



“AI-POWERED ACCOUNTING PRACTICES IN INDIA: OPPORTUNITIES, CHALLENGES AND EMERGING TRENDS”

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Abstract : Artificial Intelligence (AI) is reshaping the landscape of accounting worldwide and India is no exception. The integration of Artificial Intelligence (AI) into accounting has transformed traditional financial practices by introducing automation, real-time data analysis and intelligent decision-making tools. In India, AI adoption in accounting has accelerated, driven by the need for efficiency, compliance and data-driven insights. This paper investigates how AI is reshaping accounting practices in India, highlights adoption trends across sectors, presents practical applications and discusses regulatory and ethical considerations. The study uses secondary data, industry reports and survey results to support its findings. It concludes by projecting future pathways and policy recommendations for inclusive and responsible AI adoption in Indian accounting ecosystems.

Index Terms - Artificial Intelligence, AI powered accounting, Accounting practices, Accounting ecosystem, Big data, Financial reporting, Accuracy, Transparency.

Introduction:

Accounting has traditionally been a rules-based, manual and labor-intensive discipline. With the rise of big data and technological advancements, AI now offers powerful tools for automating repetitive tasks, identifying financial anomalies and supporting strategic decision-making. In India, where digital transformation is on the rise, both large enterprises and small-to-medium businesses are recognizing the value of AI in accounting.

In recent years, AI has emerged as a transformative force across industries. In accounting, it automates repetitive tasks, enhances accuracy and provides real-time financial insights. Indian businesses from startups to large enterprises are increasingly adopting AI to optimize their financial processes. This paper aims to explore the current state of AI-powered accounting in India and project future trends.

Review of literature:

Ashish Singh (2025) conducted a mixed-method study using both quantitative (survey of 115 accounting professionals) and qualitative (in-depth interviews with 10 accounting professionals) with some case studies to analyze impact of AI and identified that compare to pre-integration, post-integration drastically improved accuracy, efficiency, error and fraud detection, timely decisions and real-time financial reporting.

Anurupa Kumari R and Kostyanv Gonsalvis (2025) investigated AI integration in accounting with a focus on challenges and opportunities in India with practical case studies and examples. They highlighted future picture of AI based accounting practices and necessity of ethical standards to create strong AI powered accounting environment.

Aparna Medda Santra (2024) discussed the impact of AI on operations of accounting, applications in accounting and auditing, benefits and risks involved in AI implementation, implications of implementation of AI in the field of accounting. Study advised to accountants to welcome AI for getting productivity in work and suggested educationalists to incorporate AI aspects in curriculum for students to make expertise in modern technology.

Jagruti Ambashankar Purohit (2024) conducted a survey to highlight perception of chartered accountants in Gujarat towards integration of AI in accounting. Chartered accountants believed that, AI enhances efficiency, productivity and reliability of financial reporting. And automation reduces work of manual entry of data and reconciliation.

Dimple Manish Choudhary et al., (2024) studied the impact of AI in accounting and finance sectors, role of AI to improve efficiency and accuracy. Additionally analyzed awareness of AI applications among accountants and suggested to get expertise through education/training about modern technology.

The integration of AI brought significant changes in traditional accounting practices, efficiency, accuracy, reduction of cost and survey conducted by researcher depicts negative perception about AI based accounting by accounting professionals. It is required to change mindset of them by imparting education/training is necessity for streamlining AI tools in accounting (Kushal Babu (2024)).

Rajakumar Reddy and Rajender Katla (2024) explored AI-powered tools and platforms for transforming accounting field for yielding fruitful results with accuracy and cost effectiveness.

Moustafa Al Najjar (2024) addressed accounting errors like principal violations, concealed transactions, manipulations, mistakes, tax rate discrepancies and how AI integration likely to resolve and eliminate errors to bring accuracy and transparency.

Prakash Bhursing Pargi (2023) explored the role of AI in modernizing practices and transformation in the landscape of Indian accounting. Study presented that AI integration will brought savings in cost, reduce errors and helpful to get advanced financial insights.

Neetu Dongre et al., (2021) conceptually studied opportunities and challenges in use of AI in the field of accounting and they suggested to integrate AI for revolutionize landscape of accounting in India to get potential benefits by addressing key challenges of digitization and data security.

Existing literature confirms that AI leads to greater accuracy and faster processing in accounting tasks. Global studies by PwC and Deloitte suggest that AI can reduce accounting costs by 30–40%. However, Indian literature is still nascent, with growing interest from academic and regulatory bodies like ICAI. There is a gap in empirical studies focusing on the Indian accounting environment, especially for SMEs.

