PARADIGM SHIFT IN AUDIT: ELECTRIFYING ROLE OF CMAs IN THE TECHNOLOGY CENTRIC THEORETICAL LANDSCAPE

Abstract

The paper outlined the paradigm shift in the audit from the traditional phase to the digital phase by embracing the implementation of AI assisted tools and various technology centric theoretical constructs to make the performance more reliable, transparent and accurate. The role of the professionals in this transition would also be instrumental.

CMA (Dr.) Nabanita Ghosh
Assistant Professor
Christ University
Bangalore
nabanita.ghosh@christuniversity.in

Dr. Geetanjali Purswani
Associate Professor
Christ University
Bangalore
geetanjali.purswani@christuniversity.in

Introduction: Evolution of Audit

Audit has seen its inception around 5000 years back. Ancient foundations aimed at detection of fraud and theft and all things were manual. Sumerians and Babylonians are known to be the first ones to start very basic verification of financial records in temple economies in 3000 BC. Egyptians brought more advancement to this area for taxation purposes in around 2000 BC. (Mattessich, 2000; Chatfield, 1974). They developed the concept of cross-verification to ensure accuracy and avoid corruption in government related finances. During the Medieval Period (500 - 1500 CE), in Europe, auditing became more engrained in monarchies and religious institutions. Requirements of maintenance of records increased and auditing ensured agents took care of assets on behalf of the Principal.

1. Transformation of Audit: Traditional to Digital Audit, AI assisted

The methodology of verifying the documents, papers and vouchers and allied stuff in a physical mode, sample test checking and post facto reporting became tumultuous and the need for the convergence with digitization was felt among the auditors' community and there evolved the digitized audit. The repetitive tasks of verifying, vouching and checking the accuracy can be completed within restricted time. The auditors are relieved from their mundane duties and can consequently concentrate on their core competencies to unearth the frauds and errors that go unnoticed even in the digital lens. The shift towards the digital audit needs the alignment with data analytics, enterprise resource planning system integration and continuous audit mechanisms. The involvement of digital audit replaced the limited checking procedure with the minute analysis of every single document. These modern days of audit have started using the tools

like ACL, IDEA and Power BI to bring more comprehensive approaches in the tasks. (Debreceny et al., 2005; Alles, 2015).

Transformation from the traditional audit to Artificial Intelligence (AI) based audit can be diagrammatically presented below:

Diagram 1: Phases of transformation from traditional audit to AI audit

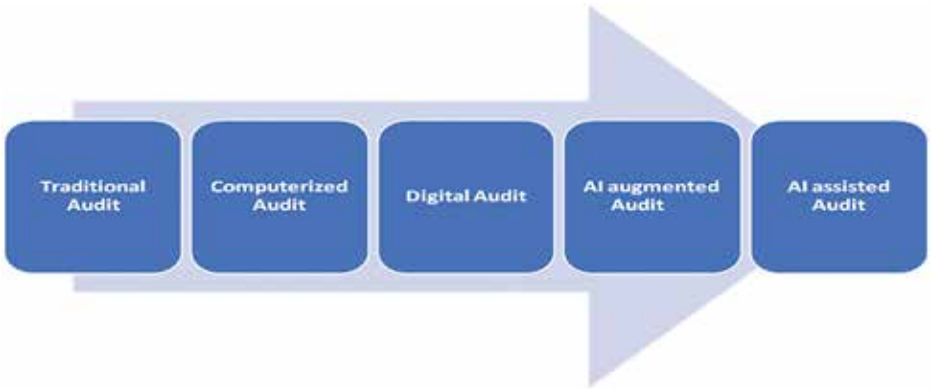


Table No 1: Functions of the Phases

Traditional Audit	Computerized audit	Digital Audit	AI augmented audit	AI assisted audit
Paper work	Use of Excel and Macros	Checking of the full database electronically	For anomaly detection, advanced data analytics is used	Real time risk assessment
Sample checking	Automation of manual data.	Use of Audit tools IDEA, ACL	Use of NLP for reading documents	Use of chat bots to communicate.
Limited examination	ERP system like SAP, ORACLE and TALLY	Basic Robotic Process Automation	Integration of structured & unstructured data for analysis	Cognitive auditing using MindBridge, Deloitte Cortex, PwC Halo), XAI tools SHAP, LIME, predictive analytics,
Human errors	Digitized records maintenance	Basic Robotic Process Automation	Rule based fraud detection system	Integration with external database
Manipulative judgment	*Digitization in audit started from 1990 and still date the up-dations are in progress*			

