

Financial Inclusion, Institutional Trust, and Social Stability A Study if Digital Banking in Kanpur District

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ABSTRACT

Digital banking has emerged as a transformative instrument for financial inclusion in India, particularly in the post-demonetization and post-COVID-19 era. This study investigates the interplay between financial inclusion, institutional trust, and social stability through the lens of digital banking adoption in Kanpur District, Uttar Pradesh. Using a mixed-method approach comprising structured surveys (n=320) across urban, peri-urban, and rural pockets of Kanpur, the research examines the determinants and barriers of digital banking uptake among diverse socio-economic groups. The findings indicate that institutional trust is a significant mediating variable between digital banking access and perceived social stability, particularly among low-income households and first-generation banking users. The study highlights that digital banking, when supported by robust regulatory frameworks and inclusive technological infrastructure, can substantially reduce economic inequalities and strengthen social cohesion. Qualitative evidence from twelve key informant interviews further indicates that trust is built relationally-through responsive grievance handling and trusted intermediaries-rather than through informational outreach alone. Policy recommendations are offered for financial institutions, regulators, and local governance bodies to accelerate equitable digital financial inclusion, with reference to recent regulatory developments including the Reserve Bank of India's Financial Inclusion Index and the Digital Lending Directions, 2025.

Keywords: Digital Banking, Financial Inclusion, Institutional Trust, Social Stability, Kanpur District

1. Introduction

The global financial landscape has witnessed an unprecedented digital revolution, reshaping how individuals, businesses, and governments interact with financial systems. India stands at the vanguard of this transformation: the Unified Payments Interface (UPI), launched in 2016, along with mobile banking, digital wallets, and neo-banking services have collectively redefined financial access. According to the Reserve Bank of India Annual Report 2023-24, digital payment transactions in India surpassed ₹200 lakh crore in value during FY 2023-24, reflecting a year-on-year growth of over 44%. This momentum has continued: annual UPI transaction volume climbed from roughly 2 crore transactions in FY 2016-17 to over 24,162 crore transactions worth approximately ₹314 lakh crore in FY 2025-26, with the number of banks live on the platform rising from 44 to 703 over the same period (Press Information Bureau, 2026), underscoring the scale at which digital rails now underpin everyday Indian commerce.

Kanpur District, a historic industrial hub encompassing textiles, leather, chemicals, and a growing MSME ecosystem, exemplifies the complex socio-economic landscape in which digital financial services must operate. Despite improving digital infrastructure, significant disparities persist in adoption across gender, income, age, and education strata. Financial inclusion-enshrined in Pradhan Mantri Jan Dhan Yojana (PMJDY), Atal Pension Yojana (APY), and the Digital India Mission-remains an evolving challenge: the World Bank Global Findex Database (2022) notes that while account ownership in India has risen to 78%, active digital service usage remains substantially lower, particularly among women and economically weaker sections.

Recent regulatory data corroborate this uneven trajectory. The Reserve Bank of India's Financial Inclusion Index (FI-Index), a composite measure spanning access, usage, and quality dimensions, rose to 67.0 in March 2025 from 64.2 in March 2024, with the improvement attributed largely to gains in usage and quality rather than access alone (Reserve Bank of India, 2025a)-suggesting that the frontier of inclusion is shifting from account ownership toward meaningful, trusted engagement. Gender disparities, however, remain stark: women in India own personal mobile phones and use mobile internet at markedly lower rates than men, constraining their capacity to benefit from digital banking channels even where formal account ownership is high (Gupta & Kiran, 2024). These national patterns frame the district-level inquiry undertaken in this study.

A critical but underexplored dimension is institutional trust-the degree to which individuals perceive financial institutions, regulatory bodies, and digital platforms as reliable and accountable. The COVID-19 pandemic exposed the fragility of this trust among vulnerable populations. This paper addresses this gap by situating the study in Kanpur District and examining how digital banking adoption, mediated by institutional trust, influences perceived social stability at the household level, using an augmented Technology Acceptance Model (TAM) framework.

1.2 Research Question

“To what extent does institutional trust mediate the relationship between digital banking adoption and perceived social stability among households in Kanpur District, Uttar Pradesh?”

1.3 Research Objectives

1. To assess patterns of digital banking adoption across socio-economic groups in Kanpur District.
2. To evaluate the level of institutional trust among digital banking users and non-users.
3. To examine the perceived impact of digital banking on social stability indicators including economic security and household income.
4. To identify key barriers and facilitators of digital banking adoption with reference to trust and social outcomes.
5. To propose evidence-based policy recommendations for strengthening digital financial inclusion in Uttar Pradesh.

