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THE TRANSFORMATIVE IMPACT OF INDUSTRY 5.0 IN AUDITING WITH AUDITORS' PERSPECTIVE: COLLABORATION OF HUMAN AND AI

Himanshu Choubey*
Pooja Sachdeva**

ABSTRACT

Auditing plays an important role in the field of accounting and finance. Auditing is indeed an integral part of accounting. Auditing involves the examination and verification of financial records that ensures accuracy and compliances with established standards and regulations. Industry 5.0 is bringing significant changes in the field of auditing. The meaning of Industry 5.0 is the collaboration of Human and AI to get the work done efficiently and effectively. Artificial Intelligence (AI) is emerging as a super power however human always has been an important element in every field. To analyse the integration of AI technologies in auditing, an extensive review of existing literature, academic studies, have been taken. The findings exhibit that AI technologies can significantly contribute in the auditing process through automating routine tasks, analysing huge amount of data with speed and accuracy, and identifying patterns that human auditors might miss. The integration of AI technologies fetches various benefits, including increased efficiency through timesaving automation, also improve effectiveness by enabling auditors to focus on higher-value tasks, and also enhance accuracy through detecting errors, and fraudulent activities. The study is conducted with the help of a structured questionnaire. Through a survey of 50 respondents, key findings reveal that AI impacts on auditing, also collaboration of human and technology is required for streamlining the work in auditing along with it, auditors should embrace technologies and skills through training programs for better and effective work, regardless of their working experience. In the study it has been explored, whether auditor is an experienced auditor or has less experience everyone needs to acquire skills and organizations should ensure to conduct various training programs time to time.

***Keywords**: Auditing, Artificial Intelligence (AI), Transformative result, Industry 5.0, Integration of AI in auditing, Cobots.*

* Audit Senior, Grassi India Pvt Ltd., Indore and Research Scholar, Prestige Institute of Management and Research, Indore
**Corporate Soft Skills Trainer, Dollop Infotech Pvt Ltd, Indore and Research Scholar, Prestige Institute of Management and Research, Indore

INTRODUCTION

Today's era is technological era where everything is transforming into digitalization. The industry 5.0 concept has been emerging for a long time which defines the collaboration of human and technology is a way to move towards effectiveness and success. In today's world, we observe applications of AI technology are all around us. Auditing also widely use AI technology. The progress in AI technology is transitioning to a tipping point where some new innovation or development could potentially change how a profession or discipline is being practiced and perceived all over the world.

Human and technology collaboration can get work done efficiently, accurately and without many errors. Decision can also be taken easily with the help of technology. Nothing can be done only with technology but on the other side this is also true that human being also needs technology to work faster and without any anomalies or errors. Technology is also time saving tool in order to accomplish auditing tasks. Human auditors will be able to provide higher value-added services, such as advisory roles and strategic planning, data analysis by leveraging the efficiencies provided by AI. AI ensures consistency and standardization in audit work, reducing Irregularity and also focuses on improving the quality of audits. The main purpose of Industry 5.0 is to unite the work of humans and robots which is known as cobot it is a great way to achieve better and personalized results in auditing. Industry 5.0 is trying to transform auditing into a more efficient, accurate, and strategic function. It is ultimately contributing to better financial governance along with decision making.

This study explores how AI technology has influenced Accounting and Audit profession significantly and in upcoming years will be shaping the society. There is need for adoption of technology greatly along with human collaboration. Human has brain and human can control the things when situations are against the society, therefore there is need of industry 5.0 which consists of man and technology collaboration. The concept of man-made machine is able to think, analyse and then execute effectively for better outcomes. Moreover, AI can handle huge amounts of data, also provides auditors deeper insights and a more extensive understanding of the organizations they assess.

REVIEW OF LITERATURE

Adebiyi (2023) has explored that there is a constant need for adaptation to the changing professional environment to increase effectiveness and proficiency in the corporate area leading to managing big data analysis, and higher financial, accounting, and auditing demands.

Candratio et al. (2023) has concluded that the identification of problems as a consequence of technological advances in the financial statement auditor profession, is described below. In the era of society 5.0, many auditors were replaced by artificial intelligence or robotic staff. Nakano (2022) explored fewer human resources are needed in a financial report audit process.

Jayalakshmi et al. (2023) found, this progress is actually a threat to the profession of financial statement auditors. The need for human resources to become auditors is reduced. Alsmady (2022) studied that only auditors who have high qualifications will win the competition, according to the needs of the 5.0 society era. Furthermore, the scope of the audit will expand across countries, because the form of transactions is already online between countries, even between continents.

Nurwulan and Maulida (2023) stated that the audit process was carried out remotely during COVID 19 or what is known as a remote audit. The results of this study proved that remote audits have the same audit quality as field audits as before. The difference is efficiency in terms of time and in terms of allocated costs. This research recommended that future audits continue to be developed, but it is more effective when carried out remotely, using the artificial intelligence.

