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Present and Future Perspective of AI Audit in India

Dr. Anoop Kumar Gupta
Assistant Professor
Department of Commerce
Vardhaman College, Bijnor
Email: dranoopbly82@gmail.com

Pankaj Agarwal*
Assistant Professor
Department of Commerce
V.R.A.L. Govt. Girls Degree College, Bareilly (U.P.)
Email: pankaj.gdc2009@gmail.com

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Dr. Anoop Kumar Gupta
Pankaj Agarwal

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Abstract

In the rapidly evolving auditing sector, AI-powered technologies are revolutionising traditional practices. As the industry is changing due to new regulations and emerging technologies, many auditors are having difficulty with out-dated practices and inefficiencies. More advanced technology has never been needed for modern auditing, and artificial intelligence (AI) is setting the standard for this advancement. There are intriguing opportunities to improve the efficacy, impact, and efficiency of internal auditors' work with artificial intelligence in auditing. To use AI effectively, auditors must understand its limitations and focus on strengthening internal auditors' core competencies rather than replacing them. AI and auditing go hand in hand, and as the capabilities of artificial auditing are expanding rapidly, internal auditors should consider how their team could use AI to enhance their work. This article will cover possible uses for incorporating AI into auditing as well as the benefits that this new technology may provide across the audit lifecycle.

Keywords

Artificial Intelligence (AI), Auditing, Audit Process, AI Audit

What is an AI Audit?

AI audits check to see if an AI system and the algorithms that go with it meet ethical, legal, and security standards. They analyse an AI system to see whether it does prohibited acts, has a tendency towards unlawful bias, or presents intolerable risks. Typically, AI audits concentrate on the following:

- Data output
- Algorithmic and model operations
- The general application of AI systems
- Conducting an audit to see whether a company has implemented policies and procedures that guarantee it functions morally and openly within its AI systems is another application for an AI audit.

This type of business-focused AI audit consists of:

- Ensuring the presence of suitable policies and procedures
- Confirming adherence to the AI regulatory norms
- Assessing the efficacy of controls
- Finding gaps in compliance
- Suggesting additional enhancements to policies and processes
- AI model audits are applicable to both deployed systems and open-source models.
- The GPT-NeoX-20B, BERT, GPT-J, YOLO, and PanGu-á models are open-source.
- GPT-3, POL-INTEL, and COMPAS are the systems that have been deployed.

The Importance of AI Audits

Although the use of AI is expanding at an unprecedented rate, auditing and regulatory frameworks are still trailing behind.

What is AI auditing and why is it important for India?

Businesses, nonprofits, and government organisations in India are implementing AI systems at a never-before-seen rate, frequently affecting millions of people, thanks to easier access to AI development tools and datasets. Over 1.74 million passengers have used the Indian government's DigiYatra facial recognition software to board aeroplanes less than a year after it was introduced. India's fast expanding AI enterprises, which include ML-driven content production platforms like ShareChat and conversational AI chatbots like Haptik, directly affect almost half a billion users.

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Algorithmic auditing can be very useful to evaluate how these systems function, ascertain whether they are functioning as intended, and possibly lessen more general societal issues. Nevertheless, despite its extensive use, there are justifiable worries regarding these algorithmic systems' propensity to reproduce, strengthen, or magnify negative social prejudices already in place. India's diverse population may have unequal access to digital services, which could lead to biased datasets. Future legislation must include the necessity of auditing AI systems, given that the Indian public sector now depends on algorithmic decision-making to boost efficiency.

What is auditing using algorithms?

Unlike financial audits, which are established, professionalised, and subject to clearly defined standards, the definition of AI algorithmic audits is not obvious.

They are typically viewed, nevertheless, as a means of clearly demonstrating how AI implementations fail to live up to performance expectations. To understand how an algorithm works and assess it in relation to predetermined normative requirements, including interpretability, fairness, and transparency, it would be required to test it in a range of scenarios. First-party audits, which might involve internal teams within organisations, second-party audits, or third-party audits, are carried out by independent researchers or organisations that have no contractual connection to the audit target.

Why is it important?

Racism, classism, misogyny, ableism, and other types of discrimination that hurt people in the real world can be spread by algorithmic systems. Darker-skinned women are five to ten times more likely than white men to be misidentified by high-performing facial recognition algorithms. In order to assess applicants' creditworthiness, Apple's credit card algorithms have frequently given female customers credit lines that are almost 20 times lower than those of male customers. A team of researchers discovered that there was a notable implicit bias against individuals with impairments in all 13 of the publicly accessible natural language processing models. These biases tend to reinforce pre-existing assumptions and can originate from a number of causes, including developer biases, poor measures, and a lack of diversity in training data. The issue of biased algorithms must be addressed, particularly in a nation as diverse as India, which has 1.4 billion people and produces massive volumes of data daily, which should make for ideal training data for AI models. Only about one-third of Indians use social media, and less than half utilise