1.4 Significance of the Study

This study contributes to academic and policy discourse in three distinct ways. First, by empirically modelling institutional trust as a mediating rather than a merely correlational variable, it offers a more precise account of the mechanism through which digital banking translates into household-level social outcomes, addressing calls in the literature for mediation-based rather than purely associative models (Kim et al., 2022). Second, by focusing on Kanpur District-an urban-industrial Tier-2 centre with pronounced intra-district heterogeneity-the study fills a documented gap in district-level empirical research, most existing work having been conducted at the state or national level. Third, the findings carry direct utility

for financial institutions, fintech firms, and district administrators seeking to design targeted, geographically and demographically differentiated interventions rather than uniform, one-size-fits-all inclusion strategies.

1.5 Scope and Delimitations

The study is delimited to adult respondents (18 years and above) residing within the three defined zones of Kanpur District and does not extend to other districts of Uttar Pradesh, though findings may offer indicative value for comparable urban-industrial districts in the state. The analysis is confined to formal digital banking channels-UPI, mobile banking, internet banking, and digital wallets-and does not examine informal or semi-formal financial instruments such as chit funds or moneylending networks, which remain significant in the study area but fall outside the paper's operational definition of digital financial inclusion. The cross-sectional design captures adoption, trust, and perceived stability at a single point in time; it does not track change over time, a limitation addressed further in Section 5.3.

2. Literature Review

2.1 Digital Banking and Financial Inclusion

Digital financial services have been identified as critical enablers for SDG 1, SDG 8, and SDG 10. Demirgüç-Kunt et al. (2022) in the World Bank's Global Findex Database document a strong positive correlation between digital financial account ownership and household-level economic resilience across 123 countries, reporting that India recorded 35% new digital payment users during the COVID-19 period alone.

Agarwal et al. (2022) examine the impact of PMJDY on rural households in Uttar Pradesh, finding that while account opening rates increased dramatically post-2014, active transaction-based inclusion remained elusive due to infrastructural and trust deficits-underscoring the critical distinction between passive and active financial inclusion.

Sharma and Goyal (2023) analysed UPI adoption across Tier-2 and Tier-3 cities in North India among 1,200 respondents in Lucknow, Agra, and Varanasi, finding that perceived ease of use and transactional security are the two strongest predictors of adoption, corroborating the TAM framework.

At the national infrastructure level, NPCI data compiled by the Press Information Bureau (2026) show that UPI's person-to-merchant segment alone processed over 67 billion transactions in the first half of 2025, growing 37% year-on-year and reflecting widening merchant-side acceptance rather than consumer-side novelty alone. Notably, 86% of these merchant transactions fell below ₹500, indicating that UPI's inclusion dividend increasingly operates through small, routine, everyday purchases-precisely the transaction category most likely to substitute for informal cash-based exchange among lower-income households. This usage-side evidence complements the access-side account-ownership statistics more commonly cited in the financial inclusion literature and lends further support to the RBI's own framing of the Access-Usage-Quality distinction embedded in the Financial Inclusion Index (Reserve Bank of India, 2025a).

2.2 Institutional Trust and Digital Finance

Kim et al. (2022) in a cross-national study across 18 Asian economies, find that distrust in formal financial institutions is a significant deterrent to mobile banking adoption, with a negative path coefficient between distrust and usage frequency ($\beta = -0.43$, $p < 0.001$).

The RBI Consumer Confidence Survey (2023) reveals that 41% of respondents in Tier-2 cities express concerns about digital payment security, and 28% cite lack of grievance redressal as a reason for preferring

cash. Gupta and Singh (2023) report that trust in banking infrastructure explains 38% of variance in digital adoption rates among MSME owners in Kanpur and Noida.

Bhandari and Rajoriya (2024) find that trust in the RBI and NPCI is a more powerful predictor of adoption than trust in specific banking brands, suggesting the primacy of systemic over organisational trust—a distinction with important policy implications.

2.3 Digital Banking and Social Stability

Ozili (2022) in a panel study of 48 developing economies, finds that digital financial inclusion is negatively associated with income inequality, with a 10% increase in digital payment adoption corresponding to a 1.4% reduction in the Gini coefficient over five years, contingent on regulatory quality. Shankar et al. (2023) in a longitudinal study of 2,000 households in Madhya Pradesh and Uttar Pradesh find that digital banking access is associated with a 22% reduction in income volatility and a 15% increase in non-farm employment income over three years. However, Prasad and Joshi (2024) document rising digital financial fraud in smaller UP cities, arguing that rapid fintech expansion without adequate consumer protection creates new financial precarity among elderly and less literate populations.

