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Beyond Scoring: Agentic AI for Active Credit Management and Financial Empowerment in India

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ABSTRACT

India's traditional credit scoring system, as represented by bureau scores such as CIBIL, fails to capture the credit history of millions of India's "thin-file" and unbanked population, thereby excluding them from formal credit. In this paper, I propose to discuss the implications of using artificial intelligence and machine

learning to perform alternative credit scoring using alternate data sets such as electronic transactions, UPI receipts, utility payments, mobile recharge, etc., based on RBI's 2025 Credit Information Reporting and Digital Lending Directions, as well as academic and industry research. I will argue that while alternative

credit scoring has the potential to promote financial inclusion, it raises difficult questions about algorithmic biases and transparency that need to be addressed. More importantly, 2025-26 will see a shift from passive to proactive credit management. Platforms like Oolka (2024) and CRED's AI Coach (June 2026) are already using agentic AI to coach, dispute, and negotiate on behalf of users. This paper builds on this trend by suggesting 5 ways that India can leverage agentic AI to expand credit access and financial inclusion. These include: (1) using AA + UPI to enable automated credit applications, (2) using alternative data to create trust scores for new-to-credit customers, (3) developing voice agents in vernacular languages like Hindi, Tamil, Marathi, and Bhojpuri, (4) predicting and preventing debt traps, and (5) automating microcredit for MSMEs and Kirana stores. When used responsibly within the framework of RBI's FREE-AI (August2025) guidelines, agentic AI can be a powerful force for credit empowerment in India.

Keywords : Agentic AI; Alternative Credit Scoring; Artificial Intelligence; Machine Learning; Financial Inclusion; Thin-File Borrowers; UPI; Account Aggregator (AA); Digital Lending; Credit Management; CIBIL; New-to-Credit (NTC); MSMEs; Financial Empowerment; Re

1. INTRODUCTION

India's formal credit ecosystem has traditionally relied on bureau scores, particularly CIBIL, based on historical repayment behaviour and credit card or loan records [1]. However, a significant proportion of small vendors, farmers, students, and first-time borrowers lack sufficient formal credit history and are therefore classified as "thin-file" or "no-file" borrowers, limiting their access to institutional credit [3][4]. India's rapid digital transformation through UPI, Aadhaar, Account Aggregators (AA), and other digital public infrastructure has enabled FinTech lenders to evaluate alternative data such as digital payment transactions, utility bill payments, mobile recharge history, and consent-based banking cash flows for assessing creditworthiness [2][3]. The regulatory environment is also evolving through the RBI's Credit Information Reporting Directions and Digital Lending Directions, emphasizing responsible data usage, consumer consent, transparency, and auditability in digital lending practices [1][2]. Despite improvements in financial inclusion, access to bank accounts has not automatically translated into access to formal credit. The World Bank's Global Findex Report 2025 and India's Financial Inclusion indicators highlight substantial growth in account ownership, while many individuals still remain underserved in lending because conventional credit scoring does not adequately capture their financial behaviour [4][5]. Passive credit scoring alone is increasingly being challenged by the emergence of agentic AI, which moves beyond assessment toward proactive credit management. Recent developments such as Oolka's agentic credit platform and CRED AI Coach demonstrate how AI can assist users in monitoring credit profiles, identifying issues, disputing inaccuracies, and improving financial decision-making through personalized recommendations [8][9][10]. Emerging research on agentic AI in banking further suggests that autonomous AI systems may transform customer engagement and credit management by enabling continuous, intelligent, and explainable financial assistance [6][7]. Therefore, this paper (a) examines AI-driven alternative credit scoring in India, (b) compares it with traditional bureau-based scoring, (c) proposes five novel applications of agentic AI integrated with India Stack, and (d) analyses the regulatory and ethical implications of responsible AI adoption within India's evolving digital lending ecosystem.

RESEARCH QUESTIONS

1. How can AI-driven alternative credit scoring improve access to formal credit for thin-file and new-to-credit (NTC) borrowers in India?

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2. What privacy, bias, and explainability risks arise from the use of alternative data, and how does the RBI's 2025–26 regulatory framework address these risks?
3. How can agentic AI, integrated with India Stack, enable proactive and automated credit management for NTC borrowers, MSMEs, and rural communities?

