A hand holding a pen over a document with a bokeh background.

**The Institute of Chartered Accountants
of Nigeria (ICAN) Surulere & District
Society**

***Transforming the Audit Process – The
Role of AI in Enhancing Accuracy and
Efficiency***

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A decorative graphic consisting of three small yellow squares followed by a horizontal yellow bar.

In today's rapidly evolving business and regulatory environments, the need for efficient and accurate audit processes has never been more critical. Artificial Intelligence (AI) is revolutionising the audit landscape by introducing tools that streamline operations, enhance accuracy, and provide deeper insights.

AI is not a single technology but a set of methods and tools with sub-domains applied to countless situations. We like to say, "Technology is implemented. Bots are built. But AI is applied."

Value from AI doesn't come from "putting it in" — at least not yet. But AI is maturing and being embedded in enterprise systems or becoming more accessible for nontechnical users.



Outline

A pair of hands, one above and one below, are shown holding a glowing digital globe. The globe is composed of a network of interconnected nodes and lines, with a warm orange and yellow glow on the left side and a cooler blue and purple glow on the right. The background is dark with faint, glowing network patterns.

1 Overview of Artificial Intelligence

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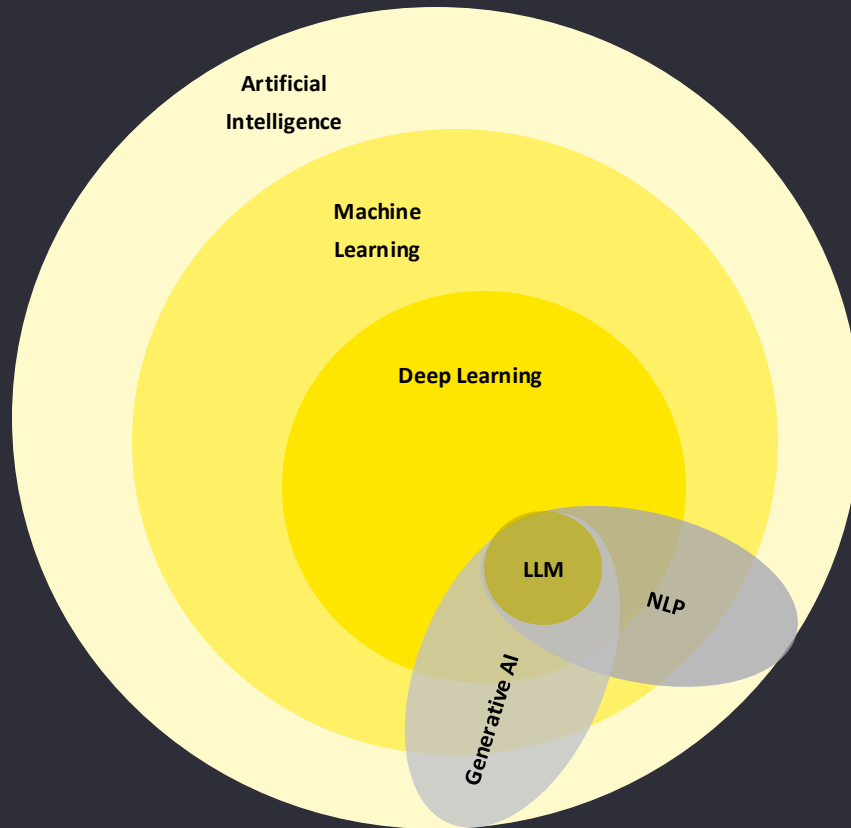
3 AI Use Cases and Tools for Audit

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Overview of Artificial Intelligence



What is Artificial Intelligence?



Artificial Intelligence (AI)

AI is a field of computer science that focuses on creating intelligent machines capable of tasks requiring human intelligence. *(Technology appearance – 1943)*

Machine Learning (ML)

A subfield of AI, which is broadly defined as the capability of a machine to imitate intelligent human behaviour by learning from experience and acquiring skills without human intervention. *(Technology appearance – 1959)*

Deep Learning (DL)

A subset of ML, which refers to a method that uses algorithms inspired by the structure and function of the brain, called artificial neural networks. *(Technology appearance – 2006)*

Natural Language Processing (NLP)

An interdisciplinary field of computer science, AI and computation linguistics that focuses on programming computers and algorithms to parse, process and understand human language

Generative AI (Gen AI)

A type of AI that can create new content such as images, text, audio, or video based on the data it has been trained on, using techniques like large language models (LLMs), transformer neural networks, and generative adversarial networks.

(Technology appearance – 2017)

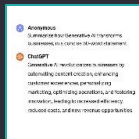
Large Language Models

A type of AI that is trained to understand and generate natural language, like the way people speak and write

Capabilities of AI

Analytical/Traditional AI

AI systems that are precision-oriented and can analyze data, extract insights, and make predictions to support decision-making.



Expert Systems

Providing decision support and diagnostics based on data analysis.



Predictive Modelling

Analyze data to forecast trends and outcomes.



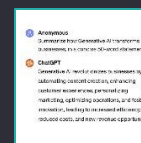
Pattern Recognition

Trained algorithms can recognize patterns and classify data.



Computer Vision

Analysing visual data to identify object and patterns.



Text Generation

Summarize the basics of public accounting for aspiring accountant.



Video Generation

Design a video depicting a plush toy creatively painting a landscape.

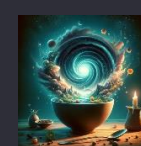


Image Generation

Illustrate a digital art showing gateway to a universe in a pot of soup.



