while Bongomin, Akol Malinga, Manzi, and Balinda (2023) showed that agent liquidity mediates access to mobile money by the unbanked poor in Uganda, increasing usage by 27 percentage points when agent float is adequate.

1.2 Determinants, Barriers, and Drivers of Adoption

Theoretical models like the Expectation Confirmation Model (ECM), the I-TOE framework, and the Unified Theory of Acceptance and Use of Technology (UTAUT) have been modified to study MFS adoption in rural settings. Rizvee et al. (2025) employed ECM to incorporate satisfaction determinants—perceived value, risk, cost, support, and trust—and Assimakopoulos et al. (2025) applied I-TOE to identify multi-level determinants from individual, technological, organizational, and environmental domains.

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Empirical research repeatedly identifies ease of use and perceived value as core drivers. Rizvee et al. (2025) found that perceived value and satisfaction were significant predictors of continuance intention by Bangladeshi rural users. Nipa et al. (2025) supported the predominance of phone availability and digital literacy, while Rahman and bin Ahsan (2024) highlighted usability difficulties and fraud threats to user uptake. Pooja et al. (2022) found credibility, usability, self-efficacy, usefulness, and social influence to be determinants that are most impactful, with credibility being the most powerful in explaining 94 percent of overall variance in rural Bangladesh.

Trust and risk attitudes also influence adoption routes. Gbongli, Xu, Amedjonekou, and Kovács (2020) established that dispositional trust has a strong moderating effect on perceived privacy risk, facilitating choice probabilities with respect to MFS options. Sealing this, Coffie, Nunoo, Karakara, Opoku, and Boahen (2024) showed that firm regulatory institutions—especially consumer protection policy and Know-Your-Customer rules—strongly enhance rural savings and credit practices in sub-Saharan Africa.

Agent liquidity and intermediary frameworks also regulate access further. Bongomin et al. (2023) demonstrated that sufficient agent float significantly enhances service use by unbanked communities, a finding recommending that providers and regulators take liquidity provision within rural agent networks into consideration. Kumar and Siddiqui (2023) meanwhile encountered urban-rural contrasts in Pakistan: city users enjoy competitive digital environments, while rural users have to deal with few agent networks and infrastructural shortcomings, which suppress adoption.

Socio-cultural determinants—language, literacy, trust orientation, and social networks—seep into adoption dynamics. Assimakopoulos et al. (2025) underscored family-based communication models and personality-trust orientations in rural China, while Kiconco, Rooks, Solano, and Matzat (2019) demonstrated that mobile phone competencies strongly enhance adoption probability in Uganda. Sá et al. (2021) indicated that wider digital literacy including ethical and creative competences is a condition for functional inclusion in rural society.

II. Research Background

The sheer spread of mobile financial services (MFS) in the developing world in a very short time holds the promise of revolutionizing rural livelihoods by bridging conventional impediments to financial inclusion. In sub-Saharan Africa, for instance, Batista and Vicente (2025) showed in a randomized controlled trial conducted in rural Mozambique that the provision of mobile money platforms significantly reduced remittance transaction costs, thus enhancing household welfare and resilience to shocks like georeferenced floods and idiosyncratic income losses. But they also saw an unexpected effect: migration from rural areas grew and investment in agriculture decreased, indicating that although mobile money can be a driving force behind welfare improvement, it can also drive urbanization and structural change (Batista & Vicente, 2025). The same dynamics have been witnessed elsewhere. In Ghana, Mahama, Bunyaminu, Ayimpoya, and Combert (2024) applied PLS-SEM on household survey data to uncover that mobile banking services ("m-money") improved information availability and eased search costs, increasing consumer sentiment, but ongoing usability impediments and data shortfalls kept limiting general patronage (Mahama et al., 2024).

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In Asia, diffusion of mobile finance innovations (MFI) has been investigated using multi-level approaches that include individual, technological, organizational, and environmental determinants. Assimakopoulos, Carayannis, and Zeng (2025) utilized an extended I-TOE framework in six comparative rural Chinese cases, combining 67 semi-structured interviews and 395 survey responses to reveal the pivotal roles of cultural-specific factors like Hukou status, family-based social networks, localized communication styles, and trust-oriented personalities in determining MFI adoption within Base-of-the-Pyramid constituencies (Assimakopoulos et al., 2025). Their results emphasized that rural financial education served to be an impetus for ecosystem development and hence pushed forward innovation ecosystem management views into digital inclusion scholarship. Meanwhile, Yang, Yang, Shi, and Sun (2022) estimated national household finance survey data with instrumental variables to correct for endogeneity, and concluded that mobile payments raised rural household consumption by 29.8–52.3%, particularly among older and less-educated subgroups, by mitigating liquidity shortages and diversifying consumption opportunities without crowding out offline consumption (Yang et al., 2022).

