International Journal of Cyber and IT Service Management (IJCITSM)
Vol. 4, No. 2, October 2024, pp. 114−121
E-ISSN: 2808-554X | P-ISSN: 2655-8807, DOI:10.34306

The Role Information Technology in Increasing the Effectiveness Accounting Information Systems and Employee Performance

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Article Info

Article history:

Submission July 28, 2024
Revised August 23, 2024
Accepted September 25, 2024
Published October 12, 2024

Keywords:

Information Technology
Accounting
Effectiveness
Employee Performances
Information System

ABSTRACT

This study explores the **important role** of Information Technology (IT) in enhancing the effectiveness of Accounting Information Systems (AIS) and improving employee performance, using a moderator analysis approach. The **context** of the study is the increasing dependence of modern organizations on AIS for accurate financial data management and decision-making. However, the effectiveness of these systems can be influenced by various factors, including technological advancement and employee skills. The **research methodology** includes quantitative analysis, using survey data from various organizations in different sectors. Structural equation modeling (SEM) was applied to examine the **moderating effect of** IT on the relationship between AIS effectiveness and employee performance. The results of the study show a significant positive impact of IT on AIS effectiveness, leading to increased employee performance. These findings contribute to the literature by highlighting the importance of IT interventions in optimizing AIS functionality, thereby improving organizational efficiency and productivity. **In conclusion**, this study highlights the essential role of IT as a supporting tool to achieve higher levels of efficiency in accounting information systems and employee performance and highlights the need for continued technological advancement and employee training in the modern business environment.

DOI: https://doi.org/10.34306/ijcitsm.v4i2.167

1. INTRODUCTION

In today rapidly changing business dynamics, the role of Information Technology (IT) has become very important in how an organization operates. One area where the role of IT is very important is the Accounting Information Systems (AIS) [1]. AIS acts as the backbone of financial data management, decision

making, and overall assessment of an organization's performance. However, despite its important role, there are challenges and opportunities to optimize the effectiveness of AIS and use it to improve employee performance.

The context of this study is the increasing integration between IT and AIS, driven by the need for real time data access, better reporting capabilities, and more efficient processes [2]. To achieve greater efficiency and competitiveness, a thorough understanding of the complex dynamics between IT interventions, AIS functions, and employee performance is essential. Therefore, the main objective of this paper is to explore how information technology can be used to enhance the effectiveness of accounting information systems and ultimately improve employee performance [3].

The objectives of this paper are twofold:

- Conduct a careful analysis of the existing literature and research findings related to the role of IT in AIS effectiveness and its impact on employee performance.
- Propose a moderating analytical framework to empirically test the moderating effect of IT on the relationship between AIS effectiveness and employee performance.

This study aims to contribute to the academic discourse by providing insights into the complex interactions between IT, AIS, and employee productivity, thereby guiding organizations to make informed decisions about IT investments and AIS optimization strategies [4].

2. LITERATURE REVIEW

The rapid development of information technology has had a significant impact on AIS in the context of modern businesses [5]. A review of recent developments in information technology shows a shift from manual systems to automated and digitally integrated systems. The presence of technologies such as cloud computing, data analytics, and artificial intelligence has changed the paradigm of AIS from a simple tool for recording transactions to a tool for supporting decision making and deeper analysis [6]. Previous research has consistently highlighted the importance of IT implementation in AIS and its impact on their performance. Various empirical studies have shown that organizations that adopt IT in AIS tend to have more efficient accounting processes, higher data accuracy, and the ability to provide more relevant information to stakeholders. Furthermore, theoretical concepts also support the integration of IT in AIS, emphasizing the importance of the fit between technology, business processes, and organizational goals [7].

The integration of IT in AIS not only increases operational efficiency but also brings important strategic implications for organizations, such as increased competitiveness, flexibility to changes in the business environment, and increased decision making skills. Integrating IT into AIS also opens up new opportunities for organizations to manage resources more effectively and improve overall performance [8]. Faced with the digital age, organizations must not only passively adopt technology but also strategically integrate it into their internal systems and processes. The theoretical approach to IT integration in AIS emphasizes the importance of a comprehensive understanding of how technology is used to support the organization's overall business goals [9]. The implications of integrating information technology into automated information systems are not limited to operational efficiency alone but also include strategic aspects such as product and service innovation, market differentiation, and organizational capability development. Therefore, recent studies and in depth literature reviews on the integration of information technology into automated information systems provide valuable insights for organizations to develop effective and sustainable IT strategies, and improve their performance and competitiveness in increasingly complex and dynamic markets [10].