Objectives of the study:

1. To assess the current level of AI adoption in accounting practices in India.
2. To identify the key benefits and challenges of AI in the Indian accounting context.
3. To analyze sector-wise trends and case studies of AI integration.
4. To understand the regulatory and ethical framework governing AI in finance.
5. To assess the future of AI in Indian financial reporting and auditing.

Research methodology:

- **Design:** Descriptive and analytical research.
- **Sources:** Secondary data and industry survey results from NASSCOM, ICAI reports, KPMG, Deloitte, RBI reports, company case studies, company websites and journal articles.
- **Data tools:** Descriptive analysis, trend mapping, content analysis, comparative analysis and sectoral breakdown
- **Scope:** AI adoption in private companies, accounting firms and startups across India (2019–2025)

AI technologies used in accounting in India:**Table 1: AI technologies used in accounting in India**

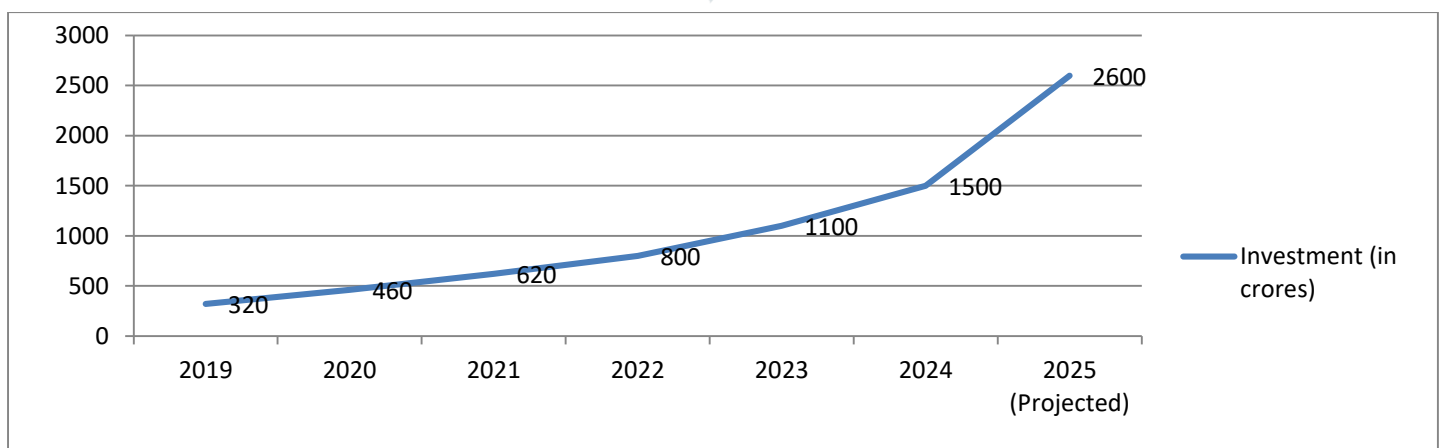
Technology	Functionality	Indian use cases
Machine Learning (ML)	Learns from data to improve predictions, pattern recognition and anomaly detection.	Risk assessment, credit risk modeling, tax prediction and fraud detection.
Natural Language Processing (NLP)	Understands and interprets text, speech, human language and automate responses.	Invoice processing, chatbot-based accounting software (Tally, Zoho)
Robotic Process Automation (RPA)	Automate repetitive data-driven and rule-based tasks.	Data entry, reconciliations payroll, invoice processing (Infosys, Wipro)
Optical Character Recognition (OCR)	Extract data from scanned documents and converts to editable text	Invoice scanning, document verification and digitization (CA offices, banks)
Predictive Analytics	Future trend forecasting using data	Cash flow forecasting, budgeting (Startups & FinTech)

Source: NASSCOM, ICAI, RBI reports.

AI adoption trends in India:**Table 2: Sector-wise AI adoption rate in accounting (2023–2024)**

Sector	Adoption rate (%)	Key AI applications
Banking & Finance (BFSI)	85%	Audit automation and fraud detection
IT & Software	76%	Financial forecasting and AI-driven analytics
Retail & E-commerce	66%	Invoice processing and tracking, expense tracking and return optimization
Manufacturing	55%	Inventory and cost accounting
Healthcare	50%	Billing systems and automation
Education	38%	Payroll, grants processing

Source: NASSCOM, ICAI, RBI reports.

