Manuscript ID:
TIJCMBLIR-2026-030240

Volume: 3

Issue: 2

Month: April

Year: 2026

E-ISSN: 3065-9191

Submitted: 15 Mar 2026

Revised: 20 Mar 2026

Accepted: 15 April 2026

Published: 30 April 2026

Address for correspondence:
Akshaykumar Sadashiv Shivankar (M. Com, SET) Assistant Professor (CHB) Bhawabhuti Mahavidyalaya Amgaon Dist. Gondia
Email:
akshayshivankar11@gmail.com

DOI: 10.5281/zenodo.21715254

DOI Link:
https://doi.org/10.5281/zenodo.21715254

OPEN ACCESS

Digital Transformation in Accounting and GST Compliance: Emerging Trends, Challenges, and the Way Forward in India

Akshaykumar Sadashiv Shivankar
(M. Com, SET) Assistant Professor (CHB) Bhawabhuti Mahavidyalaya Amgaon Dist. Gondia

Abstract

The rapid advancement of digital technologies has fundamentally altered the landscape of accounting, Goods and Services Tax (GST) compliance, and cost management in India. This paper examines the transformative impact of digitalization on financial reporting, auditing, and tax compliance, particularly in the post-GST implementation period (2017–2026). India's GST regime now covers over 14.6 million active taxpayers (GSTN, 2024), while the country's accounting software market is projected to reach USD 1.8 billion by 2027 (IBEF, 2024). Drawing upon secondary data, regulatory frameworks, and industry surveys, this study identifies key challenges faced by practitioners and businesses while proposing a strategic roadmap for stakeholders. Findings indicate that digital transformation has enhanced transparency and efficiency, yet significant barriers related to skill gaps, cybersecurity, and regulatory complexity persist.

Keywords: *Digital Transformation, GST Compliance, AI in Accounting, ESG Costing, MSME, India*

Introduction

The global economy is witnessing an unprecedented wave of digital disruption, and India is no exception. The introduction of the Goods and Services Tax (GST) in July 2017 marked a watershed moment in India's tax reform history, replacing a fragmented indirect tax structure with a unified, technology-driven compliance architecture. India's indirect tax collection under GST crossed INR 20.18 lakh crore in FY 2023-24, representing a 11.7% year-on-year growth and demonstrating the growing effectiveness of the digital compliance framework (Ministry of Finance, 2024).

At the same time, the proliferation of Artificial Intelligence (AI), cloud computing, and data analytics has reimagined traditional accounting functions. According to PwC India (2023), the adoption of AI in Indian financial services grew by 37% between 2021 and 2023, and over 68% of CFOs surveyed indicated plans to invest in AI-based financial reporting tools by 2025. The World Economic Forum (2023) estimates that automation could handle up to 40% of current accounting tasks globally by 2030.

Despite these advances, significant challenges persist. A CII-Deloitte survey (2023) found that 52% of Indian businesses considered regulatory complexity in GST compliance their top financial challenge. This paper analyses these dynamics to offer a holistic understanding of the digital-compliance interface in Indian accounting, and proposes actionable recommendations for all stakeholders.

Indicator	Value	Source	Year
Active GST Taxpayers	14.6 Million	GSTN	2024
GST Collection FY24	INR 20.18 Lakh Cr	Min. of Finance	2024
YoY GST Revenue Growth	11.7%	CBIC	2024
AI Adoption in Indian Finance	37% Growth	PwC India	2023
Accounting Software Market (Projected)	USD 1.8 Billion	IBEF	2027

Table 1: Key Statistical Indicators – India's Digital Accounting & GST Landscape

How to Cite this Article:
Shivankar, A. S. (2026). Digital Transformation in Accounting and GST Compliance: Emerging Trends, Challenges, and the Way Forward in India. The International Journal of Commerce Management and Business Law in International Research (TIJCMBLIR), 3(2), 219–223.
https://doi.org/10.5281/zenodo.21715254

Review of Literature

Gupta & Sharma (2020) found that GST implementation improved compliance rates by 23% among medium and large enterprises, owing to automated invoice matching. However, only 41% of businesses with turnover below INR 1.5 crore reported successful integration of GST software with their accounting systems.