Source: Authored

2. Research Question:

The study is resting upon the following research questions:

a. How the evolution of audit took place from its traditional roots in every sector and how the AI penetrated in the system?

b. How the contemporary audit is in compliance with the ethical audit in emerging economies?

c. What are the theoretical gaps between the traditional audit framework and contemporary audit framework?

Objectives of the study:

The paper aims to exhibit the evolution of AI assisted audit from its traditional waves, emphasizing on its theoretical underpinnings, ethical dilemma and future scope for the professionals in the digital space.

1. Connection between the ethical audit and digital audit

The connection between the digital and ethical audit is narrated as follows:

Ethical audit emphasizes on the core principles of solidarity, goal congruence, compliance keeping intact the integrity aspect. Whereas the digital that emerged since the 1990s focused on the premises of using the digital tools for speedy calculation with accuracy. The interconnection between these two segments of audit is outlined as follows:

a. Data transparency and traceability: This process can downsize the intentional or unintentional duplication of work processes and promote efficiency and ethical contribution. It helps to unearth the ethical lacunae such as labor violations, unauthorized payments, and environmental compliance failures.

b. Promotion of ethical accountability: Digital audit can automate the compliance checks for ethical standards such as anti-bribery, data privacy, ESG metrics etc.

c. ESG and Sustainability audits: Ethical audit restructured itself by reconsidering the ESG metrics and it is the digital audit which pools the data across the organization to generate the sustainability reports and social impact assessments summary.

d. Enhancement of standardization: The upliftment of standards beyond the horizon of the human bias, human errors and influence can be ensured by the performance of digital audits as the automation subsides the shackles of age-old manual mismatches.

e. Digital Ethics and Ethical AI: The interplay of these two can be better understood in the lines of incorporation of ethical code of conduct while implementing the AI assisted audit procedures. The clarity of data, fairness of the algorithms need to be checked with care and caution in the audit assignments as the spiritual effect of transparency cannot be compromised in the era of automation.

2. Theoretical framework behind the development of Traditional audit and digital audit

The development of the traditional audit rested upon the theories namely Stewardship theory, Agency theory, Public interest theory and Information Asymmetry theory. (Jensen & Meckling, 1976; Donaldson & Davis, 1991. On the other hand the gradual transformation from the traditional path to the digital phase welcomed a set of theories with different magnitude such as Technology Acceptance model, Diffusion of Innovations theory and Contingency theory. Digital audit is not only an exclusive computerization of the traditional work but also embedded the intrinsic concepts of Information System Theory, Real Time Continuous Assurance Theory and Socio Technical System theory.

Table No 2: Analysis of theoretical mapping

Name of the theory	Idea and its Relevance
TRADITIONAL:	
Stewardship Theory	Trust Building
Agency theory	Monitoring rule
Public interest theory	Compliance procedure
Information Asymmetry theory	Bridging the gaps
DIGITAL	
Big Data Analytics theory	Coverage of comprehensive data
Information System theory	Integration of real time data
Continuous Assurance Theory	Continuous verification
Socio Technical System Theory	Synergy of both technology and Human

Source: Authored

3. Gap in the implementation of theoretical constructs in the audit framework

The pillar of digital audit rests on the integration of the technological framework, cyber security, ethics of using the AI and explainable AI whereas the traditional audits were matured in its framework but not devoid of intentional or unintentional human errors.

4. Limitation in the implementation of AI audit: Country-wise analysis with reasons

The world is not united in its attempts to bring AI Regulation. The practices, conditions and situations differ according to the developmental level of the country and availability and access to technical resources.