2. LITERATURE REVIEW

2.1 Traditional Scoring, Inclusion, and Alternative Data

The bureau scores (300-900) issued by the Credit Information Companies (CICs) like TransUnion CIBIL, Experian, CRIF High Mark, and Equifax, have limited applicability for customer assessment due to exclusion of thin-file users, slow updating cycle (every month, though RBI now proposes every 15 days), and lack of information on cash income. Though the financial inclusion in India has seen significant improvements in recent years; according to the World Bank's Global Findex 2025, Indian adult account ownership increased from 35% in 2011 to 89% in 2025, and the Reserve Bank's Financial Inclusion Index (FII) rose to 67.0 in March 2025 from 64.2 in the same period in 2024 – the account ownership has not necessarily translated into lending access. Hence, there is a category of the so-called 'underbanked.'

Meanwhile, the alternative credit-scoring models employ alternative data such as payment of utilities, subscriptions, mobile recharge, e-commerce, and, more recently, data from AA cash-flow based assessments (with consent) to evaluate thin-file borrowers. The analysis of such alternative data enables estimating the customers' risk profile similar to traditional bureau scores.

In particular, one study (proprietary data from a large Indian FinTech Lender) demonstrated that cell phone data (apps installed, calling patterns, social networks) may serve as alternative data for credit scoring with no significant increase in default probability.

Thus, alternative data is useful in the context of the 'gap' between account ownership and lending access. An individual may be 'unbanked' for the system despite having a bank account if the account is not used for standard credit products. The reason is that the automated underwriting systems only 'see' income and assets in the form of salaries, loans, and credit cards. However, the usage of alternative data sources allows capturing the behavior of individuals with little or no credit history, who are, therefore, denied access to credit due to the lack of information.

2.2 AI/ML and the Regulatory Context

Machine learning (ML) algorithms such as gradient boosting, random forests, and deep learning, which enable continuous learning and adaptation, have become instrumental in analyzing both structured and unstructured data and developing comprehensive and granular customer scoring, outperforming many traditional methods such as scorecards. However, they also pose significant challenges in terms of model interpretability. The Reserve Bank of India (RBI) has responded to the opportunities and threats posed by the ML algorithms with several regulatory initiatives, including Credit Information Reporting Directions 2025, Digital Lending Directions 2025, and the recently proposed FREE-AI Framework 2025.

While the first two documents primarily concern credit-related policies and directions, the FREE-AI Framework 2025 is fully dedicated to AI and machine learning. It stipulates that the credit assessment AI must be Fair, Robust, Explainable, and Accountable (FREE) and suggests implementing the model validity tests for bias detection as well as governance structures at the board level for accountability.

3. RESEARCH METHODOLOGY

This is an exploratory/descriptive study that employs secondary data, including the literature and reports on alternative credit scoring and agentic AI in retail banking published between 2018 and 2026. The sources include the articles published in reputable journals such as the SSRN, including the works of Kumar et al. (2025) and Gupta et al. (2026), as well as various FinTech reports (Paytm, KreditBee, Oolka, CRED) and the papers presenting the RBI Directions and the FREE-AI Framework 2025. Additionally, the World Bank's Global Findex 2025 and the RBI Financial Inclusion Index reports provide valuable data for the study.

The analysis is descriptive and utilizes both qualitative and quantitative data. The descriptive statistics were computed using Excel, while the qualitative component consists of the conceptual framework developed for this study. The conceptual framework was primarily informed by the Literature Review and the exploration of the secondary sources mentioned above. The research methodology follows the exploratory/descriptive design that facilitates a comprehensive understanding of the phenomena under investigation. comparative evaluation of traditional versus AI-driven versus agentic approaches, case studies of Oolka and CRED AI Coach, and a framework design exercise proposing five agentic AI applications. No primary data was collected, so findings are indicative rather than conclusive.

4. ANALYSIS AND FINDINGS

4.1 How AI Enables Alternative Credit Scoring in India

AI-driven alternative scoring typically involves four stages: (1) consent-based data aggregation from UPI transaction histories, utility and mobile-recharge payments, Account-Aggregator bank cash flows, and (where ethically permissible) app-usage metadata; (2) feature engineering involving income-credit regularity, essential vs discretionary spend ratios, bill-payment timing, and UPI counterparty diversity; (3) model training and scoring using gradient boosting, random forests, or neural networks to predict repayment likelihood from historical data, producing a risk grade that may be used standalone for thin-file customers or combined with bureau scores for others; and (4) decisioning and monitoring, with post-disbursal repayment behaviour used to refine the model within the bounds of data privacy.