Carlin et al. (2022) explained that information technology and its impact on audit quality and automation remains a growing topic, especially in the pandemic period which has caused more changes in financial audit planning and risk assessment. Auditors are forced to conduct remote audits and use information technology more than in previous years.

Knechel et al. (2021) elucidated that AI's emphasis on tasks such as decision making, prediction, and anomaly detection indicates a potential displacement of white-collar jobs, contrasting with the displacement of unskilled manual labor by previous technologies. In focusing on the audit sector, we provide preliminary evidence that this displacement is

occurring at the firm level, suggesting that audit firms' increased reliance on technology may be a mechanism contributing to the trends of increased departures and turnover among auditors.

Ham et al. (2021) concentrated on office-level AI job postings to characterize the evolution of audit firms' demand for AI skills. In contrast, our study emphasizes the actual hiring of AI employees. By analyzing real employees' profiles, roles, locations, skills, and job histories, our research is the first to offer an overview of the AI workforce in audit firms, detailing its composition, organizational structure, and applications within the firm.

Ham et al. (2021) provide a complementary investigation to ours, utilizing job postings data to examine the evolution of audit firms' demand for AI workers in recent years. Conversely, our resume data enable us to capture how AI is currently being integrated into the audit process. Al-Hashedi and Magalingam (2021) employed to identify fraud in various financial applications. Christ et al. (2021) provided evidence of enhanced audit quality facilitated by technology-enabled inventory audits.

Acemoglu et al. (2022) asserted that AI is associated conducted a review of extensive research related to detecting financial fraud, including bank fraud, insurance fraud, financial statement fraud, and cryptocurrency fraud, from 2009 to 2019, highlighting that 34 data mining techniques were with some job replacement at individual establishments but not at the aggregate occupation or industry level, suggesting that AI has no discernible aggregate effects on labor to date.

Avares et al. (2022) conducted fieldwork to analyze the impact of Industry 4.0 technologies on the auditing profession. This study elucidated that digital transformation and the adoption of new technologies provided by Industry 4.0 serve as aids to management and auditing professionals.

Satyawan and Iswati (2023) interpreted the humanistic philosophy of Confucius in the context of integrating AI into the auditing of financial statements. Their findings indicate that auditors, endowed with cognitive, moral, and ethical abilities, can collaborate with AI without fearing the complete replacement of their profession. However, auditors should be cautious of excessive reliance on AI, ensuring that high-tech-assisted audit objectives work in harmony without eliminating the humanistic elements of skepticism and professional judgment that AI lacks.

Existing studies have extensively examined the impact of technological advancements, AI and digital transformation on auditing professions. Some studies highlighted on technological developments and emergence of Industry 5.0, use of big data analytics, automation and AI driven audit processes. Some has focussed on the operational transformation within auditing practices. Limited research has empirically examined how industry 5.0 specifically influences the collaboration between human auditors and AI in enhancing job opportunities within the auditing profession. Therefore, the present study attempts to bridge the gap by analysing the impact of industry 5.0 on the auditing profession, examining the collaborative role of human auditors and AI in creating new job opportunities and assessing whether auditors work experience significantly influences the need for training and skill development for adopting AI assisted auditing.

OBJECTIVES

- To analyse the impact of the industry 5.0 in the Auditing profession.
- To study the significance of collaboration between human auditors and AI in enhancing job opportunities in auditing.
- To determine whether working experience significantly influences the need for training programs and skills to adopt AI assistance in auditing.

RESEARCH METHODOLOGY

The Study: An analytical research approach has been adopted for this study. The aim of this study is to examine the impact of Industry 5.0 on the auditing profession, with a focus on training programs required for adopting AI collaboration with human auditors.

Data Collection: Primary data has been used for this research. A self-developed questionnaire was used to collect data from auditors. The purpose of this study is to provide deeper insights into the impact of AI-human collaboration in auditing and to identify the skills required for auditors in the AI era.

The Sample: The sample consists of 104 respondents, comprising auditors from Indore (M.P.).

Tools for Data Collection: Primary data was collected through a self-designed questionnaire. Secondary data was gathered from various research papers, journals, publications, websites, and books.

Tools for Data Analysis: The collected data is analysed through ANOVA.

DATA ANALYSIS AND RESULT

H_{01}: There is no significant impact of Industry 5.0 on the auditing profession in terms of speed, accuracy, or integration of technology

SUMMARY

Groups	Count	Average	Variance
Consultant	14	15	17
Associate	20	17.5	1.71429
Senior Consultant	28	13.8235	3.27941
Manager	38	17.6	0.3
Assistant Manager	14	16	5.66667

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	104.806	4	26.2014	5.78188	0.00102	2.62605
Within Groups	167.671	37	4.53164			
Total	272.476	41				

ANOVA

Interpretation: H_{01} is rejected as F= 5.78188, P= 0.00<0.05 . There is a significant impact of Industry 5.0 on the auditing profession in terms of speed, accuracy, or integration of technology. The usage of AI in Industry 5.0 enhance speed of audit process and improve the accuracy of financial analysis and fraud detection and enable better integration of advanced technological systems in auditing practices.

