



“Internal audit as a moderator of the relationship between accounting information systems and performance in Jordanian commercial banks”

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INTERNAL AUDIT AS A MODERATOR OF THE RELATIONSHIP BETWEEN ACCOUNTING INFORMATION SYSTEMS AND PERFORMANCE IN JORDANIAN COMMERCIAL BANKS

Abstract

This study aimed to find out the influence of Accounting Information Systems on the performance of Jordanian commercial banks, and the degree to which internal audit moderates this relationship. This was a current quantitative study designed to be at a descending trend of the survey conducted primarily on 12 major Jordanian banks' accounting departments using descriptive and cross-sectional designs. From a total distribution of 358 questionnaires, 249 were returned, and after screening only 243 were deemed valid. Partial Least Square Structural Equation Modeling (PLS-SEM) was used as a statistical tool for data analysis, which is appropriate when exploring convoluted relationships and testing hypotheses. The findings indicate that there is a clear positive relationship between the implementation of AIS systems and improvement in the performance metrics at Jordanian banks; thus, hypothesis 1 is corroborated at a significant level of $p < 0.01$. More significantly, the findings suggest that internal audit highly strengthens the positive effect of AIS on bank performance, thereby supporting hypothesis 2 at the same significance level. This dual realization reiterates the needed adoption of advanced AIS by Jordanian banks and a general improvement to the internal auditors of the mechanisms that ensure they maximize on the benefits accruing in performance. More fundamentally, the findings underscore the dire urgency to incorporate efficacious AIS alongside with robust internal audit mechanisms in banking strategies, thereby providing crucial implications for bank managers and sectoral policymakers.

Keywords

information systems, asset management, corporate governance, Jordanian banks

JEL Classification

G21, M41, M15

INTRODUCTION

The changing international banking and enterprise systems in the 21st century have ushered an area where strong and effective Accounting Information Systems (AIS) are critical for organizational success, especially in this sector. Jordanian commercial banks, almost similar to counterparts of other parts of the world, work within an environment, which is subject to a drastic change and is highly competitive in nature. Therefore, there lies an urgent requirement of inventorying strong systems for accounting information. Such systems must be able to manage complex financial data, comply with regulatory norms, and assist in strategic decision-making processes. The efficiency of these banks is, as a rule, measured through the combination of financial and non-financial indicators, which are also closely related to the reliability and effectiveness of their AIS. However, good AIS does not always follow better performance for entities with advanced AIS (Yang

et al., 2019). The relationship is posited in this study that it is moderated by the internal audit function. Internal audit could mean important changes in how well the AIS is used to make a difference in performance with its emphasis on risk management, control, and governance processes.

Although AIS in this industry seems to be a matter of great importance, there is still ignorance about the degree to which these systems affect organizational performance, specifically within emerging countries like Jordan (Al-Hattami, 2022; Al-Kasasbeh et al., 2022; Alzghoul et al., 2022; Hamdan, 2013). This difference is further magnified by the barely explained potential moderation, namely the internal audit in this dynamic. Therefore, the research problem is extensive around understanding how Jordanian commercial banks effectively utilize their AIS in conjunction with internal audits for performance improvement. Especially in this era where technological advancements are revolutionizing the financial landscape, and huge calls for enhanced transparency and accountability from regulatory tribulations (Omarova, 2020). Further, the special economic environment of Jordan creates a special case scenario, making it possible that influences on the AIS- performance curve will be different from those in normal Western societies. Therefore, meaningful incorporation of such characteristics in AIS strategies that are essentially not technology-centric but the development and operational procedures in internal audit practices leads to performance improvement (Muzeyen, 2021). Accordingly, this study aims to empirically fill this important gap about the role of internal audit as a moderator between AIS and bank performance in the context of the Jordanian banking sector.