Systematic reviews of the literature suggest that ensemble ML models typically outperform

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traditional scorecard approaches in terms of predictive accuracy across diverse customer

segments, while deep learning architectures facilitate the use of alternative data sources for

inclusion-increasing purposes, if with potential downsides in terms of model complexity and

interpretability that must be balanced via the RBI's FREE-AI framework.

4.2 Impact on Financial Inclusion

By enabling alternative credit scoring, India's push towards AI-driven lending is set to democratize access to small-ticket personal, merchant, and microloans for gig workers, shopkeepers, and rural entrepreneurs who would otherwise be denied credit due to insufficient CIBIL bureau data.

UPI's ubiquity facilitates this access by substituting for the lack of formal salary or tax data

typically required by banks. A large Indian FinTech lender has already observed that alternative

digital data can serve as a viable substitute for bureau scores, enabling expanded credit outreach while maintaining asset quality, thus supporting the RBI's Financial Inclusion Index goals by turning dormant accounts into active credit users.

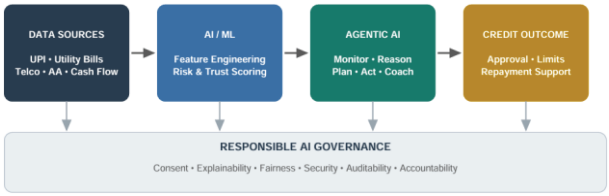


Figure 5. AI-Driven Credit Intelligence Pipeline from Consent-Based Alternative Data to Intelligent and Proactive Credit

Management. Source: workflow synthesised from Sections 4.1, 4.4, 4.5 and 4.6.

4.3 Traditional versus AI-Driven versus Agentic AI Credit Management

The Table below (Table 1) provides an overview of the paper's comparative analysis of the use of different data sources in credit management, including coverage, update frequency, user interaction, prediction styles, explainability and risk.

Dimension	Traditional / CIBIL	AI Alternative Scoring	Agentic AI (2025-26)
Data sources	Loans, cards, repayment history	UPI, bills, telco, cash flow	AA + UPI + real-time signals
Coverage	Established borrowers	Thin-file / underbanked	Thin-file + proactive support
Update	Periodic / historical	Frequent / near real-time	Continuous monitoring
User action	Passive score checking	Mostly passive scoring	Coaching, disputes, negotiation
Prediction	Traditional risk	Improved thin-file prediction	Predictive + prescriptive
Explainability	Scorecard-based	Requires controls	Conversational explanations
Main risk	Limited coverage	Bias, opacity, privacy	Bias, autonomy, governance

Table 1. Traditional vs AI-Driven vs Agentic AI Credit Management (synthesised from Section 4.3).

Credit Management Approaches

In general, it could be concluded that alternative scoring complements bureau scoring, and a combination of both is optimal in terms of inclusiveness and risk control.

The 2025–26 advent of agentic AI scoring suggests a new paradigm in which empowered borrowers make decisions previously made by credit assessors.

Agentic AI scoring is set to revolutionize credit management and usher in an era of empowered borrowing. Compared to traditional approaches, agentic AI scoring allows for more inclusive access to credit while helping to maintain risk levels within acceptable limits. It is therefore a welcome innovation that addresses some of the shortcomings of the status quo.

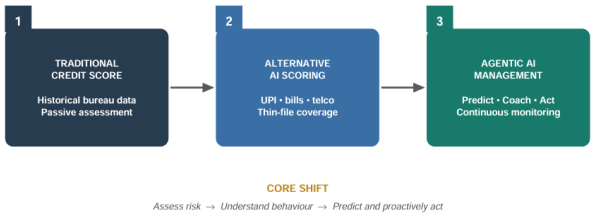


Figure 6. Evolution of Credit Intelligence — a progression from passive assessment toward continuous, proactive financial empowerment. Source: Sections 4.3 and 4.5–4.6.