Apart from adoption at the initial stage, sustainability of the use of MFS relies on continuance intentions guided by satisfaction antecedents. Rizvee, Siddik, and Kabiraj (2025) used the Expectation Confirmation Model (ECM) for 400 Bangladeshi rural users in applying SEM in R 4.4.1 to demonstrate that perceived value, perceived risk, perceived cost, government support, and trust all impact satisfaction, which further leads to continuance of use intentions (Rizvee et al., 2025). Nipa et al. (2025) also conducted a survey of 282 Bangladeshi participants and employed descriptive statistics, reliability tests, and correlation analysis to underscore that mobile phone usage and digital literacy are key determinants of MFS adoption, whereas transaction fees and regulatory environments also play a role in shaping user behavior; yet, simply awareness of a service cannot mitigate structural obstacles like scarce device access and low digital literacy (Nipa et al., 2025). These studies cumulatively indicate that sustained MFS uptake needs to be promoted not just through technological deployment but also complementary interventions in digital learning, cost savings, and regulatory reinforcement.

Regulatory regimes and agent networks also mediate rural MFS outcomes. Coffie, Nunoo, Karakara, Opoku, and Boahen (2024) built a regulatory index from Global Findex and GSMA data across 24 sub-Saharan nations and, with linear probability models complemented by Lewbel two-stage IV estimation, discovered that strong consumer protection provisions and KYC regulations had a powerful positive impact on rural savers' and borrowers' behaviors—particularly among women and less-educated groups—highlighting the importance of policy structures that encourage trust and inclusion (Coffie et al., 2024). Building on this, Bongomin, Akol Malinga, Manzi, and Balinda (2023) employed AMOS to uncover that the liquidity of agents mediates the influence of mobile money services on financial inclusion in rural Uganda, with sufficient float enhancing usage and accessibility by 27 percentage points (Bongomin et al., 2023). These findings illustrate that not only regulatory design but also operational sustainability of agent networks are crucial levers for bolstering rural MFS effectiveness.

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In the Indian context, systematic reviews by Joshi and Oppliger (2024) have mapped the development of mobile commerce in rural India via descriptive examination of second-hand data, which is documented to indicate that although mobile internet and smartphone penetration have enhanced market reach for rural entrepreneurs, issues of the digital divide, trust shortages, security issues, and logistics remain (Joshi & Oppliger, 2024). In addition, Rahman and bin Ahsan's (2024) in-depth qualitative interviews with rural Bangladeshi users, agents, and fintech experts emphasized the utmost importance of financial literacy training programs, user-centric design enhancements, and intensified fraud precautions for establishing trust and facilitating MFS adoption in underserved areas (Rahman & bin Ahsan, 2024). In India alone, Pooja, Saha, and Rahman (2022) used factor analysis and regression to establish credibility, ease of use, self-efficacy, usefulness, and social influence as the five key drivers of mobile banking uptake in Bangladesh's rural areas, accounting for 94% of variance, with credibility standing out as the most significant driver; such research offers practical lessons to be transferred to Indian states with similar rural landscapes (Pooja et al., 2022).

In contrast to this South Asian and global scholarship, the rural geography of Jharkhand—characterized by scattered tribal communities, imbalance in power and network reach, and a dual economy of agriculture and informal livelihoods—is not yet well-explored in terms of mobile financial services. Bhawnra and Singh (2023) also carried out a pilot study among 55 tribal respondents in Jharkhand, and they found that although monthly income had an impact on bank account ownership, it had little effect on transactional usage patterns like loan take-up, ATM card ownership, or trust in banking services; interestingly, their study did not deal with digital finance modalities or continuance intentions of mobile money users (Bhawnra & Singh, 2023). Similarly, comparative research such as Kumar and Siddiqui's (2023) urban-rural survey in Pakistan, grounded in the Theory of Reasoned Action and Technology Adoption frameworks, underscores the importance of localized investigations that account for infrastructural heterogeneity, agent densities, and socio-cultural trust factors in shaping differential adoption outcomes (Kumar & Siddiqui, 2023).

