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Accounting Information Systems and Financial Performance: How Artificial Intelligence Plays a Mediating Role

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Abstract: *This investigation examines how accounting information systems (AIS) can benefit from AI to boost financial performance. The impact of AI on the correlation between AIS and financial outcomes is the focus of this research. Financial results from AIS have improved thanks to AI optimisation. Accounting information systems that use AI technology can boost financial reporting precision, decision quality, and overall business success. AIS's use of AI improves financial management by processing large amounts of data, identifying patterns and outliers, automating mundane tasks, and providing real-time insights. The research also reveals many factors that facilitate AI integration in AIS. A few examples are helping accountants learn how to use AI-driven systems, ensuring that personal information is kept secure, and being transparent and accountable for all financial transactions. The study recommends that businesses implement AI as a strategic tool to boost AIS. Accounting information systems can benefit greatly from artificial intelligence, enabling businesses to better respond to changing market conditions, make more informed decisions, and maintain profitable growth. Accounting firms can be encouraged to adopt AI if policymakers develop a conducive regulatory environment that addresses concerns about innovation, data protection, and ethics. Academics, businesses, and regulators must all work together to ensure that AI in accounting information systems is applied responsibly and ethically. Finally, accounting information systems can benefit from AI's ability to boost financial performance. The findings emphasise the need for organisations to adopt AI technologies and modify their AIS to leverage AI benefits. In an ever-changing company, doing so can improve financial performance, establish a competitive edge, and generate long-term success.*

Keywords: *Artificial Intelligence, Accounting Information Systems, Financial Performance, Mediating Role*

Introduction

The rapid development of artificial intelligence (AI) has revolutionised various industries, and accounting is not an exception to this trend [1-4]. The incorporation of artificial intelligence (AI) into accounting information systems (AIS) presents a massive opportunity for enhanced financial performance [5, 6]. The purpose of this research study is to investigate AI's role as a mediator in the optimisation of AIS and the consequent influence that this has on financial performance.

Previous research has highlighted AIS's function in effectively acquiring, processing, and disseminating financial information for decision-making purposes [7-10]. They have also brought attention to the revolutionary benefits of AI in increasing AIS's capabilities, which can be found in this study. According to this research, artificial intelligence has the potential to dramatically improve the accuracy, efficiency, and timeliness of financial reporting, as well as streamline procedures, automate mundane tasks, and provide real-time insights that can be used to make more educated decisions regarding financial management [3, 11, 12]. Despite this, there is still a need for a more in-depth comprehension of the particular mechanisms via which AI regulates the relationship between AIS and financial performance [5, 13, 14].

This study tries to identify areas where further empirical, methodological, theoretical, and conceptual advances might be made by building on previous research findings and using those findings as a foundation. Existing research has shown a favourable correlation between AI, AIS, and financial performance; however, there is a pressing need to look deeper into the elements that contribute to the efficacy of AI-powered AIS because many aspects contribute to the success of AI-powered AIS [15-17]. In addition, to build comprehensive and durable solutions, it is essential to have a solid grasp of the potential obstacles, constraints, and ethical considerations related to the application of AI in AIS [18-20].

Research Questions

This research aims to address the following research questions.

1. In what ways does AI act as a mediator between AIS and financial performance? To what exact extent do the following mechanisms and processes play a role?
2. What are the most critical aspects that contribute to the success of AI-powered AIS in increasing financial performance, and how can these characteristics be improved? What kind of an effect do things like the data quality, the system's dependability, and the level of organisational preparation have?
3. What are the potential obstacles and constraints connected with the integration of AI in AIS, and how can these be mitigated? What are the potential issues and limitations associated with the integration of AI in AIS? How can concerns about bias, privacy, and security, all related to ethics, be addressed?
4. What are some practical ways for organisations and policymakers to employ AI technologies inside AIS to optimise financial performance? Which methods and approaches are the most successful?

Research Objectives:

The primary objectives of this research are as follows:

1. To research and gain a better understanding of the role that AI plays as a mediator in improving financial performance via AIS. Examining the specific methods through which AI drives AIS and, eventually, affects financial performance is a necessary step in this process.
2. To determine the significant parameters that lead to the effectiveness of AI-powered AIS in enhancing financial performance. In order to accomplish this, it is necessary to investigate the part that data quality, system reliability, organisational readiness, and any other pertinent aspects play.
3. To examine the challenges, limitations, and ethical issues that may arise from AIS's adoption of AI. Data privacy and security, bias, and the relationship between humans and AI are only a few areas that need to be explored.

4. To better leverage AI inside AIS to optimise financial performance, this initiative aims to provide organisations and policymakers with concrete suggestions, which involves making suggestions for how the rules should be better enforced and setting training and moral criteria.

This research intends to contribute to the current body of information on the relationship between artificial intelligence (AI), artificially intelligent systems (AIS), and financial performance by addressing these research issues and objectives. It seeks to give comprehensive insights, practical recommendations, and actionable guidelines that can aid organisations and policymakers in efficiently exploiting the promise of AI technology for greater financial performance. Its goal is to achieve this by providing a complete report.

Literature Review

In recent years, a considerable amount of focus has been placed on incorporating artificial intelligence (AI) into accounting information systems (AIS). Several researches have been conducted to investigate AI's possible uses, consequences, and benefits in improving AIS and how it affects financial performance. This part presents a complete assessment of the previous study, highlighting essential discoveries and gaps that serve as the basis for the current investigation. Previous research [5, 8, 21] has provided a thorough analysis of AIS's function in capturing, processing, and transmitting financial information for the sake of decision-making. AIS enables businesses to keep records of their financial transactions that are precise and dependable, to streamline their procedures, and to improve their overall financial performance. Researchers, however, have recognised the potential for AI to expand the capabilities of AIS and unlock new value as a result of the emergence of AI technologies [22].

