

Artificial Intelligence in Auditing: Opportunities and Challenges for Top Firms in Bangalore

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Abstract: *This study explores how top auditing firms in Bangalore are using artificial intelligence (AI) to improve audit processes. With growing demands for faster and more accurate audits, AI tools are helping firms automate routine tasks, detect fraud, and assess risks more effectively. The purpose of this research is to understand the current level of AI adoption, the types of tools being used, and the benefits and challenges firms face. A qualitative approach was used, based on secondary data collected from company websites, industry reports, and regulatory documents. findings show that leading firms like Deloitte, EY, and KPMG are actively investing in AI, using tools such as machine learning, natural language processing, and automation platforms. While AI improves audit quality and efficiency, challenges include high costs, lack of skilled professionals, and unclear regulations. This study provides useful insights for auditors, policymakers, and educators to support responsible and effective AI adoption in the auditing field.*

Keywords: Ai In Auditing, Audit Automation, Ai Adoption, Bangalore Audit Firms, Audit Technology

I. INTRODUCTION

Artificial intelligence (AI) is changing how auditing is done. It helps auditors work faster, more accurately, and with less effort. With tools like machine learning (ML), natural language processing (NLP), and robotics process automation (RPA), AI can check large amounts of financial data, find unusual patterns, assess risks, and improve the overall quality of audits. As financial rules and data keep getting more complex using AI is becoming more of a need than just a new trend. Many studies have shown how useful AI is in auditing, especially in large global companies. However, most of this research focuses on developed countries. There is not enough information about how AI is being used in countries like India. India's fast growing economy and unique working environment make it important to study how AI fits into its audit sector. One of the best places to study this is Bangalore, often called the silicon valley of India. It has many It companies, startups, and global audit firms. This makes it a great place to see how AI is used in real audit work. The city also has skilled workers, good digital facilities, and strong links between industry and education, making it easier for companies to adopt new technologies.

This research focuses on understanding how auditing firms in Bangalore are using AI. The key goals of this study are:

- 1.To identify the AI tools and technologies adopted by the top auditing firms in Bangalore.
- 2.To explore the challenges and opportunities associated with AI adoption.
- 3.To analyze their primary applications in audit related functions.
- 4.To examine notable AI initiatives and their strategic impacts.
- 5.To assess the implications for audit, quality, regulatory compliance and workforce skills.

This study looks at top ten auditing firms in Bangalore, including global and Indian firms. It is based on secondary data like websites and reports to understand the trends, tools and problems in using AI in auditing. This helps us learn what AI means for the future of audits in India.



II. LITERATURE REVIEW TABLE:

Source	Introduction	discussion	Study Design	Key Findings
Rahman & Hussain (2024)	It explain the importance of AI & NLP in detecting fraud in accounting systems.	NLP helps auditors spot suspicious patterns better and improves audit quality.	survey of 221 auditors using AI based accounting systems.	It found NLP with AI improved fraud detection and reduced errors in auditing.
Knott & piller (2025)	Discusses the need to make AI tools auditable and transparent.	It proposes how firm can create trust and explainability in AI systems.	Conceptual study with real life examples.	It provides a framework to help firms audit AI tools effectively.
Upadhyay et al. (2025)	Studies how AI is used in auditing in Jordan and the challenges faced.	Auditors see benefits in AI but face issues like lack of training.	Survey of 336 auditors across Jordan.	AI improves audit work but gaps in skills and infrastructure remain.
Law & Shen (2025)	It looks at how AI effects jobs in audit firms.	AI doesn't reduce jobs but changes what auditors do.	Analyzed audit office hiring patterns.	AI increases hiring and shifts roles to more analytical work.
Haddad et al. (2025)	It explores ethical concerns in using AI for auditing.	Talks about bias, explainability, and the need for better regulation.	Mixed methods, surveys and expert interview.	Found major concerns with ethics, trust, and lack of clear policies.

Identified Research Gap:

While several national and global studies highlight AI's impact on auditing, there is a shortage of focused research examining AI adoption in Bangalore, a major tech and audit hub. This study fills that gaps by providing a regional analysis.