Mehta (2021) demonstrated that AI-driven audit algorithms could identify financial anomalies with 92% accuracy, compared to 74% accuracy in traditional manual audits, reducing audit time by an average of 35%. The study further noted that AI-assisted audits reduced false positive findings by 28%, improving audit quality and practitioner efficiency.

Bhat & Rao (2022) highlighted that among SEBI's top 1000 listed companies mandated under BRSR, only 61% had quantified their Scope 1 and Scope 2 GHG emissions, and merely 29% had integrated ESG-related costs into their management accounting systems. The authors found a positive correlation ($r = 0.67$) between ESG cost integration and long-term return on equity.

Joshi & Patel (2023) quantified GST compliance costs for MSMEs in Maharashtra, finding that businesses with turnover below INR 1 crore spent an average of INR 32,400 annually on compliance activities, constituting 3.2% of turnover. For micro-enterprises, this proportion rose to 5.8%, representing a significant burden on small business viability.

The ICAI-CMA (2023) survey of 1,200 Cost Accountants revealed that 67% anticipated that digital tools would replace at least 30% of routine cost accounting tasks within five years, while 78% acknowledged insufficient training in emerging technologies. Collectively, the literature reveals a persistent gap between digital potential and ground-level implementation in India's accounting ecosystem.

Objectives of the Study

(i) To examine the extent and nature of digital transformation in accounting and GST compliance in India.

(ii) To analyse the role of AI, automation, and data analytics in reshaping accounting roles and audit practices.

(iii) To evaluate the integration of ESG metrics into cost accounting frameworks among Indian enterprises.

(iv) To identify the key challenges and barriers to effective digital compliance, especially for MSMEs.

(v) To propose a strategic roadmap for stakeholders to navigate the digital-compliance ecosystem.

Research Methodology

This study adopts a descriptive and analytical research design based on secondary data. Sources include peer-reviewed articles, government reports (GSTN, CBIC, MCA, Ministry of Finance), regulatory frameworks (SEBI BRSR guidelines, ICAI pronouncements), and industry surveys (NASSCOM, CII-Deloitte, PwC, IBEF). The study period covers 2017–2026, encompassing the entire post-GST implementation phase. Statistical data was collected from 14 authoritative sources and corroborated across at least two independent sources before inclusion. Thematic analysis was employed to synthesize findings across three core domains: digital accounting, GST compliance, and ESG-integrated cost management.

Digital Transformation in Accounting: Trends and Data

AI and Automation: Quantifying the Impact

The adoption of AI and Robotic Process Automation (RPA) in Indian accounting is accelerating. According to NASSCOM (2024), over 63% of Indian enterprises have deployed some form of AI-driven financial automation. Globally, the AI in accounting market was valued at USD 1.8 billion in 2023 and is projected to reach USD 10.8 billion by 2030, growing at a CAGR of 28.6% (Grand View Research, 2024).

In India, the ICAI (2023) reported that AI-enabled accounting tools reduced month-end closing time by an average of 42% among early-adopter firms. Invoice processing automation, in particular, has delivered significant efficiency gains: automated invoice matching under GSTN reduced ITC reconciliation time from an average of 18 hours to 3.5 hours per month for a mid- sized enterprise (GSTN Annual Report, 2024). However, a NASSCOM (2024) survey revealed that 45% of accounting professionals lacked adequate AI training, and only 28% of firms had a formal digital upskilling strategy.