4.4 Regulatory and Ethical Dimensions

• Consent and privacy: The Digital Lending Directions require granular, revocable consents and audit trails for each type of data.

• Explainability: credit decisions must be explainable to borrowers and to RBI examiners under FREE-AI; "black-box" models are no longer acceptable.

• Bias and fairness: models trained on historical data can reflect gender, location, or occupation biases, and must be tested for disparate impact.

• Data security: data from third-party sources (Account Aggregators, telcos, utilities) must

be handled securely and retained only with explicit consumer consent.

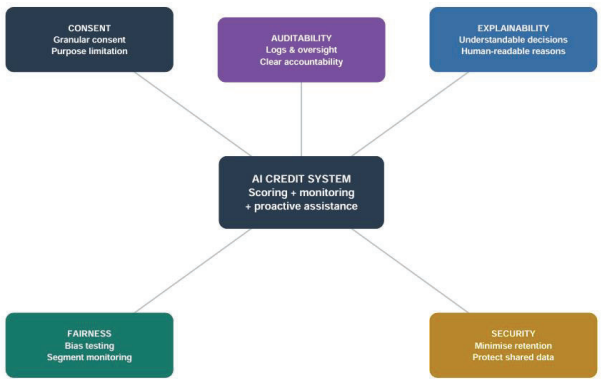


***Figure 4**: Responsible AI Governance Layer – safeguards for alternative-data scoring and autonomous/agentic credit actions*

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Sources: Section 2.5, 4.4 and 5.3.

4.5 The Rise of Agentic AI: Oolka and CRED Case Studies

Scholarly research on agentic AI in India's finance sector is nascent (Kumar et al., 2025; Gupta et

al., 2026), but business use cases have proliferated in 2024-26.

Oolka (founded 2024) – India's first agentic AI credit-management platform – raised $7M in September 2025 (Lightspeed, Z47) and $14M Series A in April 2026 (Accel). Its AI agents help negotiate lower rates with lenders (YES Bank, IDFC, AU Small Finance), dispute inaccuracies with credit bureaus (CIBIL, Experian), close dormant accounts to improve utilization ratios, and send reminders to repay installments – driving over Rs 100 crore in repayments, 2M users, and $1M ARR as of 2026.

CRED AI Coach (June 2026) - built with TransUnion CIBIL, lets users ask questions ("Why did my score drop?") and receive tailored suggestions based on their CIBIL report, with alerts on negative items and how each action affects their score. CRED aims to help users understand the impact of each financial decision before executing it via its premium coaching feature.

Both Oolka and CRED represent a shift from passive to active credit monitoring, offering ambient insights that intervene before major issues arise – a space where little academic research has been done.

4.6 Five Novel Applications of Agentic AI for India

With a focus on India's digital public infrastructure, this paper proposes five applications of agentic AI.



Figure 3. Agentic AI Application Map for the Indian Credit Ecosystem - five proposed applications connected to an agentic AI credit-management core. Source: Section 4.6.

4.6.1 India Stack Integration (Account Aggregator + UPI)

Agentic AI can plug into the AA framework and UPI to enable real-time, autonomous credit

action: scanning one's bank accounts (with consent) for cash flow, assessing the best card or loan offer, applying on the user's behalf, and paying EMIs via UPI AutoPay. Benefit: frictionless, automation-enabled credit, reducing drop-offs in the application funnel - e.g., a user with

increased cash flow gets an automatic credit-limit increase.

4.6.2 Alternative-Data "Trust Scores" for New-to-Credit (NTC) Populations

With over 100M Indians "unscored" by CIBIL, Agentic AI can calculate a "Trust Score" based on UPI payments, utility bills, phone recharges, rent, and e-commerce data to grant first-time credit

access to NTC borrowers - e.g., a college student with a consistent UPI recharge history can

get a first-tier credit card.

4.6.3 Vernacular Voice Agents (Hindi, Tamil, Marathi, Bhojpuri, etc.)

Voice-assisted agentic AI can converse in regional languages, understand user intent, compare

lenders, and effect payments or applications, while dispensing financial advice in the user's

language - e.g., a Tamil-speaking farmer can take a crop loan via voice without navigating

complex English UIs, removing a critical barrier for India's 90% English-averse population.