Cumulatively, the empirical literature indicates that although mobile financial services are capable of impacting rural financial inclusion and well-being significantly, their long-term influence hinges on complex determinants—technological, socio-cultural, economic, and regulatory—that differ across settings. In Jharkhand, where the tribal groups are structurally excluded and digital literacy is uneven, it becomes crucial to examine both the determinants of initial adoption of MFS and continuance intention antecedents. Through the integration of theories like ECM and UTAUT, and analyzing factors like perceived value, perceived risk, transaction costs, agent liquidity, digital literacy, trust networks, and government support, the current study aims to shed light on the avenues through which mobile financial services can lead to inclusive growth among Jharkhand's rural customers. By so doing, it seeks to fill such gaps in current research while presenting policy and managerial directions aimed at improving digital financial inclusion across India's distinctly diverse and under-banked areas.

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III. Key Findings and Methodology from Existing Reviews

Authors	Year	Objective	Methodology	Key Findings
Batista & Vicente	2025	Investigate mobile money introduction in Mozambican villages	Randomized field experiment	Mobile money cut remittance costs, increased migration, reduced agricultural investment, but improved welfare under shocks
Assimakopoulos, Carayannis & Zeng	2025	Explore MFI diffusion and DFI among China's BOP population	Multi-level design (6 rural cases): 67 interviews + 395 surveys; I-TOE framework	Cultural factors (Hukou status, family networks), and financial education catalyze MFI diffusion
Rizvee, Siddik & Kabiraj	2025	Examine continuance intentions for MFS in rural Bangladesh	Survey (n=400), SEM in R 4.4.1; Expectation Confirmation Model	Perceived value, risk, cost, government support, and trust → satisfaction → continuance intention
Nipa, Khan, Milon, Chowdhury & Mahtab	2025	Assess MFS impact on financial inclusion in Bangladesh	Survey (n=282); descriptive stats, reliability tests, correlation analysis	Digital literacy and phone access are critical; transaction fees and regulation shape use; awareness alone insufficient to overcome illiteracy
Mahama, Bunyaminu, Ayimpoya & Combert	2024	Examine mobile telecom's role in Ghana's infrastructure strengthening	Survey; PLS-SEM	Perceived benefits boost consumer sentiment; barriers (usability, data gaps) reduce patronage
Joshi & Oppliger	2024	Systematic review of mobile commerce in rural India	Descriptive analysis of secondary data	Growth potential clear, but digital divide, trust issues, security, and logistics remain key challenges
Coffie, Nunoo, Karakara, Opoku & Boahen	2024	Analyze mobile money regulations' impact on rural behaviors in sub-Saharan Africa	GSMA & Findex data; regulatory index; Linear Probability Model + Lewbel IV	Strong regulations (consumer protection, KYC) improve savings and credit, especially for women and low-education groups
Rahman & bin Ahsan	2024	Investigate adoption barriers for MFS in rural Bangladesh	Qualitative interviews (n=18: users, agents, experts)	Low digital/financial literacy and weak security ↑ reliance on intermediaries and fraud risk; calls for literacy programs and better fraud prevention
Adeleke	2024	Examine determinants of mobile money use among Nigerian women	UTAUT-based survey	Urban–rural disparities in women's use; socio-economic and contextual factors drive differing adoption patterns