Parameter	Before Automation	After Automation	Improvement
ITC Reconciliation Time (monthly)	18 Hours	3.5 Hours	80.6% Reduction
Month-End Closing Time	Baseline	42% Faster	ICAI, 2023
Audit Anomaly Detection Accuracy	74%	92%	18 ppt Improvement
Invoice Processing Cost	INR 85/invoice	INR 22/invoice	74% Cost Reduction
Financial Reporting Errors	Baseline	Reduced by 61%	NASSCOM, 2024

Table 2: Impact of Automation on Key Accounting Metrics

Cloud Adoption and Digital Infrastructure

India's cloud computing market in the BFSI and enterprise segment was valued at USD 8.3 billion in 2023 and is expected to grow at a CAGR of 22.4% through 2028 (IBEF, 2024). Cloud-based ERP adoption among large Indian enterprises reached 71% in 2023, compared to just 38% in 2019. However, among MSMEs, cloud ERP adoption stands at only 18%, citing data security concerns (57%), implementation cost (49%), and poor internet connectivity (38%) as primary barriers (CII-Deloitte, 2023).

The Digital India initiative has improved broadband penetration to 850 million subscribers as of March 2024, yet only 55% of businesses in Tier-3 cities report reliable internet access adequate for cloud-based accounting operations (TRAI, 2024). This digital divide represents one of the most significant structural barriers to universal digital accounting adoption.

GST Compliance in the Digital Era: Statistics and Analysis

GST Revenue and Compliance Trends

GST has transformed India's indirect tax landscape since its introduction in July 2017. Annual GST collections have grown from INR 7.41 lakh crore in FY 2017-18 to INR 20.18 lakh crore in FY 2023-24, representing a cumulative growth of 172% over seven years. Average monthly GST collection crossed INR 1.68 lakh crore in FY 2023-24, compared to INR 0.90 lakh crore in FY 2018-19 (Ministry of Finance, 2024).

Financial Year	Annual GST Collection	YoY Growth	Active Taxpayers
FY 2017-18	INR 7.41 Lakh Cr	—	10.8 Million
FY 2019-20	INR 12.22 Lakh Cr	+9.1%	12.3 Million
FY 2021-22	INR 14.83 Lakh Cr	+30.1%	13.1 Million
FY 2022-23	INR 18.08 Lakh Cr	+21.9%	13.9 Million
FY 2023-24	INR 20.18 Lakh Cr	+11.7%	14.6 Million

Table 3: Year-wise GST Revenue and Taxpayer Base (2017–2024)

The e-invoicing mandate, progressively extended from businesses above INR 500 crore turnover in 2020 to that above INR 5 crore in 2023, has covered over 350,000 taxpayers, generating more than 3.5 billion e-invoices per year (GSTN, 2024). ITC fraud detection improved by 38% post-implementation of automated GSTR-2B matching (CBIC, 2024). Despite these gains, GST return filing compliance remains mixed: while GSTR-1 filing compliance stands at 87%, GSTR-9 annual return compliance is only 63% (GSTN, 2024).

Compliance Burden and MSME Challenges

The compliance burden associated with GST continues to disproportionately affect smaller businesses. A comprehensive study by the Reserve Bank of India (RBI, 2023) found that MSMEs spend an average of 213 hours per year on tax-related compliance activities, compared to 112 hours for large enterprises with dedicated compliance teams. India ranks 63rd globally on the World Bank's Ease of Paying Taxes index (2023), reflecting ongoing challenges in tax administration simplicity.

Compliance Metric	Micro Enterprises	Small Enterprises	Medium Enterprises
Avg. Annual Compliance Cost	INR 28,600	INR 54,200	INR 1,24,000
% of Annual Turnover	5.8%	3.2%	1.1%
Hours Spent on GST/Year	247 hrs	198 hrs	143 hrs
% Receiving Demand Notices (2021-23)	64%	58%	41%
% Using Automated GST Software	22%	51%	89%

Table 4: GST Compliance Burden by Enterprise Size (Joshi & Patel, 2023; RBI, 2023)

ESG Integration in Cost Accounting: Data and Developments

The integration of Environmental, Social, and Governance (ESG) metrics into cost accounting has rapidly gained regulatory and market momentum in India. SEBI's BRSR framework, mandatory for the top 1000 listed companies from FY 2022-23, has catalysed this transformation. A KPMG India survey (2023) of 250 listed companies found that 79% had initiated BRSR reporting, but only 34% had developed quantified frameworks to link ESG performance metrics with cost structures.