Table No 3: Bifurcation on the condition per country

Country	Present Condition	Issues in the Implementation of AI in Audit
European Union	THE EU AI Act will become applicable from 2nd August 2026.	➢ Not enough resources are available to implement the act. ➢ Small and medium enterprises may face an additional burden of cost.
United States	No comprehensive regulation is available. Sector-specific guidelines are issued as per requirements.	➢ No uniformity in guidelines and regulations across states. ➢ Lack of experts to execute the audits. ➢ More reliance on Voluntary Compliance and Industry-based standards
China	Comprehensive AI Regulations ensuring Social Harmony	➢ Insistence on abundant data complicates the audit process. ➢ Strict state control may restrict progress. ➢ Standards set may not sync with international/ global standards
United Kingdom	Insistence on Innovation-Friendly regulation	➢ Lack of specialized AI Audit Professionals. ➢ May have to develop independently of the EU. ➢ Implementation is difficult with varied standards across industries.
Singapore	Government is supporting AI Adoption and Regulation	➢ Abundant investment required for developing technical infrastructure. ➢ Alignment with International Standards may be difficult.
India	National AI strategy development under way.	➢ Lack of experts. ➢ Lack of technical Infrastructure. ➢ Require comprehensive guidelines to accommodate diverse Business practices.
Canada	Proposed Artificial Intelligence and Data Act (AIDA) - Delayed	➢ Not all sectors are equally prepared for acceptance. ➢ Comprehensive Regulation on AI yet to be developed. ➢ Lack of Professionals
Brazil	AI bill issued	➢ Bill is vague. No mandatory safeguards included. ➢ Lack of experts. ➢ SMEs may not be able to afford
Africa	African Union adopted Continental Artificial Intelligence Strategy	➢ Lack of technical infrastructure. ➢ Lack of Technical Experts. ➢ Lack of standardization across countries.
Australia	No AI Specific Law	➢ Lacks clear regulations and guidelines. ➢ Lack enforcement and practical know-how

Source: Authored

Overall, the entire world is on the pathway to deal with these emerging trends and bring a system in place. Harmonized efforts to develop International Standards, Investments in Training of AI Auditors and providing technical support to small and medium enterprises will help deal with this chaos.

Discussion on future landscape of Audit: 2030 and beyond

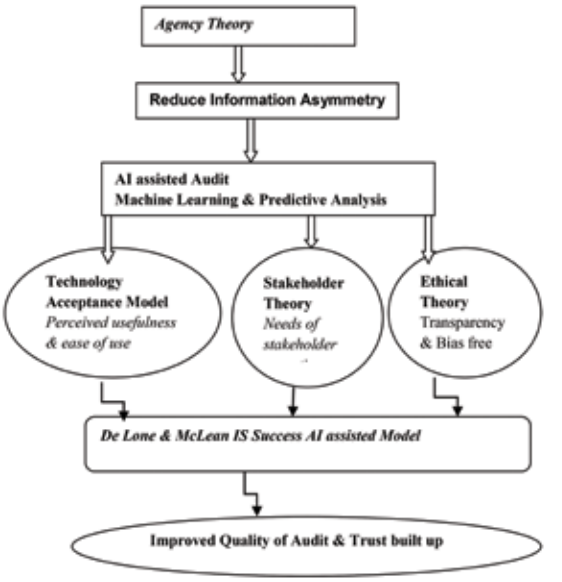
Audit will undergo a major shift in the times to come. Auditors would be required to act beyond the requirements of being a "Watchdog" and "Number churners" for the stakeholders. (Cao, Chychyla, & Stewart, 2015; Warren, Moffitt, & Byrnes, 2015). They would be required to take up many other strategic roles as Strategic Advisors, Data Analysts and Builders of Trust. Some of the evident changes are mentioned below:

- Automation and AI: Many manual processes will undergo automation and auditors will be expected to do more comprehensive analyses. Application of technology will enable Auditors to make their decisions based on entire data sets of the companies rather than choosing few samples and examining the authenticity. This will ensure more accurate and reliable conclusions being drawn by them. Real time anomaly detection and Fraud Risk Identification will be a possibility. Automations, especially Agentic AI will automate a lot of repetitive tasks performed by the auditors making them free to do higher-order tasks. Continuous Audits: Organizations may switch from periodic audits to continuous audits using data analytics and Internet of things ensuring immediate feedback and raising of red flags for every anomaly or deviation well in time. The usage of Block chain technology in auditing is expected to increase. The technology, which does not allow for changing any entries, makes the records more authentic and reliable. Environmental, Social, and Governance (ESG) Reporting may become mandatory, adding another requirement to be validated by the auditors. They would be required to verify even the non-financial information. Auditors may also help regulators in bringing standardization in the ESG Reporting process.
- Varied requirements: Specialized auditors may be required to handle specific audits relating to Crypto-currencies, Virtual Assets or Non-Fungible Assets like music, or videos stored on Block-chains. There is a possibility that the algorithm audits become a legal requirement for AI in certain crucial sectors.
- Need for training: With extensive automations, the number of people required for conducting audits may reduce, but those who want to survive this wave will require upgrading themselves to fit into the changing systems. In future auditors will be expected to be Tech-savvy, specialists in data analytics, IT, ethics and other changing requirements. Soft-skills requirements: They will need to evolve their Critical and Analytical skills as the focus will shift from compliance to Judgment-Based approach.

Analysis of role of Professionals in Digital Audit Landscape

The future digital audit can produce a different landscape with the involvements of the professionals like Cost and Management Accountants (CMAs). Their core expertise in cost effectiveness, process efficiency and compliance procedure in integrating the non financial and financial audit, in producing the ESG reports, sustainability reports and performance reports. AI assisted tools in the audit stream will enable the professionals to quickly flag the deviations from the standard. CMAs would play a crucial role in sustaining the data accuracy, data privacy and integrity of their data while dealing with the cost data in block chain based audit trail. They will also provide the strategic advice on cost optimization, resource allocation and on strategization of business outcomes.

Fig 1: Conceptual framework: Embedded theories in the AI audit



Conclusion

The development of the traditional audit rested upon traditional theories. Digital audit is not only an exclusive computerization of the traditional work but also embedded the intrinsic concepts of many new modern theories. The professionals also can make use of their expertise in this new era. MA

References:

1. *Alles, M. (2015). Drivers of the use and facilitators and obstacles of the evolution of Big Data by the audit profession. Accounting Horizons, 29(2), 439–449. https://doi.org/10.2308/acch-51067*
2. *Cao, M., Chychyla, R., & Stewart, T. (2015). Big Data analytics in financial statement audits. Accounting Horizons, 29(2), 423–429. https://doi.org/10.2308/acch-51068*
3. *Chatfield, M. (1974). A history of accounting thought. Dryden Press.*
4. *Debreceny, R., Lee, S. L., Neo, W., & Toh, J. S. (2005). Employing generalized audit software in the classroom: Challenges and opportunities. Journal of Information Systems, 19(1), 173–193. https://doi.org/10.2308/jis.2005.19.1.173*
5. *Donaldson, L., & Davis, J. H. (1991). Stewardship theory or agency theory: CEO governance and shareholder returns. Australian Journal of Management, 16(1), 49–64. https://doi.org/10.1177/031289629101600103*
6. *European Commission. (2024). Artificial Intelligence Act: Regulation (EU) 2024/1689. Official Journal of the European Union.*
7. *Gray, R., Owen, D., & Adams, C. (2014). Accountability, social responsibility and sustainability: Accounting for society and the environment. Pearson Education.*
8. *Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. Journal of Financial Economics, 3(4), 305–360. https://doi.org/10.1016/0304-405X(76)90026-X*
9. *Mattessich, R. (2000). The beginnings of accounting and accounting thought: Accounting practice in the Middle East (8000 B.C. to 2000 B.C.) and accounting thought in India (300 B.C. and the Middle Ages). Garland Publishing.*
10. *Warren, J. D., Moffitt, K. C., & Byrnes, P. (2015). How Big Data will change accounting. Accounting Horizons, 29(2), 397–407. https://doi.org/10.2308/acch-51069*