

## AI CHATBOTS IN INDIAN RETAIL BANKING: INFLUENCE OF CUSTOMER SATISFACTION AND SALES

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### Abstract

*Banks in India are adding AI chatbots to answer questions and help people apply for products. This paper explains, in simple terms, how these chatbots can improve customer satisfaction and sales conversion, and what can go wrong. It focuses on the Indian retail-banking context: multilingual customers, a mobile-first market, and strong rules on privacy and grievance redress (Jain & Kumar, 2021; Zhao & Bacao, 2021). We bring together findings from recent research and practical experience to build a clear model: chatbot quality (accuracy, speed, helpful tone, language match, and smooth hand-off to a person) shapes how customers feel (satisfaction, trust, effort) and what they do (apply and complete applications) (Roh et al., 2022; Kim & Lee, 2020; Patricio et al., 2018). We outline easy-to-run methods that banks can use: compare results before and after changes, run simple A/B tests, and study customer journeys (De Haan et al., 2018; Shankar, 2018). The paper highlights where chatbots help most (routine service and simple sales), when a human should take over (complex or sensitive issues), and how to stay fair, private, and transparent (Wirtz et al., 2018; Luo et al., 2019). We also discuss limits and ethical points, including consent, bias checks, and safe design (Lankton et al., 2014; Mayer et al., 1995). The aim is to give a practical, student-friendly guide to making chatbots work for people and for banks in India.*

**Keywords:** *AI chatbots, customer satisfaction, sales conversion, Indian retail banking, language support, transparency, governance.*

### Introduction

Banks in India now serve millions through mobile apps and websites. Many questions are simple: “What is my balance?”, “How do I block my card?”, “When is my EMI due?”, or “Why did my UPI payment fail?”—the kinds of tasks a chatbot can handle well (Singh & Srivastava, 2020; Jain & Kumar, 2021). A chatbot is a computer program that chats with people in plain language and can link to bank systems to fetch information or do tasks; newer “generative AI” can produce natural replies (Huang & Rust, 2021; Roh et al., 2022). Chatbots promise quick answers, consistent information, and less waiting for a human agent; they can also guide a customer through a simple application journey (De Haan et al., 2018; Shankar, 2018). Risks remain: misunderstanding complex issues, sounding robotic, or providing incomplete guidance; poor language support can harm trust in a multilingual market; weak privacy practices raise concerns—especially in banking (Kim & Lee, 2020; Jin & Ryu, 2020; Jain & Kumar, 2021).

### What AI Chatbots Do

AI chatbots can raise customer satisfaction and support sales in Indian retail banking when they are accurate, fast, transparent about being AI, speak the customer’s language well, and hand over quickly to a person in complex cases; without these basics and proper governance, chatbots can harm trust and reduce sales completion (Roh et al., 2022; Luo et al., 2019; Wirtz et al., 2018).

### What this paper does

- Summarises what recent studies say about chatbots, satisfaction, and sales (Roh et al.,

2022; Moriuchi & Landers, 2020; Luo et al., 2019).

- Explains a simple model linking chatbot quality to outcomes (Verhoef et al., 2009; Patricio et al., 2018).
- Describes easy methods to measure impact in live settings (De Haan et al., 2018; Shankar, 2018).
- Shares practical findings and clear actions for banks in India (Jain & Kumar, 2021; Singh & Srivastava, 2020).
- Notes ethical and legal points, and where more research is needed (Lankton et al., 2014; Mayer et al., 1995; Kim & Lee, 2020).

### literature review

#### Key ideas in simple terms

- **Service quality basics:** People value service that is quick, correct, and respectful. Fast and accurate chat responses cut customer effort and raise satisfaction (Verhoef et al., 2009; Prentice et al., 2020). Solving issues without repeat contact (containment) signals usefulness (Roh et al., 2022).
- **Human touch:** Tone and empathy help after failures, but pretending to be “too human” can backfire if the bot then errs (Araujo, 2018; Wirtz et al., 2018).
- **Trust and transparency:** Saying clearly that the agent is AI sets realistic expectations and reduces a feeling of “deception”, which is important in banking (Kim & Lee, 2020; Jin & Ryu, 2020).
- **Privacy and security:** Banking data are sensitive; clear notices and consent improve

acceptance and satisfaction (Lankton et al., 2014; Jain & Kumar, 2021).