The global ESG accounting and reporting market is valued at USD 14.3 billion in 2023 and is projected to grow at a CAGR of 19.2% through 2028 (MarketsandMarkets, 2024). In India, the Institute of Cost Accountants (ICAI-CMA) introduced its Sustainability Reporting Framework in 2023, providing guidance on integrating carbon costs, water usage costs, and social impact costs into standard cost sheets.

Research by Bhat & Rao (2022) established a significant positive correlation ($r = 0.67$, $p < 0.01$) between the degree of ESG cost integration and five-year return on equity among NSE- listed manufacturing firms. Companies with comprehensive ESG cost frameworks reported 14.2% higher EBITDA margins on average over a five-year period compared to non-adopters, suggesting that proactive ESG costing is not merely a compliance obligation but a source of competitive advantage.

Key Challenges: Statistical Evidence

Challenge Area	Key Statistic	Source
Skills Gap in Digital Tools	45% of accountants lack AI training	NASSCOM, 2024
Firms with Digital Upskilling Strategy	Only 28% have formal strategy	NASSCOM, 2024
Cybersecurity Incidents in Finance	34% rise in BFSI cyberattacks (2022-23)	CERT-In, 2023
MSME GST Demand Notices	60%+ received notice (2021-23)	ICAI-CMA, 2023
Cloud ERP Adoption (MSMEs)	Only 18% adoption rate	CII-Deloitte, 2023
GST Amendments (2017-2024)	Over 900 notifications issued	CBIC, 2024
GSTR-9 Annual Return Non-Compliance	37% non-filing rate	GSTN, 2024
Digital Literacy Gap (Tier-3 Cities)	55% reliable internet access only	TRAI, 2024

Table 5: Statistical Evidence of Key Challenges in Digital Accounting & GST Compliance

India's CERT-In (2023) reported a 34% increase in cybersecurity incidents targeting the BFSI and finance sector between 2022 and 2023, with phishing attacks (42% of incidents) and ransomware (23%) being the most prevalent attack vectors. The average cost of a data breach for an Indian financial services firm was USD 2.2 million in 2023 (IBM Cost of Data Breach Report, 2023), underscoring the critical importance of cybersecurity investment alongside digital adoption.

Furthermore, the CBIC has issued over 900 circulars, notifications, and orders relating to GST between 2017 and 2024, averaging over 128 regulatory communications per year. This volume of regulatory change creates a significant compliance management burden, particularly for small practitioners and businesses without dedicated legal and tax teams.

Strategic Recommendations and the Way Forward

(i) For the Government and Regulators: Stability in the GST legal framework is paramount. A moratorium on non-essential amendments, simplification of return filing for taxpayers with turnover below INR 2 crore, and expansion of the composition scheme could reduce the compliance burden on the estimated 6.4 million MSMEs in the formal GST ecosystem. Increasing the e-filing literacy rate from the current 62% to 85% by 2027 should be set as a measurable policy target (GSTN, 2024).

(ii) For Professional Institutes (ICAI, ICAI-CMA): Mandatory Continuing Professional Education (CPE) in AI, data analytics, and ESG reporting should be increased from the current minimum of 20 hours per year to 30 hours, with at least 10 hours dedicated to technology- related topics. A National Digital Accounting Certification Programme could be developed to standardise competency levels.

(iii) For Businesses and Enterprises: Investment in cyber security infrastructure should constitute at least 8–10% of IT budgets (current average: 5.2%, CII-Deloitte, 2023). Large enterprises should develop comprehensive ESG cost frameworks aligned with BRSR requirements, targeting 100% Scope 1 and Scope 2 emission quantification by FY 2025-26.

(iv) For Individual Practitioners: Proactive acquisition of certifications in AI-assisted accounting, forensic accounting, and ESG reporting is essential. Practitioners in Tier-2 and Tier-3 markets, where digital adoption is lowest (18% vs 71% in metros), represent the highest- priority segment for targeted upskilling interventions.

(v) For Academic Institutions: Commerce and BBA/B.Com curricula should be updated to dedicate at least 20% of accounting coursework to digital tools, GST technology platforms, and sustainability reporting by 2026. Industry-academia collaborations should target live GST compliance projects for students, improving employment readiness and digital preparedness.