III. METHODOLOGY

This study used a qualitative research approach to understand how top auditing firms in Bangalore are using AI. Although this research mainly relied on secondary data because getting direct access to firms internal processes was not possible. The sample included ten major auditing firms based in Bangalore, these firms were selected based on their strong reputation, online presence, and evidence of AI use in their audit practices. The firms studied are Deloitte, EY, KPMG, PwC, Grant Thornton, BDO India, Mazars, RSM India, S.R. Batliboi and co, and Walker Chandiok and co, LLP. Data were collected from reliable sources such as company websites, industry reports AI whitepapers, government and regulatory publications and trusted business news articles. The data collected includes types of AI tools used, how these tools are applied in audits (e.g., fraud detection, risk analysis) company strategies, and benefits and challenges of AI use. The data were analyzed using a method called thematic coding, where similar ideas and patterns were grouped together. Key themes such as Audit automation, Fraud detection, Risk assessment, and data quality issues were identified. These were then organized using a framework based analysis to make the findings easier to understand. To help visualize the results, the study also included bar charts and comparison tables. This method gives a clear picture of how AI is being used in the audit field in Bangalore and highlights important trends in technology, operations, and strategy.



TABLE : AI ADOPTION OF TOP AUDIT FIRMS IN BANGALORE:

Firm	Ai Adoption Level	Key AI Tools Used	Reduction In Manual Tasks	Notable Platform	Challenges Faced
Deloitte	High (90%)	NLP, ML, RPA	40%	Deloitte omnia	Talent shortage integration cost
EY	High (88%)	NLP, Predictive Analytics	38%	EY Helix	Regulatory ambiguity, high investment
KPMG	Medium-High (85%)	Audit data and analytics tools	35%	KPMG Clara	Change management training needs
Pwc	Medium (80%)	Halo Suite, ML	33%	PwC Halo	Data quality, standardization issues
Grant Thornton	Moderate (70%)	Automation scripts, RPA	28%	GT Flow	Cost, tool maturity
BDO India	Moderate (65%)	Excel-based AI And ML tools	25%	Internal Solutions	Skills gap, scalability challenges
Mazars	Moderate (63%)	ML-based Audit Assistants	24%	Proprietary tools	AI alignment issues, limited technical workforce
RSM India	Moderate (60%)	Risk Analysis Dashboards, RPA	22%	RSM Audit Portal	Integration challenges, limited training
S.R. Batliboi	Medium (68%)	NLP, Compliance AI tools	26%	EY India Platforms	Resource constraints, evolving regulations
Walker ChandioK	Medium (72%)	Hybrid AI tools (RPA + Analytics)	27%	GT Custom Tools	Budget limitations, partial automation coverage



1. Ai adoption levels in top audit firms Bangalore

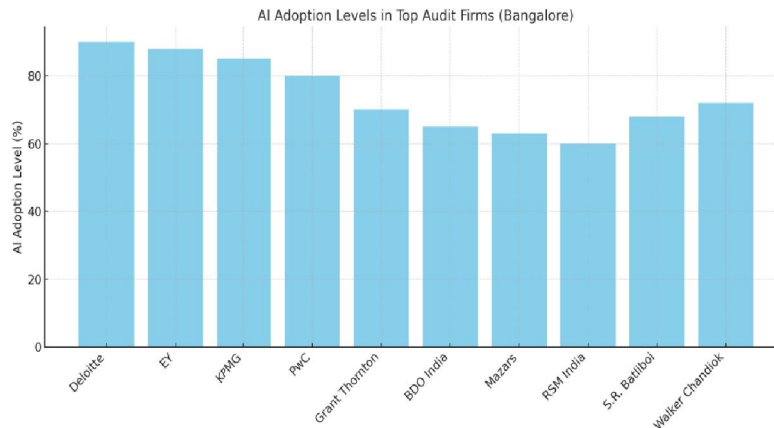


Figure 1: Ai adoption levels in top audit firms Bangalore

Source; complied by author

The bars charts shows how much artificial intelligence (AI) is being used by top auditing firms in Bangalore. Deloitte and EY are leading the way, using AI in about 90% and 88% of their work. This shows that they have strong digital systems and have spent a lot on advanced AI tools. KPMG and PwC also use AI widely, with usage levels at 85% and 80%, focusing on automation and data analysis. On the other hand, mid-sized firms like RSM India and Mazars use AI less around 60% to 63%. This might be because they have smaller budgets or less advanced technology systems than the bigger companies. Overall, AI usage in these firms ranges from 60% to 90%, which shows that most auditing firms are moving towards using AI. Bigger firms are using it more to improve accuracy and give better services to their clients.