2.1. Factors that Influence the Effectiveness of Accounting Information Systems

Factors affecting the performance of AIS is an important topic in both academic literature and business practice. In this context, an in depth analysis of the various factors that are likely to affect the performance of AIS is important [11]. First of all, data quality is the main factor considered to affect the performance of AIS. Poor data quality can lead to errors in decision making and assessment of the overall performance of the organization. In addition, system integration is also an important factor to consider. Good integration between an organization's various information systems can improve data accessibility, reduce duplication, and increase the efficiency of operational processes. Finally, user compliance with established AIS procedures and

guidelines can also affect its effectiveness. Non compliance by users can reduce the overall efficiency and accuracy of the AIS [12].

In the academic literature, there is extensive consideration of both internal and external factors that contribute to AIS performance [13]. Internal factors include aspects such as organizational structure, corporate culture, and human resources, while external factors include government regulations, industry competition, and technological developments. This literature review allows us to understand the complexity of factors influencing AIS effectiveness and develop appropriate strategies to improve it. Furthermore, previous empirical research has also identified many important variables in increasing AIS effectiveness. Through an empirical approach, researchers can directly examine the relationship between these variables and AIS performance, thereby providing valuable information for practitioners to optimize the use of AIS in their organizational context [14].

2.2. The Relationship between Accounting Information System Effectiveness and Employee Performance

The relationship between Accounting Information System (AIS) effectiveness and employee performance is an important topic in the context of information management and organizational productivity . Several studies have examined this relationship and the underlying mechanisms. Through a review of the literature, it can be seen that effective AIS has a positive impact on various aspects of employee performance [15]. For example, AIS that allows for faster and more accurate access to data can increase employee productivity because it reduces the time spent searching for information. Additionally, AIS that provides more relevant information and reports can also increase employee job satisfaction because employees feel more effective in performing their tasks. English The effective contribution of AIS to employee performance is also reflected in the quality of work produced, where the accuracy and reliability of the information provided by AIS enables employees to make better decisions and perform better at a high level [16].

Theoretical approaches also support the idea that effective AIS can significantly contribute to the overall performance of individuals and organizations [17]. For example, contingency theory suggests that the effectiveness of AIS will depend on the context and situation of the organization, so organizations that are able to integrate AIS well will perform better. Furthermore, agency theory emphasizes the importance of accurate and relevant information to reduce agency problems between management and shareholders, which can in turn affect the overall performance of the organization. Therefore, a thorough understanding of the relationship between AIS effectiveness and employee performance not only provides practical insights for management but also provides a solid theoretical basis for future research in this area [18].

2.3. Moderation Analysis in the Context of the Role of Information Technology in Accounting Information Systems and Employee Performance

Moderation analysis is an analytical method that helps to uncover the complexity of the relationship between variables in scientific research [19]. This concept involves the intervention or influence of an additional variable on the relationship between two main variables. In the context of the role of IT in AIS and employee performance, moderation analysis helps to understand how factors such as the level of IT adoption and employee skill level can influence or moderate the relationship between IT, AIS, and employee performance. Therefore, moderation analysis allows us to better understand how these variables interact with each other, as well as how intervention on the moderator variables can influence the relationship between the main variables of this study [20].

Previous empirical studies have used moderation analysis to examine the role of IT in improving AIS effectiveness and employee performance. These studies have identified important moderator variables, such as the level of technology use in the organization or the level of technological skills of employees, that influence the impact of IT on AIS and employee performance. Therefore, through empirical research using moderation analysis, we can gain a more comprehensive and contextual understanding of how IT contributes to AIS effectiveness and how it impacts employee performance [21].

3. RESEARCH METHODS

In conducting this research, the methods used included surveys and data analysis using SEM techniques with the help of SmartPLS software [22]. The survey was conducted to collect data from various organizations in various industries regarding the use of IT, the effectiveness of AIS, and employee performance.

Respondents will be asked to assess the extent to which IT has been implemented in their company's AIS, how effective the AIS is in providing relevant accounting information, as well as their assessment of their own performance [23].

