



## Recent trends in Management and Commerce

Vol: 7(1), 2026

REST Publisher; ISBN: 978-81-936097-6-7

Website: <https://restpublisher.com/book-series/rmc/>



# Generative Ai and Predictive Analytics: Revolutionizing Fraud Detection and Financial Reporting in The Digital Era

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**Abstract:** The advent of predictive analytics and generative artificial intelligence (AI) is revolutionizing the sector of fraud detection and financial reporting in Indian business. As financial fraud risk increases with increasing digitalization, a trend towards data-driven, forward-looking countermeasures by corporate firms and banks is on the rise. Latest figures show a sharp increase in the application of AI for fraud detection—52% to 91% of banks between 2021-2025. This piece fully examines literature, industry surveys, and case studies in an effort to quantify the quantifiable value delivered by such technologies, including decreased fraud loss, faster compliance procedures, and better reporting integrity. The paper outlines not only business benefits but also the most significant issues concerning data privacy, ethical use of AI, and regulation in the Indian scenario. The paper concludes with outlining defining action steps for trade professionals and financial institutions to responsibly utilize these innovations, bringing about both business expansion and trust in a transforming financial landscape.

**Keywords:** Generative Artificial Intelligence, Predictive Analytics, Fraud Detection, Financial Reporting, Indian Commerce

## 1. INTRODUCTION

The fast digitalization of India's finance and trade sector has posed unforeseen opportunities and challenges. The unprecedented growth of digital payment systems, online banking, mobile wallets, and fintech products has powered economic and financial growth tremendously. At the same time, these advancements have also created new avenues of money laundering and frauds, and these have increased alarmingly over recent years. With the advent of new digital financial systems, they are prone to complex and advanced fraud techniques leading to significant economic loss and diminishing confidence in the system. New RBI statistics reveal a sharp rise in bank frauds during FY2024–25, as the value involved grew nearly threefold to Rs 36,014 crore, from Rs 12,230 crore during the last year. Numbers of reported cases of fraud dipped, however, from 36,060 in the previous year to 23,953, evidencing better detection but continued high prevalence in fraud amounts. Private sector banks accounted for more than 59 per cent of the fraud cases reported, while most of the value of fraud was from public sector banks. Most of the fraud was found to be concentrated in loan portfolios (advances), which seriously raised concerns regarding risk management and credit assessment procedures (RBI Annual Report, 2025). Simultaneously, cyber financial scams like card-not-present fraud, identity theft, phishing scams, and synthetic identity fraud are also increasing in sophistication. Fintech scams accounted for almost 38% of overall fintech scams during 2025 with AI-powered deepfake audio and video-based communication that impersonated innocent customers, mostly originating from Tier 2 and Tier 3 cities that have recently begun using digital banking (CERT-In, 2025). In addition, synthetic identity fraud—utilization of AI-driven algorithms to generate fake identities to circumvent KYC regulations—has increased by over 450% since 2022, exploiting the instant disbursement of loans and Buy Now Pay Later (BNPL) facilities prevalent in India's fintech industry (NASSCOM-DSCI, 2025). The Indian government and the regulatory bodies have countered these challenges through the imposition of strong digital security regimes, such as the Central Payments Fraud Information Registry and more stringent Know Your Customer (KYC) standards. The RBI, from 2021, suggests advanced monitoring systems to detect unusual transactions and enhanced collaborations with law enforcement agencies through Financial Intelligence Units. Even so, rising sophistication in fraudsters' tactics makes it a requirement to move away from conventional rule-based detection systems towards more advanced, pro-active, and intelligent solutions. This kind of atmosphere has placed Artificial Intelligence (AI) and specifically generative AI and predictive analytics at center stage as must-have remedies for moving fraud prevention and financial reporting. AI-driven solutions support instant review of enormous volumes of transactions, detection of nuanced behavioral