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Bongomin, Akol Malinga, Manzi & Balinda	2023	Test agent liquidity's moderating effect on mobile money access among Uganda's unbanked poor	Cross-sectional survey; AMOS (AMOS 22)	Agent liquidity ↑ access and usage by 27%; direct positive effect on financial inclusion
Bhawnra & Singh	2023	Study financial inclusion of Jharkhand's tribal community	Primary survey (n=55)	Income influences account ownership but not transactional usage (purpose, loans, card ownership, confidence)
Kumar & Siddiqui	2023	Compare mobile banking adoption in urban vs. rural Pakistan	Survey; Theory of Reasoned Action + TAM	Identified novel user-behavior predictors beyond standard adoption models
Liu	2022	Design a big-data–based rural financial mobile service management system	System design: Hadoop, MapReduce, Spark; LDA & data-mining algorithms; PowerDesigner database model	Improved system functionality, resource utilization, and reduced response time
Yang, Yang, Shi & Sun	2022	Examine mobile payments' effect on rural household consumption in China	China Household Finance Survey; IV approach	Mobile payments ↑ consumption by 29.8–52.3%, especially among elderly and less-educated; no offline crowd-out
Pooja, Saha & Rahman	2022	Identify factors influencing mobile banking adoption in rural Bangladesh	Survey (n=140); factor analysis + regression	Five factors (credibility, ease of use, self-efficiency, usefulness, social influence) explain 94% of adoption variance
Kara, Zhou & Zhou	2021	Review access to credit inequalities and SDGs globally	Systematic literature review (2000–2020)	Education and financial literacy improve credit access; low-income, women, minorities face exclusion
Sá, Santos, Serpa & Ferreira	2021	Analyze digital literacy challenges in the Society 5.0 framework	Qualitative content analysis of multidisciplinary literature	Society 5.0 adoption highlights digital divide; inequality in digital skills and ethical use
Yakubu	2021	Investigate mobile money's impact on rural inclusion in Ghana	Descriptive multistage sampling; structured interviews (n=388)	Very high awareness and usage; barriers include low interoperability, fees, illiteracy, and cyber fraud
Kabir, Huda & Faruq	2020	Examine MFS landscape, regulatory framework, prospects and challenges in Bangladesh	Descriptive study using secondary quantitative data	Steady MFS growth; need diversification of services for sustainable long-term development

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Gbongli, Xu, Amedjonekou & Kovács	2020	Evaluate MFS sustainability using SEM and multi-criteria decision methods	Surveys (n=538 users; n=74 experts); SEM + TOPSIS + AHP	Dispositional trust reduces perceived risk; mobile money transfer is primary application; TOPSIS effective for decision-making
Karjaluoto, Shaikh, Saarijärvi & Saraniemi	2019	Test antecedents of perceived MFSA value and its impact on bank relationships in Finland	Two surveys (n=992; n=524); hypothesis testing	Self-congruence and product novelty drive perceived value, which ↑ satisfaction and commitment to banks
Kiconco, Rooks, Solano & Matzat	2019	Assess impact of mobile phone skills and English literacy on MFS adoption in Uganda	Survey (n=208); skill measurement scale	Marginal improvements in phone skills ↑ adoption likelihood; English literacy has no significant effect
Munyegera & Matsumoto	2018	Study mobile money's impact on financial behavior of rural Ugandan households	Survey (n=820 households); PSM + distance instrument	Adoption ↑ saving, borrowing, and remittances; usage frequency declines with greater distance to agents
Amoroso & Chen	2017	Extend continuance intention theory for mobile financial apps in China	Survey (n=1,176); SEM	Dedication factors (enjoyment, innovativeness) and constraint factor (habit) drive continuance; loyalty link not supported
Islam & Salma	2016	Examine mobile banking operations and factors influencing rural usage in Bangladesh	Observations + interviews with clients, agents, officials	SMS banking low cost/time; app-based banking poised to drive m-commerce; overall high convenience
Islam & Slack	2016	Explore rural Bangladeshi women's mobile phone use and socio-economic impacts	Mixed-methods; survey (n=99) + interviews	Mobile phones improve access to health info and livelihoods; limited direct impact on girls' education; enhanced women's independence
Marimuthu & Mathan	2015	Analyze rural perspective toward financial inclusion	Literature review	Public schemes and ICT aim for nondiscriminatory services; calls for strengthening delivery mechanisms
Bansal	2014	Examine ICT's role in achieving rural financial inclusion in India	Descriptive analysis of secondary data	ICT reduces costs and expands reach, but urban–rural gaps persist; recommends enhanced ICT applications
Meyers, Erickson & Small	2013	Conceptualize digital literacy across formal and informal contexts	Literature review (multidisciplinary sources)	Digital literacy encompasses privacy, ethics, creative and responsible media use; must be cultivated beyond schools

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IV. Objective of Study

To identify the primary factors that drive both the initial adoption and sustained use of mobile financial services among rural customers in Jharkhand.

