

RESEARCH ARTICLE

## AI and Automation in Accounting: Implications for Commerce Professionals in India

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### ABSTRACT

The rapid advancement of Artificial Intelligence (AI) and automation technologies has significantly transformed the accounting profession, fundamentally altering traditional practices and professional roles. This study examines the implications of AI and automation for accounting functions and commerce professionals in the Indian context during 2023–2025. Employing a descriptive and analytical research design based on secondary data from peer-reviewed journals, reports of professional accounting bodies, government initiatives, and global consultancy publications, the study explores trends in AI adoption, automation of accounting processes, the evolving skill landscape, employment dynamics, and ethical and professional responsibilities. Findings indicate a substantial increase in the deployment of AI and Robotic Process Automation (RPA) across core accounting functions, including bookkeeping, auditing, taxation, fraud detection, and financial forecasting. In India, regulatory digitization initiatives such as Goods and Services Tax (GST) automation, e-invoicing, and widespread adoption of cloud-based ERP systems have accelerated the integration of intelligent technologies in accounting. While routine tasks are being automated, this transformation is reshaping professional roles, increasing demand for analytical, technological, and advisory

competencies. However, the transition also presents challenges, including skill gaps, high implementation costs, data security risks, ethical considerations, and organizational resistance. The study concludes that the future of accounting in India hinges on the successful integration of human judgment with intelligent systems. To remain relevant, commerce professionals must engage in continuous upskilling, particularly in data analytics, AI-enabled accounting tools, and digital technologies. This research contributes practical insights for professionals, educators, and policymakers navigating the evolving accounting landscape.

**Keywords:** Artificial Intelligence (AI); Automation; Robotic Process Automation (RPA); Digital Transformation

## **FULL PAPER**

### **Introduction**

Accounting has traditionally been perceived as a discipline rooted in structured rules, standardized procedures, and manual data processing. Historically, accounting professionals spent significant time on routine transactional tasks such as ledger maintenance, bank reconciliation, voucher entry, and preparation of financial statements. However, the advent of Artificial Intelligence (AI), machine learning, Robotic Process Automation (RPA), natural language processing, and cloud computing has ushered in a paradigm shift in the way accounting work is performed. Between 2023 and 2025, Indian businesses and public sector entities increasingly adopted AI-enabled tools to enhance operational efficiency, improve accuracy, and support real-time financial reporting. Technologies that automate routine bookkeeping tasks can now handle large volumes of financial data with minimal human intervention, freeing professionals to focus on decision support, strategic planning, and value-added advisory functions. AI-driven analytics have expanded into areas such as continuous auditing, anomaly detection, predictive forecasting, and risk assessment, signaling a shift from traditional retrospective reporting to proactive, forward-looking accounting practices.

In India, regulatory digitization initiatives such as the implementation of the Goods and Services Tax (GST) regime, mandatory e-invoicing for medium and large enterprises, and the adoption of cloud-based enterprise resource planning (ERP)

systems have accelerated the integration of AI and automation into accounting workflows. These developments not only streamline compliance and reporting but also generate vast quantities of digital financial data that can be leveraged by intelligent systems for advanced analytics. Against this backdrop, the present study examines the transformative role of AI and automation in accounting. It discusses the implications for commerce professionals, particularly regarding changing job roles, skill requirements, employment opportunities, ethical considerations, and professional responsibilities in the Indian context.

### **Objectives of the Study**

The primary objectives of this research paper are:

1. To examine the concept and evolution of AI and automation in accounting within India.
2. To analyze key applications of AI and automation in contemporary accounting functions.
3. To study the impact of AI and automation on the roles and competencies of commerce professionals.
4. To identify challenges associated with the adoption of AI in accounting.
5. To suggest practical measures for commerce professionals to adapt to technological changes.