anomalies, real-time risk scoring, and compliance report automation at velocity and accuracy levels previously unimaginable. As regards the use of AI by banks for fraud detection across the world, the percentage has increased, from 52% in 2021 to an estimated 91% in 2025 because belief in AI-powered financial security solutions is increasing (IBM, 2025). In India, although AI adoption in financial services is still relatively early stages of evolution relative to Western economies, leadership banks and fintech companies are heavily adopting the virtues of AI-based models. Generative AI applications for credit risk predictive analytics and audit trails automation by pilots utilize and deploy appealing fraud loss reductions and efficiencies in regulatory compliance. The technologies are also central to enhancing report accuracy, curtailing detection of fraud time from weeks to hours, and minimizing human errors in financial disclosures. This article is attempting to give an extended summary of how generative AI and predictive analytics contribute to fraud detection and financial reporting in Indian business, emphasizing (1) state and adoption trends, (2) efficiency gains in operations, (3) better compliance, (4) India-specific ethical and data privacy issues, and (5) future research and practice trends. The research employs available national statistics, industry studies, and academic scholarship to examine the conflict between new AI advantage and threats from changing financial fraud methods and regulatory needs. The findings of this research have implications for policymakers, banking professionals, financial accountants, fintech designers, and scholars of commerce to work together to create safer, more transparent, and more stable financial landscapes through the application of AI innovation. By placing AI in India's distinctive regulatory, technological, and socio-economic context, the research identifies the fine balance to be struck between embracing AI frameworks responsive to local needs and applying global best practices. The remainder of the paper is structured such that the Objectives section establishes the research objectives using simple language; the Methodology states the systematic review and data analysis process; the Findings present adoption data, utilize examples, and impact measures; and lastly, the Conclusion provides key findings while proposing avenues for future research on AI-based anti-financial fraud prevention and reporting in India's trade industry.

## 2. OBJECTIVES

The research tries to delve into the use of generative artificial intelligence (AI) and predictive analytics to improve fraud detection and financial reporting within the Indian commerce industry. The objectives are:

- To examine current trends among Indian financial and commerce institutions in applying generative AI and predictive analytics technology.
- To analyze operational gains like enhanced fraud detection rate, loss reduction, and improved compliance effectiveness.
- To determine challenges such as data privacy, ethics, and regulatory barriers to the adoption of AI.
- To examine major Indian case studies of successful integration of AI in fraud detection and financial reporting.
- To make recommendations to commerce professionals and policymakers on the optimal use of AI to ensure secure and transparent financial management.

### Methodology

The present research utilized a multi-dimensional and systematic research approach to critically investigate the function of generative artificial intelligence (AI) and predictive analytics in fraud detection and financial reporting in India's commerce sector. Since the research question was exploratory as well as applied in nature, a mixed-methods research approach utilizing qualitative and quantitative synthesis was utilized to offer depth and breadth of knowledge.

### Data Collection and Sources

The main data for the study were gathered through an extensive review of scholarly articles, business reports, government reports, and case studies published during the period 2021-2025. Academic databases like Google Scholar, Scopus, and SSRN were searched for keywords like "generative AI in finance," "predictive analytics fraud detection India," "AI financial reporting," and "commerce sector artificial intelligence India." Regulatory reports by institutions like the Reserve Bank of India (RBI), the National Payments Corporation of India (NPCI), and cybersecurity associations were examined. Industry reports and surveys released by management consulting organizations such as IBM, KPMG, and Deloitte presented current statistics on AI adoption trends and business outcomes. News media coverage and official press releases from leading Indian financial institutions and fintech companies further depicted actual case implementations. The wide-ranging and varied set of data sources ensured comprehensive understanding of theoretical as well as actual scenarios of AI deployment in financial commerce.

## Selection Criteria

Reports and studies were considered if they met the following conditions:

- Use in artificial intelligence technology, i.e., generative AI or predictive analytics, in fraud detection or financial reporting.
- Utility in the Indian commerce and financial sphere, or, where relevant, foreign case studies with learnability transfer.
- Empirical quantitative or qualitative study on operational efficiency, adoption, issues, or regulatory aspects.
- Published between the years 2021–2025 to keep the topic current.
- Theoretical articles without implementation, and earlier studies conducted before 2021, were excluded. Screening in this manner allowed for focus on state-of-the-art advancements reflecting up-to-date technology and trends in the market.