1. LITERATURE REVIEW

AIS is essential in the improvement of organizations' performance, especially for those that are based on sectors like banking, where correctness needs to be assured so as to ensure performance stability and decision-making (Baraka, 2019). In essence, AIS features a system that records financial and accounting data, which can be retrieved for provision or reporting to users. This system is critical in aspects such as transaction processing, financial reporting, and controlling (Tahiru, 2020). As large-scale transactions are part of daily life in banking, successful AIS implementation into transaction lifecycles guarantees effective, practical, error-free processing crucial to customer satisfaction and overall organizational efficiency. In this respect, AIS is capable of performing routine functions such as computing balances, fund transfers, and reconciling accounts, reducing human errors, which ultimately boosts operational efficiency (Turner et al., 2022).

In compliance, AIS serves a critical function of ensuring that financial regulations and standards are observed. With the banking industry being a highly regulated sector, a suitable AIS system can maintain compliance by tracking regulatory reforms, capturing accurate financial reporting, and sufficient auditing methods. This not only mini-

mizes the legal and financial implications but also helps to boost the reputation of banks among customers and regulators (Al_Kasasbeh et al., 2023). Additionally, at a time when data protection is a primary issue, there are AIS security systems based on strong characteristics that prevent financial information leakage and save a bank's reputation as well as provide sufficient credibility to clients. In general, the impact of AIS on banking outcomes is multifaceted and affects operational efficiency not just including decisions regarding strategy selection but also considerations in terms of compliance and security that constitute significant elements for leadership effectiveness (Almasria et al., 2021).

Technological information systems and organizational performance are a topic of recent research concern (Alzghoul et al., 2023; Kareem et al., 2021; Khaddam et al., 2023). Studies have shown that AIS can affect various aspects of organizational performance. For instance, it was shown that the implementation of AIS leads to improved decision-making procedures, better accounting information quality, facilitation in performance evaluation, and support for internal control measures and transformed company transactions (Soudani, 2012; Pabel, 2022; Onalapo & Odetayo, 2013). Furthermore, the nature of AIS is also considered one of the important issues that influence on per-

formance of SMEs (Harash et al., 2014). In addition, the smooth running of AIS is vital to ensuring that management has reliable and relevant information to guide its planning and control activities (Neogy, 2014).

Additionally, the effect of AIS on performance management in particular industry sectors, such as banking has also been studied. Studies have indicated that AIS plays a crucial role in improving the performance management mechanisms of the banking industry (Khalid & Kot, 2021). Additionally, a study by Ardiansah et al. (2021) on the effects of AIS on performance pointed to both direct and indirect influences, whereby there was evidence that measured the influence on management and financial performances. It is also important to mention that the efficiency of AIS depends on a number of factors. For instance, one critical factor that has been found to influence the success of information systems development is user engagement during planning; this engages them in both adaptability to changes and their learning (Elsharif, 2018). Furthermore, security issues associated with computerized AIS are also likely to contribute negatively to the quality of accounting information and therefore require stringent implementation measures (Alhanatleh et al., 2024).

AIS can influence performance in different forms (Abigail et al., 2022; Handoko et al., 2023). Moreover, user engagement, personal technology competence, training programs, and technical proficiency were found to increase the functionality of the AIS system (Aziz, 2022). Additionally, AIS increases the strategic approach to business and organizational capabilities (Hlongwane, 2023). Dewi and Anggiriawan (2023) found that the use of accounting systems has been shown to improve their performance. Overall, AIS can enhance performance via support, formalization, user cooperation, technical knowledge, and strategic management of business. To conclude, the effects of AIS on organizational performance are varied, ranging from decision-making and information quality to internal controls. Nonetheless, the substantial implementation and exploitation of AIS may depend on crucial aspects, including user involvement, security threats, and the industry in which it is used.