The variables in this research consist of three main constructs: IT, Effectiveness of AIS, and Employee Performance. IT will be measured by indicator variables such as System Integration Level, System Quality, and Technology Adoption Level. The effectiveness of AIS will be represented by indicators such as Quality of Information, Timeliness of Information, and Ease of Use of the System. Meanwhile, employee performance will be measured through indicators such as Work Productivity, Job Satisfaction and Job Quality [24]. The variables and hypotheses that will be tested in this research are summarized in table 1 below.

Table 1. Variables, Indicators, and Hypotheses for Examining the Relationship Between IT, AIS Effectiveness, and Employee Performance

No	Variable	Indicator	Hypothesis
1	**Information Technology (IT)**	System Integration Level	**H0**: There is no positive relationship between IT and AIS effectiveness.
		System Quality	**H1**: There is a positive relationship between IT and AIS effectiveness.
		Technology Adoption Rate	
2	**Effectiveness of Accounting Information Systems (AIS)**	Information Quality	**H0**: There is no positive relationship between AIS and Employee performance.
		Timeliness of Information	**H1**: There is a positive relationship between AIS and Employee performance.
		Ease of Use of the System	
3	**Employee Performance**	Work Productivity	**H0**: Moderating factors such as Technology Adoption Rate do not affect the relationship between IT and AIS Effectiveness.
		Job Satisfaction	**H1**: Moderating factors such as Technology Adoption Rate influence the relationship between IT and AIS Effectiveness.
		Quality of Work	

The variables were chosen based on their significance in prior research and their relevance to addressing gaps in the literature. IT adoption level was emphasized as a critical factor due to its potential to influence the effectiveness of AIS and its impact on employee performance. The inclusion of AIS effectiveness and employee performance provided a practical framework for evaluating IT role in organizational outcomes [25]. Despite its robust methodology, this study acknowledges certain limitations. Reliance on self reported data may introduce response bias, and the cross sectional design of the survey limits the ability to observe changes over time. Future studies could adopt longitudinal methods to better understand the evolving dynamics between IT, AIS, and employee performance [26].

4. RESULT AND DISCUSSION

The results of data analysis show a significant positive relationship between IT and AIS Effectiveness (β = 0.646, p $<$ 0.05). This confirms the first hypothesis proposed in this research, that the higher the level of IT implementation, the higher the effectiveness of AIS. IT integration contributes to enhanced system performance by improving data quality, timeliness, and ease of system use. These findings align with prior studies emphasizing the critical role of IT in increasing the efficiency and accuracy of AIS.

Furthermore, the results also reveal a significant positive relationship between AIS Effectiveness and Employee Performance (β = 0.760, p $<$ 0.05). This supports the second hypothesis, demonstrating that effective AIS, which provides relevant and timely information, directly enhances employee productivity and job satisfaction. Employees are empowered to perform at higher levels when they have access to reliable and accurate information. These results are consistent with Contingency Theory, which posits that system effectiveness is context dependent and contributes to individual and organizational performance.

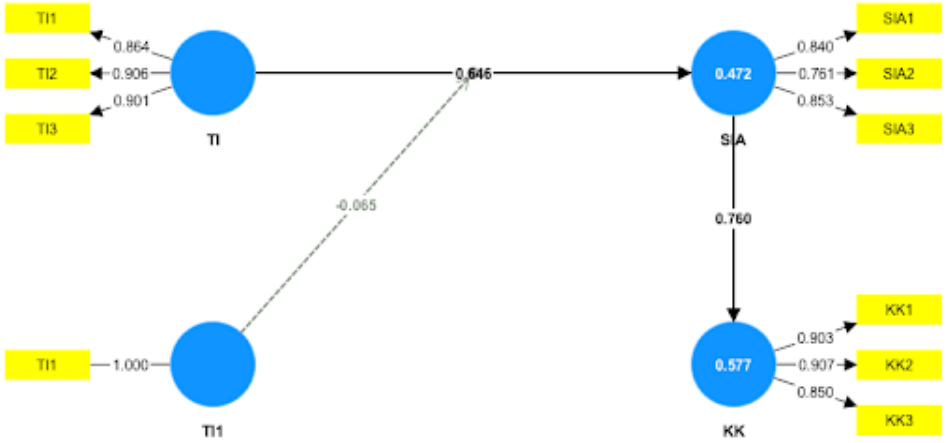

Figure 1. Structural Equation Modeling (SEM) Path Diagram Showing Relationships Between IT, SIA, and Employee Performance.