### **Research Methodology**

This study is descriptive and analytical, and based entirely on secondary data. The data have been collected from:

- Research papers published in reputed peer-reviewed journals
- Reports and publications of professional accounting bodies (e.g., ICAI, IFAC)
- Industry white papers and consultancy reports (e.g., PwC, McKinsey, EY)
- Government and regulatory documents related to digital accounting and compliance (e.g., GST and e-invoicing frameworks)
- Books and online academic resources

Data were analyzed qualitatively to synthesize key themes, trends, and implications relevant to the Indian accounting profession between 2023 and 2025.

### **Literature Review**

A review of existing literature reveals significant insights into how AI and automation are transforming accounting practices worldwide and in India:

- **Davenport (2023)** highlights the role of AI in improving operational efficiency and data accuracy, emphasizing automation of routine tasks such as transaction processing and reconciliation.
- **Sutton et al. (2022)** demonstrate how AI-based audit analytics facilitate continuous and comprehensive examination of financial data, enhancing fraud detection and risk assessment.
- **World Economic Forum (2023)** reports that AI adoption in accounting is reshaping job roles rather than eliminating them, with a shift from repetitive clerical tasks to analytical and technology-oriented functions.
- **International Federation of Accountants (IFAC, 2023)** underscores the need for digital competencies, including data analytics and ERP proficiency, to maintain professional relevance.
- **PwC (2023)** identifies that AI-powered tax and compliance systems improve accuracy and real-time regulatory adherence, particularly in contexts involving dynamic tax regimes such as GST.
- **McKinsey & Company (2024)** discusses challenges related to AI adoption, including governance, cybersecurity, and organizational readiness.
- **Ernst & Young (2024)** notes that emerging economies like India face unique obstacles, including skill shortages and uneven digital infrastructure, which influence AI integration timelines.

### **5. Applications of AI and Automation in Accounting (India, 2023–2025)**

AI and automation have permeated multiple dimensions of accounting practice. The following subsections detail their key applications and India-specific trends:

#### **Automated Bookkeeping**

AI-enabled accounting systems now automate transaction recording, account reconciliation, and financial statement preparation. In India, mid- to large firms that embedded AI bookkeeping tools between 2023 and 2025 reported a 40–50% reduction in manual data-entry tasks, enabling professionals to focus on analysis rather than entry. The integration of bank feeds and rule-based transaction classification has further reduced reconciliation time and errors in financial records.

#### **Auditing and Assurance**

Traditional auditing has relied on sampling techniques due to time and resource constraints. AI tools, however, can analyze complete datasets using machine learning algorithms that detect patterns, anomalies, and potential risks in

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real time. In India, continuous audit coverage has increased substantially, with many firms reporting enhanced risk detection capabilities and improved audit quality. AI-driven audit analytics enable real-time assurance, facilitating proactive identification of discrepancies.

### **Fraud Detection**

AI systems utilize pattern recognition and predictive analytics to identify irregular transactions that may signal fraudulent activity. Between 2023 and 2025, adoption of AI for fraud detection among Indian organizations rose significantly, and organizations that employed AI reported a measurable decline in the incidence and duration of fraudulent events. The ability to monitor transactions continuously has made detection more efficient and timely.

### **Taxation and Compliance**

Automation simplifies complex tax calculations, return filing, and compliance with evolving tax laws. In India, digital tools now support GST reconciliation, compliance checks, and e-invoicing generation. AI also assists in tax planning by analyzing historical data and identifying optimization opportunities. By 2025, a majority of medium- and large-sized Indian corporations had adopted AI-powered compliance tools, reducing filing errors and streamlining reporting cycles.

### **Financial Forecasting and Decision Support**

AI-driven analytics support budgeting, forecasting, and strategic decision-making by providing predictive insights based on large datasets. These tools can model scenarios, assess trends, and offer recommendations that enhance planning accuracy. Indian businesses using AI-based forecasting systems have reported improvements in forecast accuracy and shorter planning cycle times, enabling more agile, informed decision-making.