2. Reduction in Manual Tasks by AI in Audit Firms

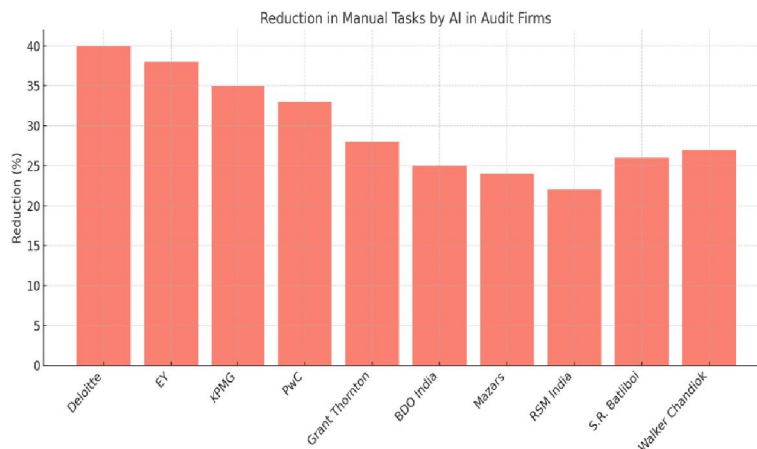


Figure 2: Reduction In Manual Tasks By Ai In Audit Firms

Source: complied by the author

The second chart shows how much manual work has been reduced in audit firms because of using artificial intelligence (AI). Deloitte shows the biggest reduction in manual task at 40%, followed by EY(38%), KPMG (35%), and PwC (33%). This means these firms are saving a lot of time by using AI for routine and repetitive tasks. smaller firms like RSM India (22%) and Mazars (24%) have seen less reduction, which could be because they are still in the early stages



of using AI or may not have access to many advanced tools. Overall, the charts shows that more AI use leads to less manual work, which helps firms work more efficiently and focus on more important parts of the audit.

Opportunities Of Ai Adoption In Auditing Firms:

1 Better Audit Quality:

AI helps reduce mistakes by doing calculations and checking data more accurately than humans. This means audits are more reliable and follow the rules better.

2 Improved Efficiency:

AI can do boring, repeated tasks like checking bills, transactions, and samples. This saves time and allows auditors to focus on important work. It also reduces pressure on the team.

3 Smarter Fraud Detection:

AI can go through large amounts of data to find strange patterns or sign of fraud. This is more powerful than traditional ways and helps catch problems early.

4 Ability To Handle More Clients:

With AI, firms can serve more clients without hiring more people. AI systems can manage large audits, especially during busy times like year-end financial closings.

5 Real Time Monitoring:

AI can check data as it comes in, instead of waiting until the end of the year. This helps auditors find and fix issues quickly, making the process faster and more useful.

6 New Roles For Auditors:

Since AI takes over routine work, auditors can take on new roles like data analysts or advisors. This opens new career paths and makes the job more interesting.

7 Useful Business Advice:

AI helps auditors give clients helpful business tips, not just check if rules are followed. This adds more value to the audit and makes clients trust the firm more.

8 Happier Clients:

Faster results and fewer mistakes mean clients are happier. Happy clients stay with the firm longer and recommend it to others.

9 Competing Globally:

Firms in Bangalore that start using AI early can compete better with firms in other cities or countries. They might even attract international clients.

10 Partnering with Startups and Colleges:

Bangalore has many tech startups and universities. Audit firms can team up with them to build better AI tools and training programs, helping both sides grow.

Challenges of AI Adoption in Auditing Firms:

1 Lack Of Skilled People:

There are not enough people who know both auditing and how to work with AI. Most auditors are trained in traditional ways, and learning new AI tools like machine learning takes time and proper training. This is harder for smaller firms that can't afford to hire AI experts.

2 High Costs:

Using AI needs a lot of money to buy software, upgrade systems, and train staff. Big firms like the big four can manage this, but smaller companies may struggle to afford it, which creates a gap in technology use.

3 Resistance To Change:

Some older or experienced auditors prefer doing things the way they've always done. They might worry that AI will replace their jobs or that it's too hard to learn. This makes them less willing to accept new tools.