Based on Figure 1 the construct validity was assessed using the Average Variance Extracted (AVE) values. Results indicate that all constructs Employee Performance (AVE = 0.787), AIS Effectiveness (AVE = 0.671), and IT (AVE = 0.794) meet the threshold for good measurement criteria (AVE $>$ 0.5). This demonstrates that the measurement items effectively capture the intended constructs, ensuring robust validity and reliability.

Table 2. Reliability and Validity Metrics for Constructs.

	Cronbach Alpha	**Composite Reliability (rho_a)**	**Composite Reliability (rho_c)**	**Average Variance Extracted (AVE)**
KK	0.864	0.865	0.917	0.787
SIA	0.756	0.773	0.859	0.671
TI	0.870	0.872	0.920	0.794

The main contribution of this research is to provide a deeper understanding of the relationship between Information Technology, Accounting Information System Effectiveness, and Employee Performance in an organizational context. As shown in Table 2 These results provide a more holistic view of how IT implementation can influence organizational performance through the intermediary of the Accounting Information System. In addition, this research also identifies moderating factors such as the level of technology adoption that can influence the effectiveness of the relationship between IT and AIS, providing additional insight for managers in planning strategies for managing information technology and accounting information systems.

Practically, these findings have important implications for managers and decision makers in designing more effective policies and strategies in managing accounting information systems and human resources in organizations. By understanding the relationship between IT, AIS, and employee performance, managers can take more targeted steps to improve the efficiency and productivity of their organizations. In addition, the identification of moderating factors such as Technology Adoption Rate also provides a strong basis for further development in the context of research and business practice. This study has certain limitations. The cross sectional nature of the survey limits the ability to observe long term dynamics. Additionally, reliance on self reported data may introduce response bias. Future research could employ longitudinal designs to explore changes over time and integrate qualitative methods to provide deeper insights into the interactions between IT, AIS, and employee performance.

5. MANAGERIAL IMPLICATIONS

Based on the findings of this study, organizations are advised to prioritize the integration of IT into AIS to enhance system effectiveness and improve employee performance. Investment in technological advancements and continuous employee training programs is essential to ensure that staff can fully optimize the

use of AIS. This is expected to lead to better decision making, operational efficiency, and overall organizational productivity. Additionally, it is crucial for managers to regularly monitor the moderating effect of IT on the relationship between AIS effectiveness and employee performance, in order to identify potential areas for improvement and ensure the sustainability and long term success of IT implementation.

6. CONCLUSION

This research highlights the significant role of IT in enhancing the effectiveness of AIS, which subsequently improves employee performance. Effective IT implementation enhances AIS accuracy, efficiency, and availability, providing critical support for decision making and managerial actions. Organizations must prioritize investments in IT development and AIS integration to achieve competitive advantages and superior performance. This study also underscores the importance of moderating factors, such as technology adoption rate, in influencing the effectiveness of IT and AIS. Understanding organizational readiness and internal characteristics is vital for developing tailored IT management strategies that align with specific business needs and challenges. For example, in the financial sector, IT integration can improve compliance and reporting accuracy, while in manufacturing, it can optimize inventory management and streamline production processes.

Despite its contributions, this study has certain limitations. The cross sectional design restricts the ability to capture long term relationships, and self-reported data may introduce response bias. Future research could adopt longitudinal approaches to observe dynamic changes over time and examine additional moderating factors, such as organizational culture or industry specific characteristics. Overall, this research makes a significant contribution to the understanding of IT, AIS, and organizational performance. By providing a robust theoretical and empirical foundation, it serves as a guide for practitioners, academics, and decision-makers in designing strategies and policies to optimize IT and AIS integration. Furthermore, this study opens avenues for future research to explore broader and more diverse contexts, thereby enriching the discourse on IT and AIS in organizational performance.

7. DECLARATIONS

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7.2. Author Contributions

Conceptualization: AF; Methodology: FA; Software: AE; Validation: MM and FP; Formal Analysis: AF and SR; Investigation: FP; Resources: FA; Data Curation: SR; Writing Original Draft Preparation: MM and AE; Writing Review and Editing: FA and FP; Visualization: AE; All authors, AF, FA, SR, AE, MM, FP have read and agreed to the published version of the manuscript.

7.3. Data Availability Statement

The data presented in this study are available on request from the corresponding author.

7.4. Funding

The authors received no financial support for the research, authorship, and/or publication of this article.

7.5. Declaration of Conflicting Interest

The authors declare that they have no conflicts of interest, known competing financial interests, or personal relationships that could have influenced the work reported in this paper.

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