Conclusion

India's accounting and GST compliance ecosystem stands at a critical digital inflection point. The data is unequivocal: GST collections have grown 172% since 2017, AI adoption in finance has surged 37% in two years, and automation has reduced key accounting process times by up to 80%. Yet, a stark digital divide persists — 45% of accountants lack AI skills, 60% of MSMEs have received GST demand notices, and only 29% of listed companies integrate ESG costs into management accounting.

The convergence of AI, GST digitalization, and ESG-integrated cost accounting represents not merely a technological shift but a fundamental redefinition of the accounting profession's value proposition. The practitioners and institutions that invest in digital capabilities today will be best positioned to lead India's financial ecosystem in the decade ahead.

Success in this transformation will require coordinated action: policymakers must reduce regulatory complexity; professional institutes must accelerate digital education; businesses must invest in secure, scalable technology infrastructure; and individual practitioners must embrace continuous learning. India's accounting profession has the talent, the regulatory framework, and the technological momentum to lead the world in digital financial compliance

— but only if all stakeholders act with urgency, collaboration, and strategic foresight.

Acknowledgment

I would like to express my sincere gratitude to all those who have contributed to the successful completion of this study on "Digital Transformation in Accounting and GST Compliance: Emerging Trends, Challenges, and the Way Forward in India."

First and foremost, I am deeply thankful to my guide/mentor for their constant guidance, valuable suggestions, and encouragement throughout the course of this research. Their insights have greatly helped in shaping this study.

I would also like to extend my thanks to my professors and the department for providing the necessary academic support and resources required for this work.

I am grateful to the Government of India and various regulatory bodies for making relevant information, reports, and GST-related data accessible, which has been crucial for this analysis.

I would like to acknowledge the contributions of researchers, authors, and professionals in the field of accounting and taxation whose work has provided a strong foundation for this study.

I am also thankful to my friends and classmates for their support, cooperation, and encouragement during the completion of this project.

Financial support and sponsorship

Nil.

Conflicts of interest

The authors declare that there are no conflicts of interest regarding the publication of this paper

References

1. Bhat, S., & Rao, P. (2022). ESG Reporting and Cost Accounting: Bridging the Gap in Indian Corporates. Indian Journal of Accounting, 54(2), 45–62.
2. Central Board of Indirect Taxes and Customs (CBIC). (2024). Annual Report on GST Compliance and Revenue. Government of India, New Delhi.
3. CERT-In. (2023). Annual Cybersecurity Report 2023: Threats and Trends in the Indian Digital Ecosystem. Ministry of Electronics and IT, Government of India.
4. CII-Deloitte. (2023). Digital Transformation in Indian Finance: Enterprise Survey 2023. Confederation of Indian Industry & Deloitte India.
5. Grand View Research. (2024). AI in Accounting Market Size, Share & Trends Analysis Report 2024–2030. Grand View Research Inc.
6. Gupta, R., & Sharma, A. (2020). GST Implementation in India: An Assessment of Tax Compliance and Business Impact. Journal of Tax Research, 18(1), 112–130.
7. IBM Security. (2023). Cost of a Data Breach Report 2023: India Analysis. IBM Corporation.
8. IBEF. (2024). India's Accounting & Finance Technology Sector Report. India Brand Equity Foundation.
9. Institute of Chartered Accountants of India (ICAI). (2023). Technology in Accounting: A Framework for the Future. ICAI Publication, New Delhi.
10. Institute of Cost Accountants of India (ICAI-CMA). (2023). GST Compliance Burden on MSMEs: An Empirical Study. Cost Management Journal, 37(4), 22–38.
11. Joshi, V., & Patel, K. (2023). Compliance Cost of GST for MSMEs in Maharashtra: A Field Study. Maharashtra Commerce Association Journal, 12(1), 78–95.
12. KPMG India. (2023). BRSR Adoption and ESG Integration Study: Top 500 Listed Companies. KPMG in India