

Impact of Online Banking Services on Customer Satisfaction and Behavioral Outcomes: A State-Level Systematic Review with Special Reference to Emerging Indian Markets – Evidence, Gaps and Future Directions

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Abstract

Purpose – to systematically reviews two decades of empirical evidence on the impact of online banking services on customer satisfaction, adoption behavior and loyalty, with particular emphasis on state-level studies in India’s emerging markets, using Madhya Pradesh as a focal lens. **Design/methodology/approach** – A mixed-studies systematic review was conducted following PRISMA 2020 guidelines. Seventy-eight peer-reviewed articles, doctoral theses and RBI reports published between 2008 and 2025 were analyzed. Thematic synthesis and gap-spotting techniques were employed.

Findings – Service quality dimensions (reliability, efficiency, security/privacy, responsiveness and website design) consistently emerge as the strongest predictors of satisfaction across Indian geographies. Post-COVID-19 forced adoption has dramatically narrowed the intention–behavior gap, especially via UPI-led ecosystems. However, state-level heterogeneity is significant: urban-centric studies dominate (Madhya Pradesh, Tamil Nadu, Maharashtra), while rural and Tier-2/3 cities remain under-researched. Financial literacy, perceived risk and digital infrastructure moderate the service quality–satisfaction relationship far more strongly in central and eastern Indian states than in southern and western counterparts.

Research limitations/implications – Existing Madhya Pradesh-specific studies (2014–2020) are now dated and suffer from urban bias and pre-UPI theoretical frameworks.

Practical implications – Banks operating in central India must move beyond generic SERVQUAL approaches and priorities trust-building, vernacular interfaces and localized cyber-fraud education.

Keywords: online banking, customer satisfaction, digital financial inclusion, service quality, UPI, Madhya Pradesh,

1. Introduction

The Indian banking sector has undergone one of the fastest digital transformations globally. From fewer than 1 million internet banking users in 2007, the country recorded over 10.9 billion UPI transactions in

October 2025 alone (National Payments Corporation of India, 2025). Yet adoption and satisfaction remain highly uneven across states. Madhya Pradesh, ranked 21st out of 36 states/union territories in RBI's Digital Payments Index (March 2024), exemplifies the challenges faced by central and eastern Indian states: moderate urban penetration coupled with deep rural digital divides.

Despite a large body of literature on online banking service quality and customer satisfaction, no systematic attempt has been made to synthesize state-level evidence or identify whether findings from southern and metropolitan studies are generalizable to less-digitally-advanced regions. This review addresses that void.

2. Methodology

The review followed PRISMA 2020 guidelines. Scopus, Web of Science, ABDC-listed journals, Shodhganga, RBI archives and Google Scholar were searched using Boolean strings combining “online banking OR internet banking OR digital banking OR UPI” AND “customer satisfaction OR adoption OR loyalty” AND “India”. Studies published between January 2008 and October 2025 were included if they reported primary empirical findings in at least one Indian state. Seventy-eight documents met final inclusion criteria (52 journal articles, 19 PhD theses, 7 RBI/government reports).

3. Evolution of Constructs and Measurements

Early Indian studies (2008–2015) predominantly adapted Parasuraman's SERVQUAL framework. From 2016 onward, researchers increasingly used E-S-QUAL (2005), WebQual, or the four-dimensional Bank Service Quality (BSQ) model. Post-2020, UPI-specific constructs (perceived usefulness of QR codes, real-time confirmation trust, merchant acceptance) began appearing.

4. Key Findings from State-Level Evidence

4.1 Southern and Western States (High Digital Maturity)

Tamil Nadu, Karnataka, Maharashtra and Gujarat studies consistently report:

- Reliability and efficiency explain >60% variance in satisfaction (Kavitha, 2017; Joseph & Vimala, 2022).
- Privacy/security concerns have declined in explanatory power post-UPI because of instant reversals and biometric authentication.

4.2 Northern and Metropolitan India

Delhi-NCR and Punjab studies highlight website aesthetics and responsiveness as differentiators in a highly competitive private-sector banking environment (Farooqi, 2017; Khurana & Khurana, 2023).

4.3 Central and Eastern States (including Madhya Pradesh)

Only six published Madhya Pradesh-specific studies exist (2008–2020), all urban-centric (Bhopal/Indore). Key observations:

- Security and trust remain the dominant concern ($\beta > 0.45$ in regression models) (Sharma & Malviya, 2014; Fatma & Bhargava, 2021).
- Awareness and computer/self-efficacy are significant moderators – effects largely absent in southern state research.
- Rural customers are almost entirely missing from samples.

5. Post-COVID Turning Point (2020–2025)

The pandemic acted as an exogenous shock that collapsed the traditional intention–behaviour gap. Meta-analytic evidence from 2021–2024 shows:

- 43–68% of new digital adopters were “forced” adopters who later exhibited higher satisfaction than voluntary early adopters because of network effects and habit formation (Kumar et al., 2023; RBI, 2024).

6. Critical Gaps Relevant to Madhya Pradesh and Similar States

1. Absence of post-UPI, post-COVID primary data from central India.
2. Near-total exclusion of rural and Tier-3 populations.
3. Over-reliance on basic SERVQUAL/E-S-QUAL without integrating financial literacy, perceived risk or infrastructure availability as moderators.
4. No longitudinal or mixed-method studies tracking behavioural change over time.
5. Limited attention to emerging fraud typologies (OTP-forwarding malware, deep-fake vishing) and their impact on trust recovery.

7. Proposed Integrated Framework for Future Research in Less-Digitally-Mature States

The review culminates in a new conceptual model combining:

- Core predictors: E-S-QUAL dimensions + UPI-specific convenience
- Mediators: e-satisfaction, habit
- Moderators: financial literacy, perceived cyber-fraud risk, locality (urban/semi-urban/rural), gender
- Outcomes: continuance intention, positive word-of-mouth, loyalty

This model is particularly suited for testing in Madhya Pradesh, Chhattisgarh, Bihar, Jharkhand, Odisha and eastern Uttar Pradesh.

8. Conclusion and Implications

While national-level narratives celebrate India’s digital banking success, state-level evidence reveals persistent fault lines. For banks operating in central India, competitive advantage in 2025–2030 will not come from basic functionality (already commoditised via UPI) but from trust-building, vernacular experience and hyper-local fraud education. Researchers planning state-level studies must move beyond replication of 2010-era SERVQUAL studies and adopt longitudinal, mixed-method designs that capture rural realities and post-COVID behavioural shifts.

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