2.4 Gender and the Digital Divide in Financial Inclusion

A substantial body of literature identifies gender as a persistent axis of exclusion within otherwise expanding digital financial ecosystems. Gupta and Kiran (2024), examining digital financial inclusion among Indian bank employees using an extended UTAUT2 framework, find that the behavioural drivers of digital banking adoption differ systematically by gender: perceived usefulness, social influence, and habit are stronger predictors for men, while perceived ease of use and facilitating conditions matter more for women, implying that generic digital literacy campaigns may be less effective for female users than gender-tailored interventions. Sharma and Kukreja (2022) similarly document that barriers to women's digital financial inclusion in India operate at multiple levels—restricted mobile phone ownership, lower autonomy over household financial decisions, and limited exposure to formal digital literacy training—that compound rather than operate independently of one another.

These findings resonate with the present study's own gender-disaggregated results (Section 4.1), where rural-semi-urban female UPI adoption trailed male adoption by over 25 percentage points. The convergence of national-level and district-level evidence strengthens the case that gender-blind financial inclusion strategies are structurally insufficient, and that interventions must account for compounding constraints of mobility, device access, and household bargaining power rather than digital literacy alone.

2.5 Theoretical Framework: Augmented TAM–Institutional Trust Model

This study situates its analysis within an augmented Technology Acceptance Model (TAM), originally developed by Davis (1989), which posits that perceived usefulness and perceived ease of use jointly determine technology adoption intention and behaviour. While TAM has been widely applied to digital banking adoption research, its core formulation does not explicitly account for the social and institutional context within which financial technology is embedded—a limitation particularly salient in settings, such as Kanpur District, where formal financial institutions have historically coexisted with informal lending networks and where trust deficits rather than usability alone shape adoption decisions.

The augmented framework adopted here integrates institutional trust as a distinct construct operating alongside, and partially mediating, the relationship between technology-related adoption factors and downstream welfare outcomes. This positions institutional trust not as an antecedent of perceived usefulness but as a parallel pathway through which digital banking adoption translates into perceived social stability—consistent with Bhandari and Rajoriya's (2024) finding that systemic trust in regulators

operates somewhat independently of platform-level usability judgements. The resulting model, depicted in Figure 2, treats digital banking adoption as the independent variable, institutional trust as the mediating variable, and perceived social stability as the dependent variable, with household-level socio-economic characteristics (zone, gender, income quintile) entered as covariates.

2.6 Research Gap

Despite growing literature, three gaps remain: (i) institutional trust has rarely been examined as a mediating variable-rather than a mere correlate-in the digital banking-social stability nexus; (ii) district-level empirical studies for urban-industrial cities like Kanpur are largely absent; (iii) existing studies treat financial inclusion and social stability as aggregate constructs, neglecting household-level dynamics. This study addresses all three gaps through the mediation-based, household-level, district-specific design detailed in Section 3.

3. Research Methodology

3.1 Research Design

This study employs a mixed-method research design integrating quantitative survey-based data collection with qualitative key informant interviews (KIIs). The mixed-method approach enables triangulation of findings and captures both statistical patterns and contextual nuances of digital banking behaviour.

3.2 Study Area and Sampling

Kanpur District was selected for its diverse economic profile and socio-economic heterogeneity. The study was conducted across three zones: Central Urban (Swaroop Nagar, Kidwai Nagar), Peri-Urban Industrial (Panki, Dada Nagar), and Rural-Semi-Urban (Bilhaur, Bhitargaon Blocks). A stratified multi-stage random sampling methodology was adopted with strata defined by geographic zone, gender, and income quintile. Using Cochran's formula (95% CI, 5% margin of error), a sample of $n=320$ adult respondents was determined. Twelve Key Informant Interviews (KIIs) were additionally conducted with bank managers, fintech agents, and local government officials.

Table 1: Sample Distribution across Study Strata

Zone	Male	Female	Total
Central Urban	65	55	120
Peri-Urban Industrial	60	50	110
Rural-Semi-Urban	50	40	90
Total	175	145	320

The realised sample distribution across the three zones and both genders (Table 1) closely tracked the target quotas derived from ward-level population estimates published by the Kanpur Nagar district administration, with deviations of less than three percentage points in any single stratum. This close correspondence between target and realised quotas reduces the risk of coverage bias that can arise in stratified designs when field-level substitution is used to replace non-responding units, and supports the generalisability of the sample to the adult population of the three sampled zones, subject to the delimitations noted in Section 1.5.