4 Old Software Problems:

Many firms still use old computer systems that don't work well with AI tools. Changing to new systems or connecting AI to the old ones takes time, money, and effort. It also means firms might have to stop work for a while during the change.

5 Unclear Rules:

In India, there are no clear rules about how to use AI in audits. Firms are unsure about what is legal, how to protect data, and how to use AI responsibly. This confusion makes some firms afraid to fully use AI.

6 Bad Or Missing Data:

AI works best with clean and complete data. But sometimes, the data from clients is messy or incomplete. This can confuse the AI and lead to wrong results, which reduces the quality of the audit.

7 Cybersecurity Risks:

Using AI and digital systems makes firms more open to cyberattacks. They need to spend extra money on strong security to protect client data from hackers and viruses.

8 AI is Hard to Understand:

Some AI systems make decisions that are hard to explain, even by the people who built them. In auditing, it's important to clearly show how results were reached. If AI can't explain its findings, it may cause problems with trust and rules.

9 Clients Don't Fully Trust AI:

Some clients feel unsure about reports created by AI. They may prefer results checked by a human. Firms need to work harder to help clients understand that AI tools are accurate and reliable.

10 Not Enough Local Experts In Audit AI:

Even though Bangalore has many tech experts, only a few know to build AI tools just for auditing tasks. This makes it hard for firms to create the right tools for their work.

IV. RESULTS AND DISCUSSION

This study shows that the use of artificial intelligence (AI) in top auditing firm in bangalore is quite high- especially in the big four firms: Deloitte, EY, KPMG, and PwC. These firms have adoption levels between 85% and 90%. On the other hand, mid-sized firms like Grant Thornton and BDO India have moderate adoption rates between 60% and 75%, mainly because of limited budgets and weaker technology systems. The most common AI tools used include:

Machine Learning (ML) – for detecting fraud,

Natural Language Processing (NLP) - for reading and analyzing documents,

Robotic process Automation (RPA) – for doing repetitive audit tasks automatically.

These tools helps firms automate processes, check compliance, and manage risk more effectively. Firms that use their own AI platforms like EY Helix or Deloitte Omnia have managed to cut down more manual work (upto 40%). In contrast, mid-sized firms that use basic or third-party tools do not see the same level of efficiency, showing that there's still a technology gap between large and smaller firms. AI has changed the way audits are done. It reduces errors, speeds up the process, and lets auditors focus more on analysis and giving advice. But there are still problems like, Not enough trained staff, High costs of AI tools, Difficulty in using AI with old systems, Unclear rules and regulations. These findings match what is seen globally AI improves audits by making them faster and more accurate. However, Bangalore has an advantage because of its strong tech workforce and closeness to AI startups. This makes it easier for firms in the city to adopt new technologies. Still, there are local problems, like of proper training and unclear governments policies, which need to be fixed.

V. CONCLUSION

This study looked at how artificial intelligence (AI) is being used by top auditing firms in Bangalore, showing how important it has become in improving the audit process. The findings confirm that large firms especially the Big Four are using tools like machine learning, natural language processing, and robotic process automation to make their audits faster, more accurate, and better at detecting risks. Because Bangalore is a major tech city, these firms have better access to skilled tech professionals, startups, and universities, which helps them adopt AI more quickly. However, mid-



sized firms still face some challenges, such as not having enough trained people, high costs of setting up AI, difficulty connecting new tools with old systems, and unclear governments rules about using AI in Audits.

AI is changing the way audits are done in Bangalore, but to keep growing in the right direction, firms need to invest in training, better technology, and clear policies. This will help both big and small firms benefit from AI and ensure that the whole audit industry moves forward together.

VI. FUTURE RECOMMENDATIONS

To make better use of artificial intelligence (AI) in auditing especially in a tech city like Bangalore some important steps need to be taken. First, auditing firms should provide proper training to their employees so they can learn how to use AI tools. This will help reduce the shortage of skilled professionals and make it easier for firms to adopt new technologies. Secondly, regulatory bodies like ICAI and SEBI should create clear rules and guidelines for using AI in audits. This will help firms avoid confusion, follow legal requirements, and build trust with clients. Next step will be small and mid-sized firms need financial and technical help to start using AI. They can work together with local tech companies and universities in Bangalore to develop affordable and useful AI tools that meet their needs. Lastly, more research should be done to compare how AI is being used in different cities across India. This can help share good ideas and create better strategies for the future.

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