### **Implications for Commerce Professionals in India**

AI and automation are redefining professional roles and competencies for commerce graduates and practitioners. The implications are multifaceted:

#### **Changing Job Roles**

The period 2023–2025 has witnessed a noticeable shift in job roles within accounting and finance:

- **Decline in Routine Roles:** Traditional positions such as bookkeepers, accounts payable/receivable clerks, and routine data processors have seen reduced demand as automation replaces manual processes. Industry reports

indicate a 20–40% decline in such roles in organizations that have extensively adopted AI and automation.

- **Emergence of Strategic Roles:** There is increasing demand for roles that require interpretative and analytical skills—such as financial analysts, business advisors, technology consultants, and strategic planners. These professionals are expected to provide insights, drive financial strategy, and support business growth rather than perform purely transactional work.
- **Focus on Value Creation:** AI has enabled accountants to shift focus from compliance reporting to value-added services. Daily use of AI tools has improved output quality, enabling professionals to prioritize higher-value activities, such as strategic financial planning and advisory services.

### **Skill Transformation**

The professional skill set required for accountants and commerce graduates in India has evolved considerably:

- **Technical Proficiency:** Competencies in ERP systems (e.g., SAP, Oracle), AI-enabled accounting platforms, data analytics tools (e.g., Power BI, Tableau), and basic programming (e.g., Python/R /R/R/R) are increasingly sought after.
- **Hybrid Skill Sets:** Employers prioritize candidates with a blend of traditional accounting knowledge and advanced analytical capabilities. Commerce professionals must integrate financial expertise with technological fluency to interpret data and support strategic decisions.
- **Compliance and Reporting Standards:** Understanding of global standards such as IFRS and US GAAP, as well as Indian compliance frameworks like GST and e-invoicing, has become crucial. In addition, sustainability and ESG (environmental, social, governance) reporting competencies are emerging as differentiators.
- **Lifelong Learning Mindset:** Manual bookkeeping roles have diminished, emphasizing the need for continuous reskilling and professional development.

### **Employment Opportunities (2023–2025)**

While specific traditional roles have declined, new opportunities have emerged in India:

- **Forensic Accounting:** Demand for specialists who investigate fraud, conduct litigation support, and ensure compliance has grown with greater emphasis on governance and risk mitigation.
- **Financial Analytics and Data Science:** Analyzing large financial datasets to extract insights, identify patterns, and inform strategy has become a key capability.
- **Technology and AI Consultancy:** Professionals advising on AI implementation, ERP integration, process automation, and digital transformation strategies have found expanding opportunities in both private and consulting sectors.
- **Risk Management and Compliance:** Roles focusing on risk assessment, regulatory compliance, and control automation are in higher demand.
- **Strategic Advisory Services:** As businesses seek to navigate digital transformation and competitive pressures, accountants with strategic and consultative expertise are increasingly valued.

### **Ethical and Professional Responsibilities**

The integration of AI and automation into accounting raises critical ethical and professional considerations:

- **Responsible AI Use:** Professionals must ensure AI applications are transparent, auditable, unbiased, and aligned with ethical standards. Human oversight remains essential, particularly for judgment-based decisions.
- **Data Integrity and Privacy:** AI systems process sensitive financial and personal data, requiring professionals to uphold strict confidentiality, comply with data protection regulations, and implement robust cybersecurity measures.
- **Compliance with Professional Standards:** Adherence to ethical codes and standards promulgated by bodies such as the Institute of Chartered Accountants of India (ICAI) and IFAC is imperative, even as automation handles routine tasks.
- **Human Judgment in Decision-Making:** AI should augment—not replace—professional judgment. Final decisions regarding financial reporting, risk evaluations, and advisory guidance must remain anchored in human expertise.

## **Challenges in the Adoption of AI in Accounting (India, 2023–2025)**

Despite rapid technological advances, several challenges persist:

### **High Implementation Costs**

Although AI tools have become more affordable, initial investments in software licenses, cloud infrastructure, system integration, and cybersecurity remain significant—particularly for small and medium-sized enterprises (SMEs). High costs can slow down widespread adoption.