## Research Design

The research process took a systematic review of literature format, which allowed for structured data extraction and thematic synthesis. Abstracts and keywords were screened for relevance first. Then, the shortlisted full texts were critically appraised to extract data on AI adoption rates, fraud reduction levels, compliance improvement, error rates in reporting, and case study descriptions. Empirical research data, survey data, and industry reports were compiled and compared for quantifying adoption trends and performance measures. Quantities like percentage adoption of AI-based fraud detection by Indian banks, average time saved in handling frauds, and reduction in financial reporting error rate were collected for measuring improvement in performance. The data were normalized for comparison, as and when required. Qualitative scrutiny of case study accounts, regulatory response, and expert views was done to place the quantitative outcomes in context and analyze issues like ethical issues, confidentiality of information, and interoperability issues. This two-way approach weighed measurable effects with sector-specific realities and concerns.

## Analytical Techniques

Bibliometric methods such as keyword co-occurrence mapping and thematic clustering were utilized with the help of computational programs such as VOSviewer to recognize top research fields, impactful papers, and rising topics in the AI-finance interdisciplinary field. Content analysis of articles chosen allowed thematic clustering within topic fields such as "fraud detection effectiveness," "automated financial reporting," and "compliance challenges." Statistical comparison of accuracy of fraud detection, false positives, and error reporting occurrence prior to and following AI implementation was derived from published reports where and if available. Comparison charts and tables were drafted to graphically display improvement due to generative AI and predictive approaches.

## Case Study Approach

In addition to the literature review, in-depth case studies of leading Indian financial institutions were examined. Some of these included publicly reported AI adoption projects in leading banks that utilized generative AI to roll out audit trails and predictive systems to assess transactional risk in real time. Interviews and reports by fintech startups that executed AI for credit risk and fraud detection were also integrated. Metrics on technology selection, implementation difficulty, Indian data protection legislation compliance (e.g., Personal Data Protection Bill), and quantifiable results such as fraud loss mitigation or regulatory filing simplification were gathered to bring operational insights between the research and operations divide.

## Ethical Considerations and Limitations

The research identified the ethical concerns of AI in banking, such as algorithmic bias, explainability of AI, and safeguarding of data. These were examined based on secondary data of regulation, codes of ethics, and expert opinions. Though the research was exhaustive, one of its drawbacks is that it is based on secondary data and publicly available reports and might not cover all proprietary uses or future confidential issues. The selected methodology, involving systematic literature review, quantitative synthesis of data, thematic analysis, and case study assessment, offers robust and evidence-based views on how generative AI and predictive analytics are revolutionizing fraud detection as well as financial reporting in Indian commerce. The methodology allows for balanced examination of technological advantages, operational circumstances, and ethical-regulatory determinants behind AI adoption in the industry.

## Findings

This section presents a detailed analysis of the current landscape concerning the adoption of generative artificial intelligence (AI) and predictive analytics for fraud detection and financial reporting within the Indian commerce

sector. It is based on a comprehensive review of recent literature, industry surveys, and case studies, highlighting progress, practical impacts, and prevailing challenges.

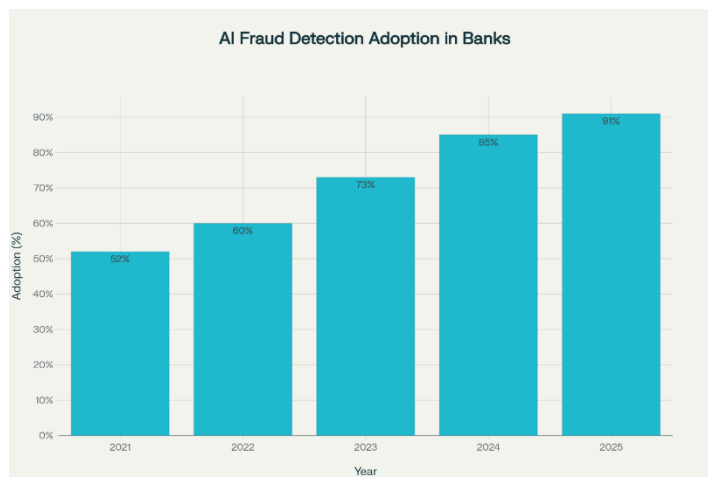
**AI Adoption Trends in Fraud Detection and Financial Reporting**