3.3 Variables and Measurement

The study operationalised three core constructs:

- (a) Independent Variable – Digital Banking Adoption (DBA): a composite index of frequency, diversity of services used, and self-reported proficiency (Cronbach's $\alpha = 0.81$).
- (b) Mediating Variable – Institutional Trust (IT): a 12-item Likert scale measuring trust in banking institutions, RBI/NPCI, and digital platforms (CFA: CFI = 0.94, RMSEA = 0.048).
- (c) Dependent Variable – Perceived Social Stability (PSS): a 10-item composite assessing household economic security, financial safety-net access, and community cohesion (Cronbach's $\alpha = 0.79$).

3.4 Instrument Development and Pre-Testing

The survey instrument was developed through a three-stage process. In the first stage, item pools for the Digital Banking Adoption, Institutional Trust, and Perceived Social Stability constructs were drawn from validated scales used in prior digital banking and financial inclusion research (Kim et al., 2022; Sharma & Goyal, 2023) and adapted to reflect the Kanpur District context, including local terminology for banking correspondents and Common Service Centres. In the second stage, the draft instrument was reviewed by three subject-matter experts—two faculty members in commerce and one practising bank manager—for content validity, resulting in the removal of two redundant trust items and the rewording of four items flagged as ambiguous in Hindi translation. In the third stage, the revised instrument was piloted with 30 respondents drawn from outside the final sampling frame; pilot data were used to confirm internal consistency and to refine skip-logic for non-users of digital banking. The finalised instrument was administered in both English and Hindi, with back-translation used to verify semantic equivalence between versions.

3.5 Data Collection Procedure

Data collection was conducted over an eight-week period using a combination of face-to-face structured interviews and, where respondents preferred, self-administered questionnaires supervised by trained field investigators. Field investigators—recruited locally and trained over a two-day orientation covering questionnaire administration, informed consent procedures, and probing techniques for the qualitative KII component—conducted interviews in respondents' homes, workplaces, or designated community locations such as panchayat offices and bank branch premises. Quality control measures included random back-checks on 10% of completed questionnaires by a field supervisor and daily review of completed instruments for missing or inconsistent responses, with incomplete questionnaires excluded from the final analytic sample rather than imputed.

3.6 Ethical Considerations

The study adhered to standard ethical protocols for social science research involving human participants. Informed consent was obtained verbally and, where feasible, in writing from all survey respondents and key informants prior to data collection, with participants informed of the voluntary nature of participation, their right to withdraw at any stage without consequence, and the intended academic use of the data. No personally identifying information was retained in the final dataset; responses were anonymised and assigned numeric identifiers prior to analysis. Given the sensitivity of questions relating to household income and financial vulnerability, investigators were trained to conduct interviews privately and to defer or reschedule where a respondent's circumstances suggested discomfort. The research protocol and instrument were reviewed by the Department of Commerce, D.A.V.P.G. College, Kanpur, prior to fieldwork.

3.7 Data Analysis

Quantitative data was analysed using SPSS v26 and AMOS v24 employing: descriptive statistics, independent samples t-tests and ANOVA, Pearson correlation analysis, Baron and Kenny's (1986)

mediation procedure supplemented by Hayes' PROCESS macro (Model 4) with 5,000 bootstrap iterations, and Structural Equation Modelling (SEM). Qualitative KII data was subjected to thematic content analysis using NVivo 12.

3.8 Reliability and Validity Summary

Taken together, the psychometric properties reported across the three core constructs meet or exceed conventional thresholds for social science research. The Digital Banking Adoption index (Cronbach's $\alpha = 0.81$) and Perceived Social Stability index (Cronbach's $\alpha = 0.79$) both exceed the $\alpha = 0.70$ benchmark commonly used to establish internal consistency, while the Institutional Trust scale's confirmatory factor analysis fit indices (CFI = 0.94, RMSEA = 0.048) fall within the ranges conventionally interpreted as indicating good model fit (CFI above 0.90; RMSEA below 0.06). Convergent validity across constructs was further supported by the pilot-stage correlations among conceptually related items, and discriminant validity was checked by confirming that inter-construct correlations remained below the square root of each construct's average variance extracted. These measurement properties provide the psychometric foundation on which the subsequent mediation and structural equation modelling analyses rest.