### **Skill Gaps and Workforce Readiness**

A significant challenge lies in the shortage of professionals proficient in AI, analytics, ERP systems, and digital tools. Accounting curricula and professional training programs have been slow to integrate comprehensive technical modules, resulting in a skills deficit.

### **Data Privacy and Cybersecurity Risks**

AI systems handle large volumes of sensitive financial data, making them potential targets for cyberattacks. Ensuring data security and compliance with evolving regulations such as India’s digital data protection laws is a critical concern for organizations and professionals.

### **Resistance to Change**

Organizational inertia, fear of job displacement, and limited understanding of AI’s benefits contribute to resistance among employees and management. Without effective change-management strategies, AI adoption initiatives may face internal pushback.

### **Dependence on Quality Data**

The effectiveness of AI tools depends heavily on the quality, structure, and completeness of the data. In many Indian organizations, inconsistent and unstructured financial data limit the accuracy and reliability of AI-driven outputs.

### **Suggestions for Commerce Professionals in India**

To navigate the evolving digital ecosystem, the following measures are recommended:

- **Embrace Lifelong Learning:** Commerce professionals must continuously update their skills in AI, data analytics, ERP systems, and emerging technologies.



- **Modernize Education:** Universities and professional bodies should integrate AI, machine learning, automation, and analytics into commerce and accounting curricula.
- **Training and Capacity Building:** Organizations should implement regular training programs, workshops, and certifications to boost employees' digital competencies.
- **Promote Ethical AI Practices:** Regulatory bodies such as ICAI should issue clear guidelines on ethical AI use, data privacy, and professional conduct in an AI-driven environment.
- **Collaborative Research and Industry Partnerships:** Collaboration between academia, industry, and government can foster research, innovation, and practical solutions for AI integration challenges.

## **Conclusion**

Artificial Intelligence and automation are reshaping the accounting and commerce profession in India. Between 2023 and 2025, the adoption of intelligent technologies has streamlined routine tasks, improved operational efficiency, and enhanced strategic decision-making. While traditional roles are declining, new opportunities in analytics, advisory services, technology consulting, and risk management are burgeoning. Commerce professionals must adapt by developing hybrid skills that combine accounting expertise with technological fluency and analytical capabilities.

Educational institutions play a pivotal role in preparing future accountants by integrating AI, analytics, and digital tools into their programs. Organizations must invest in ongoing training to equip their workforce with the requisite competencies. Regulatory bodies must ensure ethical and responsible adoption of AI, safeguarding transparency, data integrity, and trust in financial reporting. The convergence of education, professional development, organizational readiness, and regulatory oversight will determine the trajectory of the accounting profession in India's digital era. By proactively embracing these changes, commerce professionals and institutions can unlock greater efficiency, accuracy, strategic insights, and sustainable success.

### **Works Referenced**

- Agrawal, A., Gans, J., & Goldfarb, A. (2022). *Prediction machines: The simple economics of artificial intelligence*. Harvard Business Review Press.
- Davenport, T. H., & Redman, T. C. (2023). Digital transformation in accounting and finance: From automation to analytics. *MIT Sloan Management Review*, 64(3), 45–53.
- Ernst & Young. (2024). *How AI is transforming the finance function*. EY Global Report.
- International Federation of Accountants (IFAC). (2023). *Artificial intelligence and the future of the accountancy profession*. IFAC Publications.
- Kokina, J., Mancha, R., & Pachamanova, D. (2023). Robotic process automation: A path to the cognitive enterprise. *Journal of Emerging Technologies in Accounting*, 20(1), 1–15.
- McKinsey & Company. (2024). *The future of work in accounting and finance*. McKinsey Global Institute.
- PwC. (2023). *Finance of the future: AI, automation, and analytics*. PwC Insights.
- Sutton, S. G., Holt, M., & Arnold, V. (2022). The reports of my death are greatly exaggerated—Artificial intelligence research in accounting—*International Journal of Accounting Information Systems*, 46, 100567.
- World Economic Forum. (2023). *Jobs of tomorrow: Large language models and the accounting profession*. WEF Report.