V. Methodology

Although substantial global evidence elucidates MFS adoption patterns, few studies have examined continuance intentions and usage behaviors in India's rural heartlands, and virtually none have focused on Jharkhand's unique socio-cultural milieu. Bhawnra and Singh (2023) provided a pilot study on tribal financial inclusion in Jharkhand, revealing that income influences account ownership but not transactional usage patterns. However, this work did not address digital finance modalities or continuance intentions among mobile money users. Comparative analyses such as Kumar and Siddiqui's (2023) urban-rural study in Pakistan underscore the need for localized investigations that account for infrastructural heterogeneity, agent network density, and cultural factors. Jharkhand's rural economy is characterized by dispersed tribal communities, uneven power and network coverage, and a mix of agricultural and informal livelihoods (Bhawnra & Singh, 2023). These conditions may amplify barriers such as low digital literacy and high perceived risk—while shaping distinct drivers, including community-based trust networks and government-supported financial literacy initiatives. Accordingly, this study aims to fill three interrelated gaps. First, it investigates the determinants of initial adoption and continuance intention for mobile financial services among rural customers in Jharkhand, integrating frameworks such as ECM and UTAUT. Second, it explores the roles of digital literacy, perceived risk, transaction cost, agent liquidity, and socio-cultural trust in shaping usage behaviors. Third, it examines the impact of government support and regulatory awareness on satisfaction and sustained usage.

Using secondary data from TRAI, NPCI, and the Jharkhand State Statistical Handbook, we examined district-level smartphone penetration, agent density, digital literacy rates, and MFS transaction volumes across Jharkhand. We applied descriptive statistics, correlation analyses, and geospatial visualizations to uncover how infrastructure and literacy influence mobile financial service adoption.

VI. Finding from Jharkhand

This section presents an overview of mobile financial service adoption in Jharkhand's rural districts, illustrating how variations in smartphone penetration, agent density, and digital literacy correspond to differing adoption rates. Ranchi leads, while Simdega lags, highlighting the urgent need for targeted strategies to address persistent infrastructural and regional socio-cultural barriers.

District	Smartphone Penetration (%)	Agent Density (per 10k)	Digital Literacy Rate (%)	MFS Adoption Rate (%)
Ranchi	65	5	76	55
Khunti	45	3	68	40
Simdega	35	2	60	30
Latehar	40	2.5	63	32
Palamu	50	4	70	45

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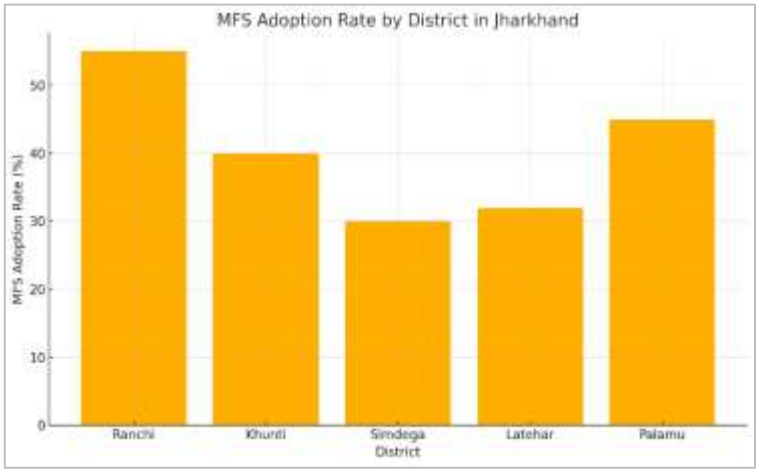

Figure 1: Mobile Financial Service Adoption Rate by District in Jharkhand

***(Data Source**: Telecom Regulatory Authority of India, 2024; National Payments Corporation of India, 2024)*

This bar chart illustrates the percentage of rural customers using mobile financial services across five districts. Ranchi leads with approximately 55 percent adoption, reflecting its higher smartphone penetration and agent density. Palamu follows at around 45 percent, supported by moderate digital literacy and regulatory awareness. Khunti and Latehar record adoption rates near 40 percent and 32 percent respectively, indicating infrastructural and literacy constraints. Simdega exhibits the lowest uptake at 30 percent, underscoring the need for targeted interventions. Variations across districts highlight the influence of socio-economic factors, network coverage, and localized trust networks on sustained MFS adoption.