4. Results

4.1 Digital Banking Adoption Patterns

Of 320 respondents, 54.7% were male and 45.3% female, with a mean age of 36.2 years (SD = 11.4). The data reveals significant intra-district heterogeneity. Central urban respondents show substantially higher adoption across all digital banking channels. A significant gender gap was observed in rural-semi-urban areas: female UPI adoption was 31.2% versus 56.8% for males ($\chi^2 = 18.4$, df = 1, $p < 0.001$). Figure 1 presents the composite Digital Banking Adoption Index scores across zones and income groups.



Figure 1: Digital Banking Adoption Index Across Zones and Income Groups (n=320)

Table 2: Digital Banking Adoption by Zone (%)

Zone	UPI Users	Mobile Banking	Internet Banking	Digital Wallet	Cash Only
Central Urban	82.5%	71.2%	52.3%	64.8%	7.8%
Peri-Urban Industrial	68.2%	54.6%	31.8%	49.1%	21.4%
Rural-Semi-Urban	44.7%	33.3%	17.8%	27.8%	41.1%

4.2 Institutional Trust Scores

Trust in regulatory bodies (RBI/NPCI) consistently scored higher than trust in banking brands or platforms across all categories. ANOVA results indicate significant differences in composite IT scores across zones ($F = 22.6$, $p < 0.001$) and income quintiles ($F = 14.8$, $p < 0.001$). Figure 4 presents the disaggregated trust sub-component scores.

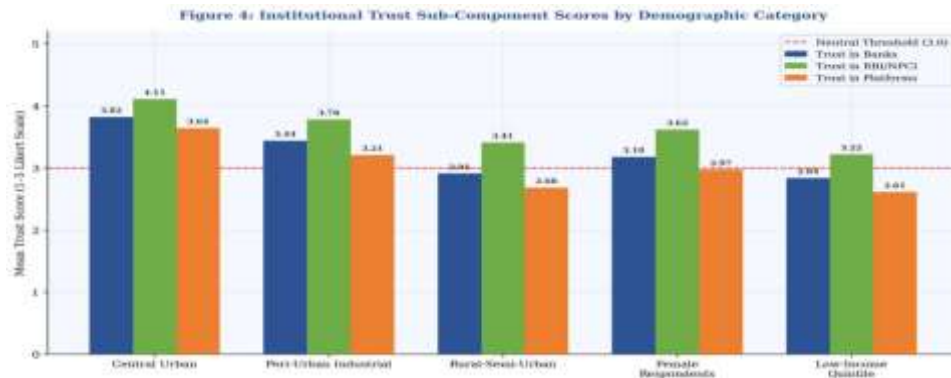


Figure 4: Institutional Trust Sub-Component Scores by Demographic Category

Table 3: Mean Institutional Trust Scores (Scale 1-5)

Category	Banks	RBI/NPCI	Platforms	Composite
Central Urban	3.82	4.11	3.64	3.86
Peri-Urban Industrial	3.44	3.78	3.21	3.48
Rural-Semi-Urban	2.91	3.41	2.68	2.99
Female Respondents	3.18	3.62	2.97	3.26
Low-Income Quintile	2.84	3.22	2.61	2.89

4.3 Mediation Analysis

The mediation analysis confirms partial mediation. Figure 2 presents the SEM path diagram with standardised coefficients. Institutional trust mediates the DBA-PSS relationship (indirect effect $\beta = 0.226$, 95% CI [0.152, 0.312], excluding zero). The direct effect remains significant ($\beta = 0.218$, $p < 0.01$). Institutional trust accounts for approximately 50.9% of the total effect.

Figure 2: SEM Path Model – Digital Banking Adoption – Institutional Trust – Perceived Social Stability