Studies done in the past have shown that AI has the potential to boost both the effectiveness and efficiency of AIS greatly [23-25]. For example, AI-powered algorithms can be used to automate regular operations such as data input and reconciliation, which helps reduce the number of errors caused by humans and improve the correctness of the data. AI can also analyse vast volumes of financial data in real time, thereby revealing patterns, anomalies, and insights that can inform financial decision-making [26-28]. The results can be utilised to make more educated economic choices. Organisations may enhance their projections and financial management decisions using these capabilities, and they can also make the most of the resources at their disposal. There is a link between AIS and financial results, and AI can mediate that connection. Improved financial performance is a direct result of AI technologies' increased use of financial data [8, 29, 30]. Artificial intelligence (AI) technologies enable this by enhancing AIS's functionalities. Multiple studies have discovered a positive correlation between AIS powered by AI and financial performance metrics like efficiency, profitability, and shareholder value [5, 31-33]. These studies were conducted by [5] and [31].

While there is some helpful information about the effects of AI on AIS and financial performance in the existing literature, some research holes and opportunities have been uncovered [34]. First, further in-depth studies are required to determine how AI mediates the connection between AIS and financial performance [35]. Understanding the influence of AI on decision-making, data quality, and the reliability of financial reporting allows for a more nuanced appreciation of the interplay between these factors. Second, further research is needed to determine the factors that make AI-powered AIS effective [36, 37]. Data quality and reliability, organisational readiness, and the integration of AI into conventional accounting practices are all areas that need further investigation. Organisational decision-making can be improved by identifying and understanding these factors, which can also aid in the implementation's success.

The possible challenges and limits of integrating AI into AIS must also be addressed urgently. To ensure responsible and equitable AI-driven decision-making, ethical considerations, including

privacy, security, and prejudice, must be made [38, 39]. Analysing these problems and providing organisations with actionable guidance might assist the latter in avoiding potential traps and navigating ethical conundrums.

This research review reveals that AI can optimise AIS and influence financial performance. Overall, this potential has been demonstrated. However, additional empirical, methodological, theoretical, and conceptual research is required to improve our knowledge of AI's mediating role in this relationship and provide organisations and policymakers with actionable advice. The literature review summary is represented in the following table 1.

Table1 Literature Review Summary

Study	Key Findings
[29]	Emphasised the importance of AIS in financial decision-making
[13]	Highlighted the role of AIS in improving financial performance
[40]	Showed how AI automates routine accounting tasks
[41]	Demonstrated AI

Methodology

This research study evaluated the mediating role of artificial intelligence (AI) in improving financial performance through accounting information systems (AIS). The investigation was carried out using a mixed-methods technique. A complete analysis and a more in-depth comprehension of the study issue were made possible thanks to the integration of quantitative and qualitative research approaches.

Quantitative Data Collection

A survey was developed to elicit quantitative responses from various organisations operating in various sectors. The questionnaire inquired about the respondents' perceptions of the usefulness of AI in enhancing financial outcomes and the degree to which it integrated artificial intelligence (AI) into its own automated information systems (AIS). We submitted the survey to a selection of companies typical of all the firms to get a wide range of replies. These businesses were chosen after considering their locations, size, and industry of operation. The study's quantitative data gave academics a better understanding of the relationship between AI, AIS, and economic growth.

Qualitative Data Collection

In-depth interviews and focus groups were used to collect qualitative data, which was then used to enhance and clarify the findings of the quantitative study. Interviews with experts and practitioners in the disciplines of AI and accounting were conducted for this inquiry. Furthermore, focus groups were scheduled. We conducted an open-ended survey to determine their level of understanding and opinions of AI in AIS and its possible impact on financial results. We polled them to learn what they thought. The gathering of qualitative data made it possible to delve deeper into the procedures, difficulties, and best practices related to integrating AI into AIS.

Data Analysis

Regression analysis was one of the statistical approaches utilised to assess the quantitative data that was collected in the survey. This study studied the effects of AI and AIS integration on business bottom lines using criteria such as profitability, efficiency, and shareholder value. The study aimed to determine how big of an impact AI had on company results. The qualitative information gathered from in-depth interviews and focus groups was processed using a theme analysis. Common themes, patterns, and unique insights were identified from the qualitative data to provide a contextual knowledge of the factors leading to the efficacy of AI-powered AIS and

the challenges associated with AI integration. Their identities were made known by careful data analysis, which enabled this.

Integration of Quantitative and Qualitative Findings

Combining the quantitative and qualitative results allowed for a more thorough exploration of the questions posed by the research; the results from the quantitative research were complemented and contextualised by qualitative insights, which allowed for a more comprehensive understanding of the mediating function that AI plays in increasing financial performance through AIS.

Limitations and Recommendations for Future Studies

It is essential to recognise the restrictions that were placed on this investigation. Because the study was conducted at a defined timeframe and with a specific sample, it is possible that the findings cannot be generalised to a larger population. The sample size could be increased in subsequent research, and organisations operating in various cultural settings could also be included. In addition, the research concentrated on the moderating function played by AI in AIS and financial success; however, future research may investigate the moderating influence played by other elements.

Conclusion

In conclusion, this research study investigated AI's mediating effect in improving financial performance through AIS using a mixed-methods methodology. Both the quantitative and the qualitative data gave insightful information regarding the relationship between AI integration, AIS, and financial performance. The findings contribute to the current body of literature and have practical implications for businesses looking to harness AI technology to improve their AIS-based financial performance**.**

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