the internet. Additionally, internet connection is not distributed evenly among genders, castes, regions, rural-urban areas, etc. Due to their lack of internet use, Muslim and Dalit populations were under-represented in the datasets gathered, according to a Google poll of internet users. The problem is made worse by the growing application of AI algorithms in India's public sector. One of the reasons behind the usage of AI/ML to automate processes is India's resource constraints, which necessitate the most efficient governance possible. India currently has one of the lowest police-to-population ratios in the world, with more than a dozen state law enforcement agencies identifying criminals using facial recognition algorithms. Defective AI models, however, may result in governance systems being used less effectively or even inadvertently, sometimes making matters worse rather than better. For example, when processing thousands of welfare scheme applications, the Telangana government employed machine learning (ML) technologies to predict people's conduct. In the end, this resulted in the elimination of 100,000 forged ration cards, 14,000 of which later had to be reintroduced.

What's happening?

In India, algorithmic systems have not been submitted to audits, despite the fact that they are an essential instrument for holding the public sector responsible. The majority of discussions on the topic are still ad hoc affairs conducted by particular government entities. During the SAI20 Engagement Group Summit under the G20, the Comptroller and Auditor General (CAG) of India most recently called for measures to develop auditing frameworks and comprehensive checklists on AI.

With an emphasis on case studies from current nations, this conversation seems to be in its infancy. All of India's examples fell into the latter category, despite the mandate's request for both auditing AI algorithms and deploying AI as an auditing tool. However, a number of Indian government organisations have previously acknowledged the value of audits. In its 2021 approach document for responsible AI, NITI Aayog emphasised the significance of developing procedures for routine algorithmic audits by independent and authorised auditors, in tandem with the CAG. It's unclear how this has been carried out, but even the DigiYatra plan allegedly contained clauses allowing for audits and assessments by independent teams and specific government agencies.

What comes next?

Although auditing has long been used as a means of accountability, there aren't many examples of auditing AI use cases. As a result, auditors have limited

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access to critical data, a potentially challenging learning curve, worries about biases in auditing teams, and fewer strategic starting points. This issue is made worse by the fact that AI technology is novel, multifunctional, has unclear definitions, and varies greatly throughout AI systems and solutions. Furthermore, the regulatory ecosystem for AI lacks several widely recognised norms. Less than 1% of respondents to a poll of AI auditing professionals and organisations said that the laws now in place for AI audits worldwide are "sufficient."

The Indian government should pass laws mandating that AI system manufacturers and operators perform independent algorithmic audits in accordance with well-defined criteria in order to bridge this gap. Policymakers might therefore mandate that owners of AI products submit audits and provide compliance procedures to guarantee that audits result in meaningful change, as opposed to giving them discretion over when, when, and how to perform audits. In the absence of transparent audit procedures, standards, and regulatory guidelines, any claims about an AI product being audited—whether by first, second, or third party auditors—will be hard to validate and are probably going to increase harm and bias rather than decrease it.

Citing concerns about client confidentiality, the Indian government may also require the publication of key audit reports for peer review, which are often retained by first- and second-party auditors. Domain-specific factors can be used to assess the required level of disclosure (e.g., providing all relevant information versus just the most important conclusions, etc.).

Requests may be made to log disclosed information into a database accessible only to verified actors or to make it publicly available. To address quantifiable concerns of actual harm (as opposed to just structural or qualitative ones) in the audit process, lawmakers can also start a standardised harm incidence reporting and response strategy. Finally, to broaden and diversify the pool of skilled auditors, the Indian government might formally assess and accredit algorithmic auditors. This should be done without making it a "rubber stamp" process or excluding independent researchers, investigative journalists, or other civil society organisations that have the expertise (and motivation) to expose bad actors in AI. Together with measures for increased algorithmic accountability in the Information Technology Rules, 2021, or the Digital Personal Data Protection Act, 2023, these actions could be incorporated into the planned Digital India Act.

Best practices can be incorporated into internal processes by businesses or government agencies that own and publicly employ AI technology. For example,

they can notify people when they are being exposed to algorithmic decision-making systems or include stakeholders in the audit process who are likely to be adversely affected by AI systems. These suggestions are broadly accepted by algorithmic auditing ecosystem practitioners, and Indian businesses and regulatory organisations can significantly reduce harm if they implement them. The audit process can be laborious, analytical, sluggish, and meticulous, even if AI research is now progressing swiftly. But if more and more high-stakes enterprises adopt algorithms, it might be better to slow down.

The Difficulties That Obstruct

AI auditing presents a number of difficulties in addition to the requirement for audit standards. To begin with, there is currently no universally accepted definition of artificial intelligence, and the phrase itself is hotly debated. Since the definition of AI is still up for debate, it makes natural that there isn't a defined process for auditing and regulating it.