H_{02}: The collaboration between human auditors and AI does not significantly enhance job opportunities in auditing, regardless of the auditors' qualification.

SUMMARY

Groups	Count	Average	Variance
CA	14	17	0.5
CIA	20	17.125	3.55357
CFA	18	17	0.66667
Masters	40	15.7778	7.12418
Other	12	17.25	2.91667

ANOVA

Source of Variation	SS	Df	MS	F	Pvalue	F crit
Between Groups	17.7401	4	4.43502	1.0209	0.40927	2.626052
Within Groups	160.736	37	4.34422			
Total	178.476	41				

Interpretation: Null hypothesis is not rejected as F=1.0209, P=0.40927>0.05. Since p value is more than 0.05, hence that the collaboration between human auditors and AI does not

significantly enhance job opportunities in auditing, regardless of the auditors' qualification. AI is primarily used as a supporting tool to excel productivity, improve efficiency, accuracy and data processing capabilities rather than to create additional employment opportunities.

H_{03}: Working experience does not significantly influence the need for training programs and skills to adopt AI assistance in auditing.

SUMMARY

Groups	*Count*	*Average*	*Variance*
Less than 1 year	24	11.20	4.4
1 -3 years	28	12.33	0.78788
4 -6 years	22	11.22	0.69444
7 -10 years	18	12.29	1.2381
More than 10 yrs	12	12.50	0.33333

ANOVA

Source of Variation	**SS**	**df**	**MS**	**F**	**P-value**	**F crit**
Between Groups	13.58	4	3.40	2.018	0.1120	2.62605
Within Groups	62.25	37	1.68			
Total	75.83	41				

Interpretation: H_{03} is not rejected as F= 2.018, P= 0.1120>0.05. Null hypothesis is accepted which exhibits that working experience does not significantly influence the need for training programs and skills to adopt AI assistance in auditing. As Ai based tools and digital audit systems

are relatively new in the auditing profession, both experienced and less experienced auditors need similar levels of training and upskilling to effectively understand and utilize these technologies.

DISCUSSION

The result of the study confirms that the variables considered in our study are important to analyse the transformative impact of industry 5.0 in auditing with Auditors' perspective and collaboration of human and AI. $H_{01,}$ aimed to study that there is no significant impact of Industry 5.0 on the auditing profession in terms of speed, accuracy, or integration of technology. The null hypothesis is rejected indicating the auditors can process large volumes of financial data more efficiently and conduct more reliable and timely audits.

H_{02} states, collaboration between human auditors and AI does not significantly enhance job opportunities in auditing, regardless of the auditors' qualification. Since null hypothesis is not rejected indicating that AI and automation tend to streamline routine task only. AI technologies assist auditors in data processing, anomaly detection and analysis; however their implementation does not necessarily leads to creation of additional roles within audit firms. Moreover, organizations may remain cautious about expanding job positions due to concerns that AI could replace certain traditional job functions.

H_{03} states that working experience does not significantly influence the need for training programs and skills to adopt AI assistance in auditing. Here null hypothesis is not rejected suggesting that auditors, regardless of their years of professional experience, requires similar levels of training to effectively adopt and utilize AI tools in auditing practices. The integration of AI technologies requires new digital skills that are not necessarily acquired through traditional auditing experience. Therefore, it is essential to design training programs that cater to auditors at all experience levels ensuring that both new and experienced professionals are adequately equipped to work efficiently with AI based auditing tools.

CONCLUSION

Artificial Intelligence has emerged as a transformative force in financial reporting and auditing, reshaping the way organizations manage and analyse financial data. It has made human work easier with the support of advanced technology. AI contributes to greater

efficiency and helps reduce errors. However, since technology lacks human judgment, human involvement remains essential for its effective control and application.

Industry 5.0 is emerging across various fields and emphasizes collaboration between humans and technology for better task implementation. The study finds that Industry 5.0 has a significant impact on auditing practices. In the future, as technology advances further, Industry 5.0 is expected to play an even more important role. Therefore, considering future requirements, the adoption of Industry 5.0 is essential. In auditing, Industry 5.0 enhances efficiency in processes such as assessment, verification, and analysis. It ensures that tasks are thoroughly analysed and verified, minimizing errors and operational hindrances. Due to the complexity and importance of these tasks, the integration of Industry 5.0 becomes necessary in the auditing profession.

The study also reveals that AI-human collaboration may not generate new employment opportunities unless employees are adequately trained and equipped with essential skills. Furthermore, the findings indicate a need for uniform and standardized training programs for all employees, regardless of their years of work experience. Auditors should take proactive steps toward skill enhancement, and organizations must invest in effective training programs to improve the overall quality of auditing practices.

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