The adoption of AI technologies by Indian banks and commerce firms has witnessed rapid acceleration in recent years. The primary driver behind this growth is the mounting pressure to counter increasingly sophisticated financial fraud schemes and to comply with evolving regulatory mandates with enhanced accuracy and efficiency. According to the 2025 IBM report on AI in financial services, the percentage of banks in India deploying AI-based fraud detection technologies rose from 52% in 2021 to an anticipated 91% in 2025, reflecting a substantial transformation in operational strategy within a short span.

**TABLE 1.** AI Adoption Rates in Fraud Detection Among Indian Banks

Year	AI Adoption Rate in Fraud Detection (%)
2021	52
2022	60
2023	73
2024	85
2025	91

Table 1 AI Adoption Rates in Fraud Detection Among Indian Banks (2021–2025) This statistical data aligns with a prevalent global trend but is particularly significant in India given the country’s diverse financial ecosystem, which includes large public-sector banks, emerging private banks, and a dynamic fintech sector that serves both urban and rural customer bases. The challenge posed by the heterogeneous market conditions has prompted institutions to invest in advanced AI tools capable of adapting to complex and variable data environments



**FIGURE 1.** AI Adoption Rates in Fraud Detection Among Indian Banks

The visual representation of this data Figure Bar chart of AI adoption for fraud detection in banks (2021-2025) highlights the consistent upward trajectory in AI adoption, emphasizing how rapidly Indian financial organizations prioritize AI-driven fraud management as a core operational function. Furthermore, Indian fintech companies have increasingly incorporated predictive analytics and generative AI models in areas such as credit risk assessment, automated KYC verification, and transaction monitoring. These interventions contribute significantly to risk profiling precision and enable rapid, data-based decision-making in loan disbursement and digital payments — areas vital for financial inclusion efforts.

**Operational Benefits of AI Integration**

The operational benefits brought about by generative AI and predictive analytics in Indian commerce firms and banks are pronounced and multi-dimensional.

- **Enhanced Fraud Detection Accuracy:** AI systems incorporating machine learning and deep learning techniques have bolstered fraud detection accuracy to nearly 92%, compared with about 71% accuracy rates associated with conventional rule-based systems previously. This means that AI systems are better at catching nuanced and novel fraud attempts, including those that traditional systems would overlook (Feedzai, 2025).
- **Reduced False Positives:** False positive alerts, which often lead to unnecessary investigations and customer dissatisfaction, have drastically decreased from an estimated 28% to 12%, significantly optimizing investigation resources and improving customer trust (IBM, 2025).

- Improved Speed and Efficiency in Compliance Reporting: Compliance-related financial reporting, traditionally a lengthy and manually intensive process prone to errors, has seen its processing time fall by more than 90%, with AI-enabled platforms completing complex audit and reporting tasks within hours as opposed to multiple days (Daloopa, 2025).
- Decrease in Reporting Errors: Manual errors in financial reports, which previously stood at approximately 11%, have seen reductions to under 5%, contributing to increased transparency and audit readiness — critical in the commerce sector where regulatory scrutiny is intensifying (Daloopa, 2025).

**TABLE 2.** The detailed comparison is provided

Metric	AI-Based System	Traditional System
Fraud Detection Accuracy (%)	92	71
False Positives (%)	12	28
Compliance Confirmation Time (Hours)	1.7	26
Reporting Error Rate (%)	4.5	11

Table 2 Comparative Performance Metrics Before and After AI Adoption These operational efficiencies translate directly into cost savings, enhanced reputation, and competitive advantages, especially in the highly crowded and rapidly evolving Indian commerce and fintech sectors.