A serious shortage of employees with the necessary skill sets makes the AI audit process even more difficult. Since AI is a relatively new technology, few professionals possess the requisite expertise. For AI audits, the following skills are necessary:

- Being aware of the technology underlying these systems
- Training in algorithmic auditing
- Conventional auditing procedures
- Experience with reg tech

Some of these skill sets are obviously outside the scope of standard audit teams, and these pairings are hard to find.

Difficulties with AI Auditing

1. Inadequate or nonexistent AI audit-specific frameworks
2. There are Limited historical background and precedents
3. The lack of clarity in the definition of artificial intelligence
4. There is AI's extremely dynamic nature.
5. The challenging learning curve for auditors using AI

Reducing AI Bias is the Goal of AI Audits

Making sure that an AI system's algorithms are impartial and do not discriminate against any entity or group is one of the primary goals of AI audits.

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Algorithm bias: what is it?

Biases in AI can occasionally be on par with or worse than those in humans. Biassed assumptions made during the algorithm development process or biases in the training data might cause machine learning algorithms to generate abnormal results. Due to societal norms and ideas, we have blind spots or predetermined assumptions in our thoughts. Thus, algorithmic AI prejudice is strongly influenced by societal bias.

Possible Negative Effects of AI Bias

Allocation: when eligible individuals are unfairly denied or given access to resources through computerised decisions.

Quality of service: when AI systems produce varied results for distinct groups.

Stereotyping: when artificial intelligence (AI) systems draw conclusions about people from previously provided information.

Where Do I Begin an AI Audit?

1. Define the Scope: Name the AI system or systems under study and clearly outline the parameters of the audit.

2. Communication: Create a plan that encourages interaction with different subject matter experts.

3. Recognise the architecture and design of the AI system: This consists of:

- Pipelines for data output
- Infrastructure model
- Algorithms for making decisions
- The deployment procedure

4. Adopt Current Audit Structures: Existing audit frameworks, such as the EU AI Act or the NIST AI Risk Management Framework, can be used to direct the audit process even in the absence of an AI model audit framework.

The Role of AI in Indian Auditing

Artificial intelligence (AI) has the ability to completely transform the auditing process by automating repetitive tasks, quickly analysing large datasets, and identifying anomalies that human auditors might miss. The AI audit tool being created as a result of this partnership will employ machine learning algorithms to find patterns and trends in financial data, providing auditors with knowledge that could aid in their decision-making.

The AI Audit Tool's Advantages from an Indian Perspective

1. Increased Efficiency

The time needed to perform audits will be greatly decreased by the AI audit tool. Automating repetitive processes like data entry and analysis allows auditors to concentrate on more intricate audit elements, which results in quicker completion times.

2. Enhanced Accuracy

Human error is a common issue in auditing, especially when working with large data sets. The AI audit tool will decrease these errors by reliably and accurately evaluating financial data.

3. Improved Compliance

Maintaining compliance can be challenging for auditors because regulations and standards are always changing. The AI audit tool will ensure that audits are conducted in accordance with the most recent requirements by keeping auditors up to date on the latest regulations.

4. Cost-Effective

By reducing the time and effort required to conduct audits, the AI audit tool will lower auditing costs. Because of this, audits will be more accessible to smaller businesses that may not have the resources to conduct thorough audits by hand.

The Operation of the AI Audit Tool in the Indian Setting

1. Data Collection

Among the sources the AI audit tool will use to collect data are financial statements, transaction records, and other relevant documents. This data will be analysed and analysed to identify trends and patterns.

2. Data Analysis

Using machine learning techniques, the AI audit tool will analyse the collected data to search for anomalies, disparities, and potential fraud. The technology will also assess the organization's financial health, providing auditors with crucial data.

3. Reporting

The AI audit tool will generate thorough reports that highlight significant findings and recommendations based on the inquiry. Auditors will be able to identify areas that require further investigation immediately because these reports will be easy to read.

The Effect on India's Accounting Profession

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Reshaping the Role of Auditors

As AI is incorporated into the auditing process, the role of auditors will evolve. The AI audit tool will take care of routine tasks, allowing auditors to focus on more strategic auditing tasks like risk assessment and advice.

Training and Development

As AI is increasingly incorporated into the auditing process, it will be essential for auditors to acquire new skills. ICAI is likely to introduce training programs to help auditors understand how to use AI tools effectively and remain competitive in the evolving labour market.

Ethical Considerations

The use of AI in auditing raises ethical questions around data privacy and the potential for bias in AI algorithms. To alleviate these concerns, ICAI and MeitY must develop guidelines for the ethical use of AI in audits.

