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Emerging Technologies and Their Impact in Accounting and Finance

Kaviya.B[#1], Girishanth. R[#2]
[#1]Assistant Professor, Department of BCom Accounting and Finance, Sri Ramakrishna College of Arts and Science, Coimbatore, Tamil Nadu, India
[#2]Student, Department of BCom Accounting and Finance, Sri Ramakrishna College of Arts and Science, Coimbatore, Tamil Nadu, India.
[#1] bkaviya@srcas.ac.in, [#2] girishanth677@gmail.com

Abstract:

The field of accounting/finance is presently undergoing major changes and developments through the implementation of emerging technologies like Artificial Intelligence, Blockchain, Big Data Analytics, Cloud Computing, and Robotic Process Automation. The goal of this article is to present the findings from the research conducted on the impact of emerging technologies for increased accuracy, process efficiency and completion of manual work, and decision-making in the field of accounting and finance. This paper used a quantitative as well as a descriptive study design while conducting the research. The data gathering techniques, both primary and secondary, are used to collect data from 100 respondents. Once the data is collected, it is analyzed using various techniques like correlation and ANOVA. It was observed from the result of the data collection process that there is a positive relationship between emerging technology and the efficiency of greater accuracy in the completion of manual work in the field of accounting and finance by the aid of emerging technology, like Artificial Intelligence in the future.

Keywords—*Emerging Technologies, Accounting and Finance, Artificial Intelligence, Decision-Making Efficiency, Financial Reporting Accuracy, Workload Reduction*

I. INTRODUCTION

Previously, accounting and finance professionals understood accounting and finance to involve traditional manual accounting, manual accounting rules application and a mechanical approach, and a cyclical approach to financial reporting. However, the adoption and use of emerging technologies such as Artificial Intelligence, Machine Learning, Blockchain Technology, Cloud Computing, Big Data Analytics, Robotic Process Automation, and the Internet of Things have rebooted and changed the face of accounting and finance. These emerging technologies are presently used to enable automation, online recording of transactions, and enable analytical capabilities. This has improved accuracy, transparency, efficiency, and decision-making quality in accounting and finance. It has also shifted the approach and practice of accounting and finance professionals from process-oriented roles to analytical roles due to the adoption and use of emerging digital technologies. However, there are limitations associated with the adoption and use of emerging technologies for accounting and finance professionals, which need to be addressed accordingly. Some of the emerging technology adoption limitations are security risks associated with emerging technology adoption and usage, data management and privacy concerns associated with emerging technology adoption, technology adoption costs, and adoption resistance by organizations and individuals

II. OBJECTIVE OF THE STUDY

To examine the emerging digital technologies are fundamentally transforming, support decision making in accounting and finance practice
To evaluate these tools, enhance an efficiency, reduce Manual workload

III. SCOPE OF THE STUDY

The increasing investment in emerging technologies, particularly Artificial Intelligence, Blockchain, Big Data Analytics, Cloud Computing, and Robotic Process Automation, has made accounting and finance one of the fastest-changing professions today. With organizations relying ever more on digital interventions to improve accuracy, build efficiencies, and enable real-time reporting, there will be a greater need to appreciate just how such technologies are changing historic practices. Yet, for many firms, the adoption of such innovations remains problematic given high costs, skill gaps, cyber security risks, and resistance to technological change. Therefore, there is a significant requirement to undertake research into the impact of these emerging technologies to determine their various benefits, limitations, and overall impact on decision-making within finance, transparency, and professional roles. This will help businesses, educators, and regulators alike prepare for the future of accounting and finance by aligning strategies, training, and systems with this changing digital landscape.

IV. STATEMENT OF THE PROBLEM

Artificial intelligence, blockchain, big data analytics, cloud computing, and robotic process automation are some of the emerging technologies that are rapidly changing accounting and finance. However, the problems in their adoption include insufficient technical expertise by many organizations; their high costs of implementation; the risks of cyber security; and increases in the gap between conventional practices and contemporary digital systems. Therefore, it is not very clear to what extent such technologies really bring about enhancements in accuracy, reduction in manual effort, enhancement of efficiency, and transformation in the processes of

accounting and finance-even in those organizations that have migrated from complete manual or partial digital systems.

V. RESEARCH METHODOLOGY

PRIMARY DATA: The primary data is collected by the questionnaire method through Google Forms.

SECONDARY DATA: For secondary data, the related journals, articles, websites, and past thesis were referred to for this project.

SAMPLING TECHNIQUE

The Sampling technique used for this study is Simple Random Sampling.

SAMPLE SIZE

The sample size used for the study is 100 respondents.

TOOLS USED FOR STUDY

SPSS Software is used for the analysis part of the study.

- Anova
- Correlation

LIMITATIONS OF THE STUDY

- The area of the study is restricted within the city of Coimbatore.
- Only 100 respondents have been taken for the study. If the responses increase, the result may differ.