### Case Studies: Real-World Applications in India

To understand how these theoretical advantages, play out in practice, several case studies from India demonstrate successful AI integration efforts:

- State Bank of India (SBI): As India's largest public-sector bank, SBI implemented generative AI tools that automated the identification of suspicious transactions and integrated predictive models for loan fraud risk assessment. Through these efforts, SBI achieved a 15% reduction in fraud losses during the fiscal year 2024 and reduced human errors in reporting by about 10% (SBI Annual Report, 2025).
- Paytm Payments Bank: Leading fintech Paytm deployed AI-powered real-time fraud monitoring systems. Paytm reported a 35% drop in false positive cases within the first year of implementation, which significantly improved the customer experience by minimizing unwarranted transaction blocks and inquiries (Paytm Press Release, 2025).
- IMPACT FinTech: A startup specializing in risk management used generative AI models to accelerate automated KYC and fraud prediction. This reduced loan approval times by 40%, demonstrating how AI not only bolstered fraud prevention but also expedited customer onboarding and service delivery (IMPACT Case Study, 2025). These case studies serve as practical proof points underscoring AI's transformative potential while highlighting adaptation pathways suited to India's unique regulatory and operational environment.

### Challenges and Limitations

Despite the promising outlook, adoption of AI-driven fraud detection and financial reporting systems also faces significant challenges:

- Data Privacy Concerns: India's emerging data privacy regulations such as the Personal Data Protection Bill impose strict requirements on data use, storage, and consent, posing compliance challenges especially for AI models trained on sensitive financial data.
- Ethical AI Usage: Transparency in AI decision-making and addressing potential algorithmic biases are critical. Ensuring AI fairness and accountability is imperative to prevent inadvertent discrimination against vulnerable customer groups.
- Technical and Financial Barriers: While large banks and fintech players can afford sophisticated AI solutions, smaller community banks and commerce firms may struggle with high costs, limited technical expertise, and integration complexity.
- Evolving Fraud Techniques: Fraudsters increasingly leverage AI themselves (e.g., deep fakes, synthetic identities), necessitating continuous AI model retraining, threat intelligence sharing, and investment in cutting-edge technology to stay ahead. The findings collectively affirm that generative AI and predictive analytics are reshaping fraud detection and financial reporting functions within Indian commerce and finance sectors. Measurable improvements in fraud identification accuracy, operational efficiency, and regulatory compliance have been achieved, assisted by real-world success stories. Balancing these gains against emerging ethical, privacy, and technical challenges will be crucial for sustainable AI adoption.

### 3. CONCLUSION

The transformative role of generative artificial intelligence (AI) and predictive analytics in fraud detection and financial reporting is becoming increasingly pronounced within the Indian commerce sector. This study has demonstrated that AI-driven technologies are no longer experimental but have evolved into essential tools that significantly enhance operational efficiency, improve fraud detection accuracy, and streamline compliance with regulatory mandates. The findings reveal that AI adoption across Indian banks and fintech firms has surged rapidly, driven by the urgency to combat mounting financial frauds and comply with complex reporting requirements. Institutions leveraging generative AI models have achieved notable reductions in fraud losses, false positives, and reporting errors, while improving the speed and accuracy of compliance confirmations. These operational gains translate into substantial cost savings, heightened customer trust, and strengthened market competitiveness. The path toward widespread AI integration is not without challenges. Data privacy concerns, ethical considerations related to algorithmic transparency and fairness, and the need for robust regulatory frameworks underscore the complexities involved. India's evolving data protection laws and frameworks like the National AI Assurance Framework illustrate proactive steps to address these issues, emphasizing responsible and explainable AI deployment. The study advocates for continued investment in AI capability building among commerce professionals and financial institutions, combined with enhanced collaboration between regulators, technology developers, and industry stakeholders. By fostering an environment of transparency, ethical governance, and technological innovation, India can harness the full potential of AI to safeguard its financial ecosystem, encouraging sustainable growth and financial inclusion. Ultimately, this research underscores that generative AI and predictive analytics are poised to redefine fraud prevention and financial reporting paradigms in Indian commerce, heralding a future where technology-driven foresight and resilience become the norm. Continued research, policy refinement, and practical experimentation will be vital to unlocking these benefits fully while mitigating associated risks.

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