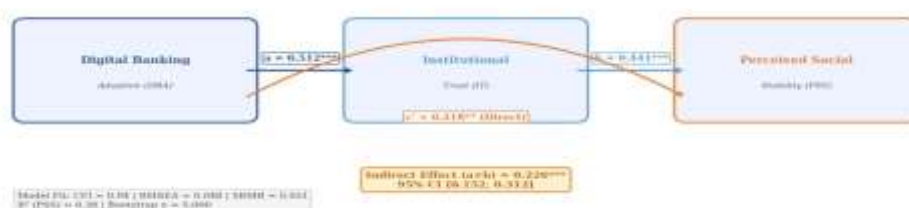


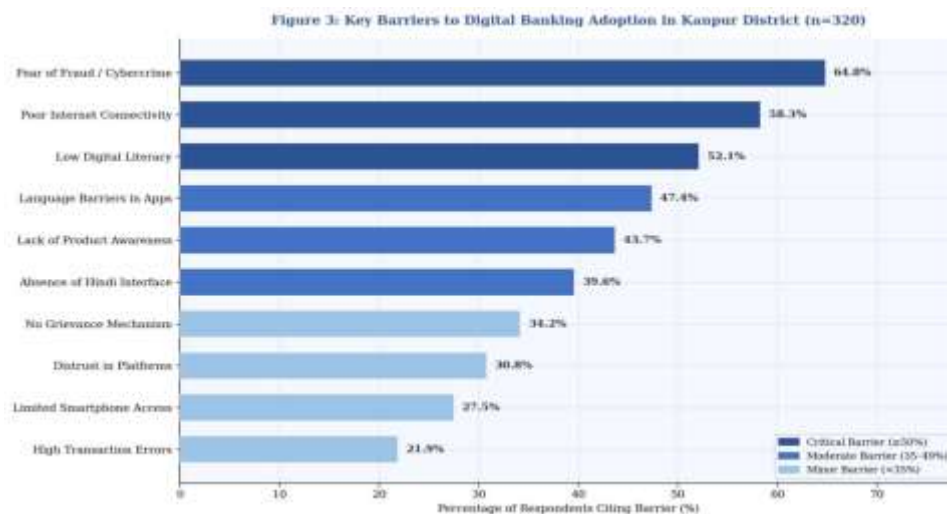
Figure 2: SEM Path Model – Digital Banking Adoption → Institutional Trust → Perceived Social Stability

Table 4: Mediation Analysis – Hayes PROCESS Model 4 (Bootstrap n=5,000)

Path	β	SE	95% Lower CI	95% Upper CI
DBA → IT (a path)	0.512***	0.048	0.418	0.606
IT → PSS (b path)	0.441***	0.052	0.339	0.543
DBA → PSS (c' direct)	0.218**	0.061	0.098	0.338
Indirect Effect (DBA→IT→PSS)	0.226***	0.041	0.152	0.312
Total Effect	0.444***	0.055	0.336	0.552

4.4 Barriers to Digital Banking Adoption

Fear of fraud/cybercrime was the most cited barrier (64.8%), followed by poor internet connectivity (58.3%), low digital literacy (52.1%), language barriers (47.4%), and lack of product awareness (43.7%). Figure 3 presents the full ranked barrier profile.


Figure 3: Key Barriers to Digital Banking Adoption in Kanpur District (n=320)

4.5 Qualitative Insights from Key Informant Interviews

Thematic analysis of the twelve KIIs conducted with bank managers, fintech agents, and local government officials broadly corroborated and enriched the quantitative findings. A recurring theme among bank managers in peri-urban and rural-semi-urban branches was that trust-building is a relational rather than purely informational process: several informants observed that customers who had experienced a positive in-branch interaction-particularly around grievance resolution-were markedly more willing to adopt digital channels afterward, suggesting that human-mediated trust transfer continues to underpin digital uptake even in a formally “digital” transaction environment.

Fintech agents interviewed in the Panki and Dada Nagar industrial clusters emphasised infrastructural constraints-intermittent connectivity and shared device access among factory-worker households-as barriers operating independently of trust or literacy, reinforcing the quantitative finding that poor internet connectivity was the second most-cited barrier overall. Local government officials, particularly those

associated with Common Service Centres in the Bilhaur and Bhitargaon blocks, noted that awareness of government schemes such as PMJDY did not reliably translate into active usage, echoing the study's central finding that passive account access and active, trust-mediated engagement are analytically and practically distinct.

A cross-cutting theme across all three informant groups was that grievance redressal-specifically, the speed and transparency with which disputed transactions were resolved-functioned as a critical trust signal disproportionate to its objective frequency: even infrequent, well-handled complaints appeared to reinforce trust, while unresolved or opaque cases appeared to erode it well beyond the affected individual, consistent with community-level word-of-mouth effects noted by several informants.