Chart 1: Growth in AI-based accounting investments in India (₹ Crores)

Source: NASSCOM, ICAI, RBI reports.

Benefits of AI-Powered Accounting:

- i. Automation of routine tasks: AI handles data entry, reconciliation and ledger maintenance.
- ii. Efficiency: Reduced processing time for large transactions.
- iii. Real-time reporting and Decision making: AI provides real-time insights into financial health- profit and loss, cash flow and cost centers.
- iv. Cost reduction: Reduces need for large accounting teams, lowered human labor costs and minimized errors.
- v. Fraud detection: AI algorithms detect anomalies and unusual patterns.
- vi. Enhanced accuracy: AI significantly reduces errors in journal entries and classifications.
- vii. Regulatory compliance: AI tools monitor tax laws, GST updates and audit trails automatically.

Key challenges in AI implementation in India:**Table 3: Challenges in AI adoption in accounting in India (2024–2025)**

Challenge	Description
Data privacy and security	Sensitive financial data needs robust protection in handling sensitive financial data securely
Skill gaps	Lack of AI-trained accountants and only few are trained in AI & ML applications
Implementation costs	High initial investment, expensive software and training costs for SME's
Regulatory uncertainty	Unclear AI-specific compliance frameworks and no uniform standards in India
Ethical concerns	Bias in AI algorithms and outputs may reflect historical and human biases

Source: Authors estimation from literature review and industry survey results.

Case Studies of AI based accounting in India:**Case 1: Infosys BPM**

Application: Automated invoice processing through OCR and RPA

Impact: Reduced in processing time by 60%; accuracy improved to 98%

Case 2: ICICI Bank

Application: AI-based fraud detection in transactional records

Impact: Detected suspicious activity 3x faster compared to traditional audits

Case 3: Zoho Books (SaaS for SMEs)

Application: AI-assisted GST filing and bookkeeping suggestions.

Impact: Improved customer satisfaction, user retention and tax compliance

Regulatory and Ethical considerations:

- ICAI Guidelines: Institute of Chartered Accountants of India has issued an advisory on digital transformation and tech use in accounting with AI.
- SEBI and RBI: Stress the importance of explainable AI in financial services and monitor AI deployment in financial reporting and audit transparency.
- Ethical Issues: Transparency in algorithm decisions and auditability of AI systems is essential and also they must be explainable and free from bias. AI should support, not replace professional judgment.

Future outlook of AI powered accounting in India:**Table 4: Projected trends in AI-based accounting (2025–2030)**

Innovation	Expected Impact
AI-Powered Continuous Auditing and Widespread AI Audit Tools	Continuous audit instead of periodic audits and real-time compliance & risk management
AI-as-a-Service for SMEs	Affordable, cloud-based accounting automation for SMEs
Integration with Block chain	Immutable ledgers for enhanced auditability
Hyper-Automation	End-to-end financial workflow automation
Self-Learning Accounting Systems	AI that adapts to user patterns
AI in Forensic Accounting	Advanced fraud analytics & predictive models
Ethical AI Auditing	Inclusion of AI transparency clauses in audit

Source: Source: Authors estimation from literature review and industry survey results.

Conclusion:

AI is significantly transforming accounting practices and profession in India by automating tasks, enhancing accuracy and enabling smarter financial and strategic decision-making. While large corporations have made significant progress, there is growing traction among startups and mid-sized firms. Challenges such as data privacy, training needs and regulatory gaps must be addressed for responsible adoption.

In Indian accounting landscape importance of usage of AI continuously emerges. While large enterprises lead adoption, increasing affordability is enabling SMEs to leverage AI too. For India to fully capitalize on AI in accounting, a robust regulatory framework, ethical AI development and focused training for accountants are critical for smooth implementation.

Recommendations:

1. Up skilling accountants: Introduce AI, train accountants in AI tools and data analytics in accounting curriculums.
2. Policy framework: ICAI and SEBI must formalize AI standards in accounting.
3. Data security: Strengthen cyber security laws related to financial AI tools.
4. Support for SME's: Offer government subsidies, tax credits, grants for tech adoption and upgrades in accounting for small businesses.
5. Collaboration: Encourage partnerships between tech firms and audit institutions.
6. Audit innovation: Encourage hybrid auditing using AI and human expertise.
7. Transparency measures: Mandate explainable AI use in financial reporting.

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