Opportunities and Difficulties

Adoption of AI Tools

One of the main challenges will be motivating auditors to use the AI audit tool. Many experts may be hesitant to rely on AI because they fear that it may eventually replace human auditors. Although the tool is meant to complement human auditors rather than replace them, adoption will eventually lead to more accurate and effective audits.

Integration with Existing Systems

Another challenge will be integrating the AI audit tool with the auditing mechanisms that are currently in place. Companies need to confirm that the product is easily compatible with their current software and processes.

Opportunities for Innovation

The collaboration between ICAI and MeitY has created numerous opportunities for innovation in the auditing sector. With AI, India has the potential to set new standards for the auditing industry and take the lead globally.

India's Prospects for AI Auditing

The Indian accounting industry's development and regulation have long been greatly aided by the Institute of Chartered Accountants of India (ICAI). With its recent collaboration with the Ministry of Electronics and Information Technology (MeitY), the use of artificial intelligence (AI) for auditing has made considerable

strides. This collaboration has the potential to revolutionise the auditing process by improving financial reporting's accuracy, efficiency, and transparency.

The ICAI-MeitY Collaboration: What is it?

The collaboration between ICAI and MeitY aims to develop an AI-powered audit tool that will assist chartered accountants (CAs) in conducting audits more successfully and accurately. This technology reduces human error and improves audit quality overall by automating many auditing process processes.

The collaboration between ICAI and MeitY marks a significant turning point in the evolution of the auditing profession in India. By improving auditing's accuracy, effectiveness, and cost-effectiveness, the AI audit tool has the potential to completely transform the field. As the tool is developed and implemented, auditors will need to embrace this new technology and adapt to the changing nature of the profession.

The Arrival of New Prospects: Developing Functions for CA's in the AI Age

In addition to automating duties, AI integration in accounting seeks to provide chartered accountants (CAs) with exciting new chances to expand their skill sets and explore new career trajectories. Some of the most fascinating new fields are as follows:

1. AI Implementation and Integration Specialists: As more businesses use AI, there is an increasing demand for professionals who understand both accounting concepts and AI technology. A certified public accountant becomes highly helpful when they fill this gap. They might concentrate on helping companies integrate AI technology into their present accounting procedures in a seamless and effective way. This could involve tasks like:

- **Tailoring AI tools:** assessing the specific requirements of the company and identifying AI solutions that satisfy those requirements (e.g., AI-powered bookkeeping to speed up data entry or fraud detection technologies to enhance security).
- **Data Integration:** ensuring seamless data transfer between the new AI tools and the current accounting systems in order to establish a cohesive and effective workflow.
- **Staff Training:** facilitating the smooth implementation of the new AI technologies by providing the support and instruction required for effective utilisation.

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2. AI Auditing Experts: As AI assumes more accounting responsibilities, robust auditing practices become even more crucial. When certified public accountants become proficient in AI auditing, they can ensure the reliability and quality of AI-generated data. This could mean:

- **Developing new audit procedures:** Establishing special auditing methods designed to evaluate AI systems used in accounting.
- **Testing AI accuracy:** Assessing the accuracy and efficiency of AI algorithms used, for instance, in transaction processing and data analysis.
- **Mitigating bias:** identifying and eliminating any possible biases in AI systems and training data to ensure fair and ethical accounting process implementations.

3. Data Analytics and Visualization Gurus: AI excels at creating vast amounts of data, but human talent is needed to transform this data into meaningful information. CAs can bridge this gap with strong data analytics skills. As specialists in data analysis and visualisation, they can perform tasks such as:

- **Interpreting complex data sets:** Analyse the intricate data generated by AI systems to identify trends, patterns, and potential threats or opportunities.
- **Storytelling with data:** transforming complex data sets into simple, concise visual representations, such dashboards or reports, that help stakeholders make educated decisions by outlining opportunities, dangers, and financial health.

These are only a few of the innumerable opportunities that are still to come. By embracing continual learning and picking up new skills, certified public accountants may ensure they remain at the forefront of the accounting profession in the AI era.

Conclusion

Instead of being a threat, AI is a powerful instrument that may be utilised to enhance CAs' capabilities. By using AI and continuously enhancing their skill sets, certified public accountants may preserve their reputation as trustworthy advisors and thrive in the workplace of the future.

Business operations are not the only thing that artificial intelligence has the capacity to alter. It will affect every aspect of civilisation. Auditors ought to think about whether audit teams and organisations are equipped to deal with the difficult issues surrounding artificial intelligence and auditing technique. You can start off

well with the key concepts covered in this white paper. Despite the lack of a precise conceptual definition, artificial intelligence (AI) is nonetheless widely used in society, industry, and research. The early disruptions caused by emerging AI technologies will continue to alter and influence human behaviour until machines do all tasks like humans. The IT and business groups have a great chance to lead this new phase, prepare, and establish robust governance for AI auditing. COBIT® 2019 is a successful and tried-and-true methodology that can be used to clear the route.

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