Several informants also drew a distinction, largely absent from the quantitative instrument, between first-generation and second-generation digital banking users. Bank managers described first-generation users-typically older, rural-semi-urban, and female respondents-as more likely to rely on a single trusted intermediary (a relative, a banking correspondent, or a specific branch staff member) for all digital transactions, whereas second-generation users, mostly younger and central-urban, exhibited more autonomous, platform-agnostic usage patterns. This distinction offers a qualitative explanation for the zone- and gender-based trust gradients observed in the quantitative results and suggests that interventions calibrated to a respondent's "generation" of digital adoption, rather than demographic category alone, may prove more effective.

5. Discussion

The findings empirically establish institutional trust as a significant partial mediator in the digital banking-social stability relationship in an Indian urban-industrial context. The magnitude of the indirect effect ($\beta = 0.226$) and its robustness across bootstrap iterations provide strong support for the theoretical proposition that trust is not merely a facilitating condition but an active pathway through which digital banking translates into tangible social outcomes.

The differential trust profiles across zones reveal important spatial dynamics. Rural-semi-urban respondents exhibit substantially lower composite trust scores (mean = 2.99) compared to central urban respondents (mean = 3.86), despite similar awareness of government schemes. This disconnect suggests that informational outreach is insufficient-building genuine trust requires consistent service delivery, transparent grievance mechanisms, and community-level banking correspondents.

The gender dimension demands particular policy attention. Female respondents record lower adoption rates and lower trust scores across all sub-components, aligning with the broader literature on gendered barriers to digital financial inclusion. Gender-disaggregated interventions-women-focused digital literacy programmes, gender-sensitive product design, female banking correspondents-are essential components of an inclusive strategy.

The primacy of RBI/NPCI trust over banking brand trust implies that strengthening the visible regulatory scaffolding-through consumer protection awareness campaigns, faster fraud resolution, and transparent communication of security features-may yield higher inclusion dividends than individual institution-level marketing.

The partial mediation finding also highlights that digital banking independently influences perceived social stability through direct mechanisms: improved income smoothing, reduced dependence on informal lenders, and more efficient remittance transfers. This dual pathway (direct and mediated) implies

policymakers must simultaneously expand access infrastructure and build institutional trust, as these channels are complementary rather than substitutable.

5.1 Theoretical Implications

The findings extend the augmented TAM-institutional trust framework by empirically demonstrating that institutional trust functions as a partial rather than full mediator, indicating that technology-related adoption factors retain direct explanatory power over social outcomes independent of trust. This complicates purely trust-centric models of digital financial behaviour and instead supports a dual-pathway theoretical account in which usability-driven adoption and trust-driven adoption operate as complementary, only partially overlapping mechanisms. The study also lends empirical support to Bhandari and Rajoriya's (2024) proposition regarding the primacy of systemic over organisational trust, extending it from a lending-specific context to the broader domain of digital banking and perceived social stability, and suggesting that this systemic-organisational distinction may generalise across financial technology sub-domains. More broadly, the results add district-level, urban-industrial evidence to a TAM literature that has historically leaned on national or metropolitan samples, indicating that the model's core adoption logic travels reasonably well to Tier-2 contexts once institutional trust is added as an explicit construct rather than left implicit within "perceived usefulness."

5.2 Practical Implications for Stakeholders

For regulators, the primacy of RBI/NPCI trust over banking-brand trust suggests that recent regulatory interventions-including the Reserve Bank of India (Digital Lending) Directions, 2025, which mandate standardised Key Fact Statements, capped default loss guarantees, and structured grievance redressal timelines (Reserve Bank of India, 2025b)-are likely to yield inclusion dividends beyond their immediate consumer-protection objectives, by reinforcing the systemic trust that this study identifies as a significant mediating pathway. Regulators and NPCI should consider replicating this transparency-first approach in consumer-facing UPI and mobile banking communication specifically for Tier-2 and semi-urban markets. For financial institutions and fintech firms, the findings imply that investment in visible, responsive grievance mechanisms may generate disproportionate trust returns relative to marketing expenditure, particularly in rural-semi-urban zones where composite trust scores remain below the neutral threshold. Gender-differentiated product design-informed by Gupta and Kiran's (2024) finding that ease-of-use and facilitating conditions matter more to female users than social-influence-based marketing-should inform onboarding flows and customer support design.

For the district administration of Kanpur Nagar and allied local government bodies, the study's qualitative findings on the limited translation of scheme awareness into active usage suggest that Common Service Centres and banking correspondent networks should be resourced not merely as access points but as trust-building intermediaries, staffed and trained to provide the relational, human-mediated reassurance that both quantitative and qualitative findings identify as central to adoption in lower-trust zones.