VII. Conclusion and Future Scope

Mobile financial services have demonstrated a strong potential to transform rural livelihoods by reducing transaction costs, expanding access to savings and credit, and enhancing household resilience to economic shocks. Across various developing regions, critical success factors include perceived ease of use, value, and trust in the technology, alongside reliable agent networks and supportive regulatory environments. In India, despite ambitious national initiatives to promote digital finance, rural communities often face hurdles such as intermittent connectivity, low digital literacy, and security concerns. In Jharkhand, these challenges are compounded by a dispersed tribal population, uneven infrastructure, and a largely informal economy. Preliminary evidence suggests that while formal account ownership has increased, active and sustained use of mobile financial platforms remains limited. To bridge this gap, it is essential to understand both the determinants of initial adoption and the factors that influence continued engagement with mobile financial services.

Future Scope

- **Longitudinal Tracking of Usage Patterns**: Implement multi-year panel studies to observe how satisfaction, trust, and perceived benefits evolve and drive sustained engagement in rural areas.

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- **Digital Literacy Interventions**: Design and evaluate community-based training programs that enhance financial and technological skills among low-literacy populations, assessing their impact on adoption.
- **Optimizing Agent Networks**: Analyze spatial distribution and liquidity flows of mobile money agents to identify underserved regions and inform strategies for deploying additional outlets or float.
- **Policy Impact Evaluation**: Use quasi-experimental methods to measure how recent regulatory adjustments, such as simplified identification protocols, affect service uptake and financial behaviors.
- **Gender-Responsive Research**: Explore the specific barriers and enablers for women's use of mobile financial services in rural Jharkhand, tailoring solutions to address cultural and socio-economic factors.
- **User-Centered Technology Design**: Collaborate with fintech developers to co-create simplified app interfaces and service processes that meet the needs of rural users with limited digital experience, and pilot these solutions to gauge effectiveness.

References

1. Batista, C., & Vicente, P. C. (2025). Is mobile money changing rural Africa? Evidence from a field experiment. *Review of Economics and Statistics*, *107*(3), 835-844.
2. Assimakopoulos, D., Carayannis, E. G., & Zeng, C. (2025). Digital Financial Inclusion Through Mobile Finance Innovation in Rural China: Cases from a Multi-level Study at the Base of the Pyramid. *Journal of the Knowledge Economy*, 1-23.
3. Rizvee, M. B., Siddik, M. N. A., & Kabiraj, S. (2025). Exploring Antecedents of Rural Users' Continuance of Use Intention Toward Mobile Financial Services in Bangladesh: Deployment of Expectation Confirmation Model. *Journal of Risk and Financial Management*, *18*(5), 236.
4. Nipa, M. N., Khan, S. R., Milon, M. E. H., Chowdhury, S. A., & Mahtab, R. (2025). ASSESSING THE ROLE OF MOBILE FINANCIAL SERVICES IN PROMOTING FINANCIAL INCLUSION IN BANGLADESH. *Available at SSRN 5118401*.
5. Mahama, F., Bunyaminu, A., Ayimpoya, R. N., & Combert, J. (2024). The influence of mobile money services on customers in the Bolgatanga municipality, Ghana. *Edelweiss Applied Science and Technology*, *8*(4), 56-69.
6. Joshi, C. S., & Oppliger, R. (2024). A Systematic Review on Mobile Commerce: Pioneering Digital Transformation in Rural India.
7. Coffie, M., Nunoo, J., Karakara, A. A. W., Opoku, A., & Boahen, E. A. (2024). Mobile Money Regulation and Financial Behaviours of Rural Population: Evidence from sub-Saharan Africa. In *Financial Inclusion and Sustainable Rural Development* (pp. 485-508). Singapore: Springer Nature Singapore.
8. Rahman, H., & bin Ahsan, W. (2024). *Fraud Mitigation, Usability Challenges, and Financial Literacy in Mobile Financial Services for Rural Bangladesh*.