- **Sales help:** Chatbots can reduce friction in simple products—step-by-step guidance, pre-fill, and answers to FAQs—often lifting application starts and completions (De Haan et al., 2018; Shankar, 2018). For complex products, human support is usually needed to finish (Patrício et al., 2018).
- **Language and culture:** Language match boosts ease and trust in multilingual markets like India; poor translations or speech recognition hurt satisfaction (Jain & Kumar, 2021; Singh & Srivastava, 2020). Recent Indian studies also connect chatbot trust to continued use and positive behaviours (Alagarsamy et al., 2023).

#### What research tends to find

- Speed and accuracy strongly drive satisfaction in routine queries; containment helps if the solution is correct (Roh et al., 2022; Prentice et al., 2020).
- AI disclosure generally improves acceptance by setting expectations, especially in failure contexts (Jin & Ryu, 2020; Kim & Lee, 2020).
- Smooth hand-off to a person within about a minute, with full context, protects satisfaction and recovery (Wirtz et al., 2018; Pitardi et al., 2022).
- Chatbots often lift starts and completions for simple products, especially after hours; for complex products, they lift interest but need human completion (De Haan et al., 2018; Patrício et al., 2018).
- Language support improves both satisfaction and conversion in non-English cohorts, but only when quality is strong (Jain & Kumar, 2021; Singh & Srivastava, 2020).

#### A simple model to keep in mind

- **Inputs:** accuracy, speed, containment, tone, transparency, language support, and hand-off quality (Roh et al., 2022; Kim & Lee, 2020).
- **Customer feelings:** usefulness, trust, effort, and security (Prentice et al., 2020; Lankton et al., 2014).
- **Results:** satisfaction (CSAT, NPS), repeat complaints, and conversion (apply, complete, activate) (Verhoef et al., 2009; De Haan et al., 2018).
- **What can change the effect:** product complexity, language group, time of day, prior complaints, and digital literacy (Patrício et al., 2018; Singh & Srivastava, 2020).

#### Indian context highlights

Routine UPI, KYC, EMI, and card issues are good targets for automation if the knowledge base stays

current (Jain & Kumar, 2021). India's multilingual base means Hindi, Marathi, and other languages matter; speech systems face accent diversity (Singh & Srivastava, 2020). Privacy rights (DPDP) and RBI grievance expectations require transparency and easy human access (Kim & Lee, 2020; Lankton et al., 2014).

#### Methods/approach section

##### How banks can measure impact without heavy maths

- **Before-and-after comparisons (Difference-in-Differences style)**

When introducing a feature like a better language model or a transparency banner, compare before/after for the affected group and a similar group not yet changed (De Haan et al., 2018). This helps separate the effect of the change from general trends.

- **Simple experiments (A/B tests)**

Randomly show a short AI disclosure to some customers and the usual message to others; compare satisfaction and conversion for routine intents (Jin & Ryu, 2020). Test hand-off rules (escalate to a human when confidence is below 0.7 vs 0.9) to see which prevents frustration (Wirtz et al., 2018).

- **Journey comparisons (matching similar cases)**

For similar intents and profiles, compare outcomes for bot-served versus human-served journeys to understand differences where full randomisation is not feasible (Shankar, 2018).

- **What data to use**

Chat logs with time, intent, bot confidence, language, response speed, containment/escalation (Roh et al., 2022). CRM records for ticket outcomes and repeat complaints. App/web data for clicks to apply, form starts/completions, and time to finish (De Haan et al., 2018). Anonymised customer context (tenure, product holdings). Agent data for hand-off speed and context passing (Wirtz et al., 2018).

- **Clear measures and definitions**

**Containment:** solved without escalation and no repeat contact for the same issue within 72 hours (Roh et al., 2022). **Language match:** chosen or detected language with quality checks (Jain & Kumar, 2021). **Hand-off quality:** transfer within 60–90 seconds with chat history passed (Wirtz et al., 2018). **Outcomes:** post-chat rating and repeat complaints for satisfaction; application starts, completions, and activation in 30–90 days for conversion (De Haan et al., 2018).

- **Make the plan simple and fair**  
Pre-plan main outcomes (CSAT, repeat complaints, starts, completions) and one main analysis per outcome (Shankar, 2018). Exclude internal/test traffic. Protect sensitive flows (fraud disputes, chargebacks) from risky experiments and never block human access (Wirtz et al., 2018).