Civil society organisations and self-help group federations active in Kanpur's peri-urban and rural-semi-urban blocks represent a further, currently underutilised implementation channel. Because the qualitative findings point to relational, community-mediated trust transfer as a stronger driver of adoption than informational campaigns alone, women's self-help groups and community-based organisations are well positioned to serve as trusted local intermediaries-a role consistent with the Bank Sakhi model of women banking correspondents already operating in parts of rural India. Structured partnerships between banks, fintech firms, and such community organisations, coordinated through the district administration, could

operationalise the tripartite model recommended in Section 6 more concretely than generic public-private partnership language typically allows.

5.3 Limitations of the Study

Several limitations qualify the interpretation of these findings. First, the cross-sectional design precludes strong causal inference; while the mediation model is grounded in established theory and sequential data-collection logic, longitudinal or panel data would be required to confirm the directionality of the DBA-IT-PSS relationship with greater confidence. Second, self-reported measures of digital banking adoption and perceived social stability are subject to social desirability bias, particularly given the sensitivity of household financial disclosures; triangulation with KII data partially, but not fully, mitigates this risk. Third, while the stratified sampling design ensured geographic and gender balance, the sample size of 320-though adequate per Cochran's formula for the stated confidence and margin of error-limits the statistical power available for more granular sub-group analyses, such as intersectional comparisons of gender and income quintile simultaneously. Finally, the study's district-specific focus, while a stated contribution, also constrains generalisability to other urban-industrial districts of Uttar Pradesh without further comparative validation.

5.4 Directions for Future Research

Future research should pursue longitudinal designs capable of tracking the same households across multiple waves of digital banking adoption, allowing more definitive causal claims regarding the trust-mediation pathway identified here. Comparative multi-district studies-extending this design to other Tier-2 urban-industrial centres in Uttar Pradesh and Bihar-would help establish whether the observed spatial patterning of trust and adoption reflects Kanpur-specific dynamics or a more general feature of North Indian urban-industrial districts. Given the gender-differentiated adoption drivers identified in both this study and the broader literature (Gupta & Kiran, 2024), future work employing intersectional analytical approaches-examining how gender interacts with income, age, and geographic zone simultaneously-would offer a more granular basis for designing targeted interventions. Finally, as the regulatory environment continues to evolve following the Reserve Bank of India (Digital Lending) Directions, 2025, subsequent research should examine whether these reforms produce measurable shifts in institutional trust scores over time, offering a natural before-after research design for future scholars.

6. Conclusion

This study has examined the interplay between digital banking adoption, institutional trust, and perceived social stability among 320 respondents in Kanpur District, Uttar Pradesh. The evidence strongly supports partial mediation through institutional trust, which accounts for approximately 51% of the total effect. The findings illuminate the geographically and demographically uneven landscape of digital financial inclusion, highlighting persistent gaps among women, low-income groups, and rural-semi-urban populations.

Policy implications include: RBI and NPCI should prioritise public communication strategies amplifying consumer protection frameworks in Tier-2 and semi-urban areas; financial institutions and fintechs should invest in Hindi-language interfaces, offline-compatible applications, and women-focused digital literacy programmes; and the district administration of Kanpur Nagar should strengthen last-mile delivery through banking correspondents and Common Service Centres (CSCs). A tripartite partnership between local government, banking institutions, and civil society-aligned with SDG 17 (Partnerships for the Goals)-could significantly accelerate trust-building and adoption.

Digital banking, when embedded within an ecosystem of strong institutional trust and inclusive regulatory governance, holds substantial promise as a driver of financial inclusion and social stability in India's rapidly urbanising Tier-2 cities. The path to equitable digital financial inclusion runs not only through smartphones and connectivity, but through the deeper infrastructure of public trust, transparent governance, and community-centred financial service delivery.

These findings arrive at a moment of active regulatory recalibration: the Reserve Bank of India's Digital Lending Directions, 2025, and the continued rise of the national Financial Inclusion Index—from 64.2 in March 2024 to 67.0 in March 2025 (Reserve Bank of India, 2025a)—suggest that the policy environment is increasingly attentive to the quality and trust dimensions of inclusion that this study identifies as pivotal, rather than access alone. Whether these national-level reforms translate into measurable trust gains at the district level, particularly among the rural-semi-urban and female populations most affected by the trust deficits documented here, remains an open and consequential question for both policymakers and future researchers. Kanpur District, as a microcosm of urban-industrial North India, offers an instructive vantage point from which to monitor that translation as it unfolds.

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