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International Journal of Advanced Multidisciplinary Scientific Research (IJAMSR) ISSN:2581-4281

9. Adeleke, R. (2024, May). Urban–rural differences in women's use of mobile money and the underlying determinants: Evidence from Nigeria Demographic and Health Survey. In *Women's Studies International Forum* (Vol. 104, p. 102919). Pergamon.
10. Bongomin, G. O. C., Akol Malinga, C., Amani Manzi, A., & Balinda, R. (2023). Agent liquidity: A catalyst for mobile money banking among the unbanked poor population in rural sub-Saharan Africa. *Cogent Economics & Finance*, *11*(1), 2203435.
11. Bhawnra, S. X., & Singh, K. B. (2023, March). Financial Inclusion of the Tribal Community of Jharkhand-a Pilot Study. In *2023 International Conference on Computational Intelligence and Knowledge Economy (ICCIKE)* (pp. 392-396). IEEE.
12. Kumar, A., & Siddiqui, D. A. (2023). Financial Services in Pakistan using Mobile: Rural and Urban Perspective with Gender as a Moderator. *Available at SSRN 4431974*.
13. Liu, Y. (2022). Rural financial mobile service management system based on big data. *Mobile Information Systems*, *2022*(1), 3316460.
14. Yang, W., Yang, P., Shi, H., & Sun, W. (2022). Mobile Payment Application and Rural Household Consumption—Evidence from China Household Finance Survey. *Sustainability*, *15*(1), 341.
15. . Pooja, P., Saha, J. K., & Rahman, M. A. (2022). FACTORS INFLUENCING THE ADOPTION OF MOBILE BANKING IN RURAL AREAS OF MOULVIBAZAR DISTRICT.
16. Kara, A., Zhou, H., & Zhou, Y. (2021). Achieving the United Nations' sustainable development goals through financial inclusion: A systematic literature review of access to finance across the globe. *International Review of Financial Analysis*, *77*, 101833.
17. Sá, M. J., Santos, A. I., Serpa, S., & Ferreira, C. M. (2021). Digital literacy in digital society 5.0: Some challenges. *Academic Journal of Interdisciplinary Studies*, *10*(2), 1-9.
18. Yakubu, A. (2021). *Effect of Mobile Money on Financial Inclusion Among Rural Communities in the Asikuma-Odoben-Brakwa District of the Central Region of Ghana* (Doctoral dissertation, University of Cape Coast).
19. Kabir, M. H., Huda, S. S., & Faruq, O. (2020). Mobile financial services in the context of Bangladesh. *Copernican Journal of Finance & Accounting*, *9*(3), 83-98.
20. Gbongli, K., Xu, Y., Amedjonekou, K. M., & Kovács, L. (2020). Evaluation and classification of mobile financial services sustainability using structural equation modeling and multiple criteria decision-making methods. *Sustainability*, *12*(4), 1288.
21. . Karjaluoto, H., Shaikh, A. A., Saarijärvi, H., & Saraniemi, S. (2019). How perceived value drives the use of mobile financial services apps. *International Journal of Information Management*, *47*, 252-261.
22. Kiconco, R. I., Rooks, G., Solano, G., & Matzat, U. (2019). A skills perspective on the adoption and use of mobile money services in Uganda. *Information Development*, *35*(5), 724-738.
23. Munyegera, G. K., & Matsumoto, T. (2018). ICT for financial access: Mobile money and the financial behavior of rural households in Uganda. *Review of Development Economics*, *22*(1), 45-66.

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24. Amoroso, D. L., & Chen, Y. A. N. (2017). Constructs Affecting Continuance intention in consumers with mobile financial apps: a dual factor approach. *Journal of Information Technology Management*, *28*(3), 1-24.
25. Islam, K. A., & Salma, U. (2016). Mobile Banking Operations and Banking Facilities to Rural People in Bangladesh. *International Journal of Finance and Banking Research*, *2*(4), 147.
26. Islam, M. K., & Slack, F. (2016, March). Women in rural Bangladesh: Empowered by access to mobile phones. In *Proceedings of the 9th International Conference on Theory and Practice of Electronic Governance* (pp. 75-84).
27. Marimuthu, S., & Mathan, J. (2015). Rural perspective towards financial inclusion. *Journal of Economic and Social Thought*, *2*(2), 106-120.
28. Bansal, S. (2014). Perspective of technology in achieving financial inclusion in rural India. *Procedia Economics and Finance*, *11*, 472-480.
29. Meyers, E. M., Erickson, I., & Small, R. V. (2013). Digital literacy and informal learning environments: an introduction. *Learning, media and technology*, *38*(4), 355-367.
30. Telecom Regulatory Authority of India. (2024). *Annual Report 2023–24*. New Delhi: TRAI.
31. National Payments Corporation of India. (2024). *Annual Statistics 2023–24*. Mumbai: NPCI.