4.6.4 Proactive Debt-Trap Avoidance

Instead of notifying the borrower after a missed EMI, agentic AI can predict default based on

cash flow and upcoming EMIs, 30–60 days in advance, and initiate action - request EMI

rescheduling, freeze discretionary spending, recommend a balance transfer to a lower-rate

card, or advise reducing expenses - e.g., a missed EMI due to salary delay triggers automatic

rescheduling.

4.6.5 Micro-Credit Automation for MSMEs (Kirana Stores)

By analysing QR and UPI payments at Kirana stores, agentic AI can offer collateral-free,

paperless credit of Rs 10,000–50,000 against future sales, with repayments deducted

automatically from UPI collections, enabling seamless Diwali-season inventory financing -

e.g., automatically granting credit based on UPI sales data to fund Kirana store restocking.

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Application	Target Users	Key Technology	Expected Impact
India Stack Integration	All banked Indians	Real-time AA APIs, UPI AutoPay	Zero-manual credit applications
NTC Trust Scores	100M+ new-to-credit users	Alternative-data ML models	First-time credit access
Vernacular Voice Agents	90% non-English speakers	Multilingual NLP, voice AI	Rural financial inclusion
Debt-Trap Prevention	Existing credit users	Predictive cash-flow analytics	Reduced defaults, improved scores
MSME Micro-Credit	12M+ Kirana stores	UPI transaction analysis	Working-capital access

Table 2 presents five proposed agentic AI applications (see Section 4.6 summary).

Reduced defaults, improved scores

Working-capital access

These five applications demonstrate how India's digital public infrastructure infused with agentic AI can transform credit from a static, exclusionary force into a dynamic, empowering force for financial well-being.

Taken together, Sections 4.1–4.4 make the case that alternative data, when harnessed responsibly, can open new doors to formal credit; Sections 4.5–4.6 then demonstrate that agentic AI can make these doors not only accessible but active by virtue of being able to monitor, analyze, plan, and act on a borrower's behalf rather than simply reporting.

5. DISCUSSION

AI-driven alternative scoring can catalyze financial inclusion by evaluating customers who are invisible to bureau scoring while helping India transition from a regime of account ownership to one of active credit usage. Oolka and CRED AI Coach suggest that AI can do more than assess creditworthiness - it can coach customers to improve the components that make up their scores through automated dispute resolution and negotiation. The five applications proposed in this paper then seek to adapt this capability to address the specific challenges of India, including language, financial illiteracy, MSME credit gaps, and rural inclusiveness, while also recognizing the need to govern such systems to avoid opacity and discrimination. RBI's Digital Lending Directions and FREE-AI represent India's most comprehensive effort to date to balance innovation and consumer protection.

LIMITATIONS

- Reliance on secondary data.
- Lack of primary fieldwork in an environment where FinTech and regulation are both rapidly evolving.
- Absence of any original statistical modelling.
- Oolka and CRED AI Coach are both still nascent (2024–26).
- Policy implications include the need for regulators to continue to refine and update consent and disclosure norms while developing open-source tools for explainability/bias detection.
- Creating regulatory sandboxes for vernacular voice agents and MSME micro-credit.
- Lenders should invest in interpretable models, robust consent frameworks, and hybrid scoring methods that combine bureau and alternative data.
- Consumers and civil society should push for transparency, accessible remedies, and literacy around data privacy.

6. CONCLUSION

India's credit ecosystem stands at a crossroads. While bureau-based scoring systems have been effective in enabling credit access for India's deep and informed customer base, the same cannot be said for light-file customers, first-time borrowers, and the unbanked. AI-driven alternative scoring enabled by India's UPI, utilities, and telecom data has the potential to overcome these limitations and include these customer segments, and there is reason to believe that the expansion of credit would not come at the expense of greater defaults, provided that appropriate governance (consent, audit trails, explainability, bias) is built in, as proposed by RBI in its 2025–26 directions. The emergence of agentic AI credit coaches represents another leap forward by shifting the paradigm from assessing to assisting, and the five applications discussed in this paper - India Stack, NTC Trust Scores, vernacular voice agents, and MSME micro-credit - demonstrate how agentic AI can empower borrowers in a variety of ways. For India, which boasts one of the most sophisticated digital economies in the Global South, the challenge is to ensure that the promise of financial inclusion is realized without undermining individual privacy, financial stability, and social equity.

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