



Investigating the Impact of Artificial Intelligence on the Quality of Managerial Accounting Information

(A Case Study of Companies Listed on the Stock Exchange)

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Abstract

In today's digital age, artificial intelligence (AI), as one of the most significant emerging technologies, plays a prominent role in transforming organizations and business processes. One of the key areas affected by this transformation is managerial accounting. This study was conducted with the aim of examining the impact of artificial intelligence on the quality of managerial accounting information in companies listed on the Tehran Stock Exchange. The research methodology is documentary-analytical, and data were collected entirely through secondary sources, including annual reports, management statements, audited financial statements, and published information available on company websites and the Tehran Stock Exchange portal. The statistical population included all companies listed on the Tehran Stock Exchange that had published reports in the year 2025 (Iranian calendar). Using Cochran's formula, the required sample size was determined to be 240 companies. After data collection, they were entered into SPSS and Smart PLS software environments and subjected to statistical analyses, including Pearson correlation, multiple linear regression, and structural equation modeling. The results indicated that artificial intelligence has a direct and significant effect on the quality of managerial accounting information. Additionally, the moderator variable analysis revealed that the level of digitization plays a crucial role in strengthening the impact of AI on information quality. Ultimately, this research not only confirmed the main hypothesis but also provided the necessary groundwork for the practical application of artificial intelligence in improving managerial accounting processes.

Keywords: Stock Exchange, Managerial Accounting, Artificial Intelligence, Accounting Information.

JEL Classification: M41, M42, O30.

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INTRODUCTION

Companies listed on the Iranian Stock Exchange, due to financial and regulatory reporting requirements, are always at the forefront of using new technologies in financial and accounting processes. Given the large volume of data and the need for quick and accurate decision-making, these companies provide a good opportunity to evaluate the impact of artificial intelligence on the quality of management accounting information. Therefore, this research aims to empirically investigate the impact of artificial intelligence on the quality of management accounting information in companies listed on the Tehran Stock Exchange. This study can be used as a scientific and practical basis for better understanding the impact of artificial intelligence on improving the quality of management accounting information, especially in the Iranian business environment. The results of this research can help company managers, accounting professionals, and policymakers to design their programs to utilize this technology in improving the quality of management accounting information by more accurately recognizing the real potential of artificial intelligence. Also, this research can pave the way for future research on the adaptation of smart technologies to accounting standards and management reporting frameworks in developing countries. Therefore, this research aims to answer the main question "Can and how can artificial intelligence affect the quality of management accounting information in companies listed on the Iranian Stock Exchange?" This issue is not only important from a scientific and theoretical perspective, but also from a practical perspective, it can help organizations to review their strategies in utilizing smart technologies, focusing on improving the quality of management information.

METHODOLOGY

In this study, considering its analytical and correlational purpose, which is to investigate the impact of artificial intelligence on the quality of management accounting information in companies listed on the Iranian Stock Exchange, the documentary-analytical research method has been used. This type of method is common and acceptable in accounting and management research where there is no direct access to the reactions of individuals or primary information is not available in the form of a questionnaire. This research is practical in terms of its purpose, because its results can be used in practical and strategic decision-making of organizations. From the perspective of the method of data collection, it is documentary-analytical, meaning that data is collected through existing sources (such as annual reports, financial statements, and information published on the websites of companies and the stock exchange). This method is cross-sectional from a time perspective. In this study, data were collected entirely in a documentary and secondary manner, and no questionnaires or direct interviews with individuals were used. The main data sources included annual reports, management statements, detailed financial statements, and information published on the websites of companies listed on the Tehran Stock Exchange. This information was audited based on transparency and reporting requirements and supervised by the General Audit Office of the country, which provided the necessary credibility for use in statistical analyses. Data related to the independent variable (artificial intelligence) were extracted by examining the "Management Statement" and "Information Systems Information" sections, where companies have commented on the use of digital and intelligent technologies. The dependent variable (quality of management accounting information) was also assessed by analyzing various dimensions of information reported in management accounting, including accuracy, timeliness, relevance, and comparability. Control and moderating variables such as company size, industry type, activity history, and level of digitalization were also extracted through financial statements and public reports available on the stock exchange website and the general audit office. All data were entered into SPSS and SmartPLS software in the form of a structured data matrix and analyzed after initial cleaning and removal of missing data. This approach, without using primary data, provided the necessary assurance of the stability, repeatability, and validity of the data and paved the way for their use in advanced statistical analyses.

RESULTS

The data for this study were collected using documentary and secondary sources of companies listed on the Tehran Stock Exchange, including annual reports, management statements, audited financial statements, and information published on official websites. After being categorized and classified based on research variables (artificial intelligence and management accounting information quality), these data were entered into statistical software environments and subjected to a cleaning and analysis process. All these steps were carried out in compliance with the necessary criteria to ensure the reliability, validity, and repeatability of the data. The data, in the form of a structured matrix, provided the necessary basis for conducting descriptive statistics, correlation, and regression. This systematic approach to data collection and analysis, while ensuring the scientific quality of the research, enabled reliable inferences and practical application of the results. In summary, the findings of this study, which aimed to investigate the impact of artificial intelligence on the quality of management accounting information in companies listed on the Tehran Stock Exchange, indicate the significant role of smart technologies in improving various dimensions of information quality. The statistical results showed that artificial intelligence has a direct and significant impact on the quality of management accounting information, so that with the increase in the use of intelligent algorithms, automated systems, and advanced data analysis methods, the quality of management accounting information also improves. This improvement is mainly evident in the dimensions of accuracy, timeliness, relevance, and comparability of information, which are key components of managerial decision-making. The positive and significant correlation between the two variables (artificial intelligence and information quality) also reinforces the view that the use of new technologies can provide the necessary basis for improving the quality of internal information of the organization.

CONCLUSION

Additionally, the moderator variable analysis revealed that the level of digitization plays a crucial role in strengthening the impact of AI on information quality. Ultimately, this research not only confirmed the main hypothesis but also provided the necessary groundwork for the practical application of artificial intelligence in improving managerial accounting processes.

Contribution of Authors

The authors are jointly involved in the preparation and publication of the article.

Ethical Approval

Informed written consent was obtained from the individuals for the publication of their anonymous information in this study.

Sponsor

The present study had no sponsor.

Conflict of Interest

No conflict of interest was declared by the authors.

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