Code Generation

Write a Python script to generate monthly financial report.

Introduction to AI in Audit



Benefits of AI in Audit

Enhanced Insights and Accuracy

- AI can analyze large volumes of data to find anomalies, patterns, and insights that are not readily apparent to humans.
- AI tools can review 100% of transaction data, instead of relying on traditional sampling methods.

Efficiency and Standardization

- Automation and AI can streamline and standardize processes, reduce errors, and standardize engagements.
- AI can automate repetitive and time-consuming tasks, such as data entry, document review, and reconciliation.

Enhanced Risk Assessment

- AI can analyze both financial and non-financial data from various sources - financial statements, regulatory websites, market trends, news sentiment, and industry developments - to identify risks related to financial health, regulatory compliance and sustainability.
- AI can predict potential future risks based on historical data and trends.

Considerations and Challenges

Data Privacy

- Ensuring the security of sensitive data is critical.
- Data protection regulations must be strictly adhered to.
- Implement robust encryption to prevent inadvertent leakage of sensitive information.

System and Data Integrity

- Effectiveness of AI tools depend on the quality of underlying data.
- Rigorous data validation and cleaning process must be implemented.
- Regular audit of data sources and input processes are crucial to maintain system integrity.

Explainability and Trust

- AI solutions are usually opaque that makes it hard to explain and trust AI outputs.
- It is necessary to use techniques such as explainable AI (XAI) to provide insight into how AI makes decisions.
- Thorough documentation of algorithms, data inputs and decision criteria are required for transparency.

Future of AI in Auditing



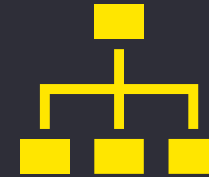
Continuous Auditing

AI tools can enable continuous monitoring and real-time reporting, providing more timely insights.



Holistic Advisory

Providing a holistic view of risks and opportunities and helping to prioritize audit procedures and resources allocation effectively.



New Assurance Opportunities

AI opens possibilities for new types of assurance needs, such as verifying the accuracy and bias of AI tools.

AI Use Cases and Tools for Audit



Financial Statement Tie-Out Tool

• **Objective:** Designed to bring intelligence and automation to financial statement tie-out procedure. It is designed to enhance accuracy and reduce the manual recalculation.

• **Key focus areas include:**

- ✓ Clerical accuracy
- ✓ Internal consistency
- ✓ Comparison of the current year FS numbers with those of the prior year
- ✓ Refencing work papers

Other audit procedures

- **Risk assessment AI Tool:** Support risk assessment for audit team by leveraging advanced, AI-enabled algorithms.
- **General Ledger Anomaly Detector:** Detects anomalies by analysing journal entries, identifying outliers for further investigation. .
- **Sampling:** Sample selection and testing based on agreed parameters
- **Document Intelligence:** Reads underlying business documentation and vouchers back to journal entries and financial statements.

Revenue Recognition

- **Contract Data Extraction:** AI extracts relevant data from contracts ensuring that revenue is recognized in accordance with contractual terms.
- **Revenue Matching:** AI tools match recognized revenue with related transactions to verify that records are accurate and in the correct period.
- **Pattern Analysis:** AI analyzes revenue patterns across periods and customer segments to detect potential errors or manipulations.
- **Exception Reporting:** AI generates reports highlighting discrepancies between recognized revenue and underlying contractual terms.

Contract Review for Audit

- **Automated Data Extraction:** Tools like NLP-driven platforms can automatically extract critical data from unstructured sources, including payment terms, delivery schedules, and penalties. This reduces manual review time and increases accuracy.
- **Anomaly Detection:** AI tools can compare extracted contract terms against predefined standards to identify anomalies, ensuring that all contracts adhere to company policies.
- **Real-Time Updates:** Continuous monitoring of contract changes ensures that any deviations are immediately flagged for review, reducing the risk of non-compliance.

FS Preparation

- **Data Normalization:** AI tools can ingest financial statements from various sources, normalize the data, and prepare it for analysis, significantly reducing the time spent on manual data preparation.
- **Accounting Standards Tools for accounting policy and notes:** Scans and identifies relevant sections and list checks to be performed.
- **Intelligence Disclosure Checklist:** Helps to ensure compliance with the disclosure requirements of relevant accounting standards.

Transaction Testing

- **Transaction Matching:** AI-driven tools match transactions, such as invoices to payments, and flag any discrepancies for further investigation.
- **Outlier Detection:** Machine learning algorithms detect outliers in transaction data, such as unusual vendor payments or abnormal spending patterns, which may indicate fraud or error.
- **Estimate Validation:** AI tools validate management estimates by comparing them with AI-generated estimates based on historical data and external factors.

Easy Steps for Starting the AI Journey



Next Steps for Auditors

- **Stay Informed:** Continuous learning is key. Enroll in AI-related courses and attend workshops to keep up with the latest advancements.
- **Embrace AI Tools:** Start integrating AI tools into your daily work. Explore AI-powered accounting software solutions designed to enhance productivity and accuracy.
- **Focus on Strategy:** With AI handling routine tasks, focus on strategic activities. Use AI insights to guide decision-making and offer high-level advisory services.
- **Collaborate and Network:** Join AI-focused forums for accountants and networks.
- **Ethics and Governance:** Understand the ethical implications of AI. Ensure that AI systems are used responsibly and transparently, maintaining public trust.



Thank You