VI. REVIEW OF LITERATURE

Anupama Balakrishnan, Popat Umang (2025)[1], in their study "Artificial intelligence vs. traditional method in auditing; A comparative analysis of efficiency, accuracy, and practical restrictions" It explores the application of artificial intelligence (AI) in auditing, comparing it with traditional methods. It examines how AI can enhance audit efficiency, accuracy, and data analysis capabilities, addressing limitations of manual auditing such as time consumption and human error. The research evaluates whether AI can deliver more comprehensive and reliable audit results by processing large datasets and identifying patterns that traditional sampling might miss. Ultimately, the study aims to guide auditing firms considering AI adoption and contribute to the broader discourse on the future of auditing. Their objective is to

evaluate AI and traditional auditing methods in terms of time efficiency, accuracy, and practical implementation challenges. This research adopts a mixed-methods approach, combining quantitative analysis and qualitative insights. Quantitative Analysis: Surveys compared perceptions of time efficiency and accuracy between AI-based and traditional auditing methods. A regression analysis assessed the relationship between perceived audit accuracy and time required, revealing a positive correlation—more accurate audits often take longer, especially with AI. The study found that greater familiarity with AI **tools** enhances their perceived effectiveness. The literature shows that AI and machine learning enhance audit speed and accuracy by processing large data sets and reducing errors. However, challenges like data privacy, high costs, and the need for skilled staff remain. Human auditors' expertise is still vital for ethical judgment and oversight.

VII. DATA ANALYSIS AND INTERPRETATIONS

ANOVA

Null Hypothesis(H_0): There is no significant difference in the perception of accuracy of emerging technologies in financial data among the different groups of respondents.

Alternate Hypothesis (H_1): There is no significant difference in the perception of accuracy of emerging technologies in financial data among the different groups of respondents.

ACCURACY OF EMERGING TECHNOLOGIES

	SUMOF SQUARES	DF	MEAN SQUARE	F	SIG.
BETWEEN GROUPS	3.595	2	1.797	1.035	.359
WITHIN GROUPS	168,405	97	1.736		
TOTAL	172.000	99			

(Source: primary data)

Table 1

INTERPRETATION:

In the above table, to find out if there is a significant difference in the perceptions of the respondents based on the accuracy of the emerging technology in financial data, a one-way ANOVA test is to be performed.

The ANOVA table showed that there is no statistical difference between the means of the groups, as calculated using ANOVA, $F(2, 97) = 1.035$, $p = 0.359$.

This suggests that different groups of respondents have similar opinions regarding the accuracy of improvements contributed by emerging technologies. The differences observed with regard to group perceptions are relatively low, and this can be attributed to random effects only. Since the p-value is larger than 0.05, it suggests that the null hypothesis should be accepted, and the alternative hypothesis should be rejected

CORRELATION

Null Hypothesis(H_0): There is a no significant relationship between frequency of technology usage and reduction of manual workload

Alternate Hypothesis (H_1): There is a significant relationship between frequency of technology usage and reduction of manual workload

CORRELATION	FREQUENTLY USAGEOF EMERGING TECHNOLOGIES	REDUCING MANUAL WORKLOAD
Pearson's Correlation	1	.211
Sig (2 – tailed)		.035
N	100	100
Pearson's Correlation	.211*	1
Sig (2 – tailed)	.035	

(Source: primary data)

Table 2

INTERPRETATION:

The above Table presents the Pearson correlation analysis done to ascertain the relation between frequency of usage of emerging technologies and reduction in workload for accounting and finance professionals. The result indicated a positive and statistically significant relationship between the two variables: r = 0.211, p = 0.035, N = 100. It could, therefore, be said that with increased usage of emerging technologies, there is a reduction in manual workload. The positive while modest in strength indicates that technology adoption meaningfully contributes to automation of tasks, simplification of processes, and efficiency in terms of time spent on accounting and finance functions. Hence, the null hypothesis is rejected, and the alternative hypothesis is accepted.

VIII. FINDINGS

The study finds that emerging technologies such as Artificial Intelligence, Blockchain, Big Data Analytics, Cloud Computing, and Robotic Process Automation are increasingly recognized as important tools in the field of accounting and finance. The one-way ANOVA analysis reveals that there is no significant difference in the perception of accuracy of emerging technologies in financial data among different groups of respondents (F = 1.035, p = 0.359). This indicates a uniform perception across respondents regardin g the accuracy of benefits provided by emerging technologies. The correlation analysis shows a **p**ositive and statistically significant relationship between the frequency of usage of emerging technologies and reduction in manual workload (r = 0.211, p = 0.035). This confirms that higher usage of technology is associated with lower dependence on manual accounting processes.

Although the correlation is modest, it clearly indicates that technology adoption contributes meaningfully to automation, time efficiency, and simplification of accounting and finance tasks. The findings highlight that emerging technologies enhance operational efficiency and reduce repetitive manual work, enabling accounting and finance professionals to focus more on analytical and decision-making roles.

IX. SUGGESTION

1. Organizations should encourage uniform adoption of emerging technologies across all groups, as perceptions of accuracy are already consistent among respondents.
2. Training and skill development programs should be conducted regularly to increase the frequency of technology usage, which can further reduce manual workload.
3. Accounting and finance professionals should be motivated to integrate automation tools, AI-based systems, and cloud platforms into routine operations to improve efficiency.
4. Management should invest in user-friendly and accurate digital tools, ensuring ease of use and minimizing resistance to technology adoption.
5. Future initiatives should focus on enhancing the depth of technology usage, as higher levels of engagement may lead to stronger reductions in manual workload.

X. CONCLUSION

The research conclusions are that emerging technologies like Artificial Intelligence, Blockchain, Big Data Analytics, Cloud Computing, and Robotic Process Automation have greatly impacted accounting and finance practices. The research findings indicated that there is a uniform perception among respondents in relation to the reliability of financial information produced by emerging technologies. The research findings also indicate that there is a positive relationship that exists with technology use and minimization of manual work. The benefits associated with emerging technologies outweigh their limitations like high cost, lack of required skills, and security risks that come with technology use. Therefore, for one to realize benefits as a professional, they need to use appropriate technology to move from a routine work approach to analytical work.

XI. REFERENCE

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