#### Analysis/findings

- **Routine service queries: higher satisfaction**  
Fast and correct answers raise usefulness and lower effort, which improves satisfaction and cuts repeat contacts (Roh et al., 2022; Verhoef et al., 2009). A short honesty note (“I am an AI assistant...”) sets expectations and limits disappointment in case of failure (Kim & Lee, 2020; Jin & Ryu, 2020).
- **Language matters a lot**  
Serving customers in their preferred language improves satisfaction and task completion; poor translations or speech recognition frustrate users (Jain & Kumar, 2021; Singh & Srivastava, 2020). Indian chatbot trust research also links trust to positive behaviours like continuance and recommendation (Alagarsamy et al., 2023).
- **Complex or sensitive issues: quick hand-off is key**  
For fraud disputes or loan documentation, delaying hand-off or losing context harms satisfaction; quick hand-off with full context protects recovery (Wirtz et al., 2018; Pitardi et al., 2022).
- **Sales conversion: start more, complete wisely**  
For simple products (savings, basic cards), chatbots help customers start and finish applications through guidance and answers, especially after hours (De Haan et al., 2018; Shankar, 2018). For complex products (personal loans, wealth), chatbots lift interest but need a banker to complete (Patrício et al., 2018).
- **Privacy and trust support conversion**  
Plain privacy notes and clear control (“Speak to a person”) improve comfort and reduce drop-offs (Lankton et al., 2014; Kim & Lee, 2020). Avoid over-personalisation without consent (Jin & Ryu, 2020).
- **Costs and benefits**  
Chatbots lower cost per routine contact and free human agents for complex work; but errors in sensitive issues carry high trust costs. The best policy is to automate routine tasks strongly and escalate early when confidence is low or

sentiment turns negative (Wirtz et al., 2018; Prentice et al., 2020).

#### Discussion

##### Practical actions for Indian banks

- **Get the basics right:** keep first response very fast; monitor 95th percentile times; track intent accuracy with regular human checks; define containment clearly (Roh et al., 2022; Verhoef et al., 2009).
- **Be honest and helpful:** always disclose AI use; offer easy routes to a human; keep a respectful tone; avoid over-promising (Kim & Lee, 2020; Jin & Ryu, 2020).
- **Respect language diversity:** prioritise high-need languages (e.g., Hindi, Marathi); test with diverse accents; fix issues quickly (Jain & Kumar, 2021; Singh & Srivastava, 2020).
- **Make hand-off smooth:** set a strict SLA (60–90 seconds) for complex issues; pass full context; give agents summaries and suggestions (Wirtz et al., 2018; Pitardi et al., 2022).
- **Guide, do not push, in sales:** simplify steps and answer questions; bring in a banker for complex products; be clear about fees and terms (De Haan et al., 2018; Shankar, 2018).
- **Govern for safety, privacy, and fairness:** minimise data; run fairness checks (e.g., wait times across languages); keep audit trails; monitor models for drift (Lankton et al., 2014; Huang & Rust, 2021).

##### Policy ideas that help everyone

Adopt standard metrics (containment, escalation SLAs); publish basic multilingual performance benchmarks; encourage safe, transparent experiments that do not harm grievance flows (Wirtz et al., 2018; Kim & Lee, 2020).

##### What still needs study

Run more real-world tests in India across languages/regions; audit fairness and test remedies; study how human–AI teamwork changes recovery and long-term loyalty; link chatbot exposure to lifetime value over time (Huang & Rust, 2021; Prentice et al., 2020).

##### Ethical considerations and limitations

##### Ethical points

- **Consent and Control:** be clear when a bot is used, how data are processed, and how to reach a human (Kim & Lee, 2020). No dark patterns: do not trick users into offers; allow easy opt-out from personalisation (Jin & Ryu, 2020). Fairness: check for unequal treatment across language groups or regions; fix quickly (Lankton et al., 2014). Safety by design: protect sensitive flows and never block human access (Wirtz et al., 2018).

### • Limitations

**Selection effects:** people who use chat may be more digital-savvy; experiments or strong controls help address this (Shankar, 2018). Measurement error: language, sentiment, and intent detection are imperfect; banks need regular quality checks (Roh et al., 2022). Changes over time: campaigns or model updates may confound results; track timelines (De Haan et al., 2018). Short-term focus: many measures are short-run; long-term effects like lifetime value need more time (Prentice et al., 2020). General fit: advice suits Indian retail banking; other markets may differ (Jain & Kumar, 2021).

### Conclusion

AI chatbots can make banking easier in India and help banks grow. The core rules are simple: be fast and accurate, be honest about AI, speak the customer's language well, and hand it over to a person quickly for complex issues. Use chatbots to reduce friction in simple product journeys and to help people start applications; let bankers complete complex cases. Respect privacy, test changes safely, and keep things fair. Done right, chatbots can lift satisfaction and conversion together—without risking trust (Roh et al., 2022; Luo et al., 2019; Wirtz et al., 2018).

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