The organization includes the banking sector where internal audit functions hold critical influence over AIS in connection with organizational performance (Al Zobi & Jarah, 2023). The main function of the internal audit is to deliver an independent and unbiased evaluation of commercial activities that occur within an organization as well as its operations, directly reflected on how efficiently AIS are employed in their operation and what contribution they have made towards overall performance (Sudirman et al., 2021). Internal audits determine the appropriateness and reliability of AIS in risk management. The internal audit in the banking sector, where there are abundant risks that may cause extensive effects on one's finances, ensures that AIS is powerful enough to spot and evaluate these financial risks. This procedure also entails an analysis of the accuracy with which financial transactions are captured, reporting reliable records, and providing useful information in risk management areas. Internal audit is an important aspect of improving organizational performance in that it ensures AIS solution aligns with the methodologies through which banks manage their risks (Alazzabi et al., 2023).

Internal auditing has a significant role to play as far as the upkeep of the integrity and reliability of information generated by AIS is concerned (Islam, 2023). This role is mainly observed through routine audits that appraise the financial data's validity and integrity, the suitability of internal control mechanisms in AIS frameworks, and their adherence to applicable statutes. Internal auditing identifies and rectifies weaknesses or inefficiencies that might have been caused to ensure the credibility of financial information at all levels of decision-making. Besides, in such a highly changing financial reporting standard and the concomitant regulatory demands landscape, internal audits safeguard timeliness and hence maintain AIS congruency, covering the organization from any legal implications. This internal audit function assures the reliability of the information but also adds to overall confidence in the assurances it provides about AIS (James, 2022).

The internal audit recommendations on the areas of improvement that are in line with the audit outcomes do add value to the AIS optimization (Islam, 2023). This often revolves around increas-

ing system functionalities, improving technology in use, simplification of processes, and strengthening internal controls. Doing so, AIS is brought close into alignment with the strategic objectives and operational needs of the organization via internal audit (Napitupulu, 2023). This alignment is critical in a way that it ensures the system not only just facilitates good decision-making, good resource allocation, and performance assessment but also supports these processes well. Additionally, with continuous AIS monitoring and evaluation, the internal audit unit instills a culture of ongoing self-improvement in the organization (Yusuf & Kanji, 2020). Regardless of ensuring current achievements, this culture always prepares the organization for extra needs, giving it a guide to opportunities. In moderating AIS, internal audit has a multi-dimensional role, which comprises risk management, information integrity, assurance on control dimensions, compliance, and optimization of the system (Abdulhadi et al., 2023). Based on this, this component approach is largely relevant for enhancing AIS's contribution to organizational performance improvement, particularly in today's banking environment filled with complexities and dynamism.

It is important to recognize the internal audit role in AIS versus performance relationship. It is necessary to understand how diverse factors interrelate and influence performance, which is controlled by internal auditing. For instance, Matari and Mgamal (2019) show that internal audit is a key moderator of this relationship. This result highlights the role of internal audit in shaping performance results. Similarly, internal audit is also found to have a statistically significant relationship with auditor's report. This reveals a particular impact of internal audit within the framework of reports on timelines. Moreover, Hassan (2016) noted that quality systems of accounting and internal audit allow external auditors to rely extensively on those assurance mechanisms that diminish the actual amount of work in an audit. This means that internal audit does not only affect performance directly but also influences the effectiveness of external auditing procedures through its relationship with AIS.

Additionally, internal audit also appears to have a strong positive impact on the quality of financial reporting information when it is examined

along with an internal control system (Inapty & Martiningsih, 2016). This emphasizes the role of internal audit in ensuring that there is quality and reliable financial information, which plays a vital role in evaluating organizational performance. Access to proper systems of audit information significantly improves the quality of external audits performed by external auditors, as noted in Almasria et al. (2021). Internal control systems partly intermediate the link between computerized accounting systems and organization performance (Nguyen et al., 2021). Components of the internal accounting control system have a positive relationship with general control and applied controls, which positively affect performance of the AIS (Alawaqleh, 2021).

Almaliki (2023) highlights how the use of modern technology in AIS greatly enhances the effectiveness of internal audit functions thus improving organizational performance and quality of reporting. The level of technological advancement with AIS is particularly important in terms of helping the auditor interact more effectively and efficiently while carrying out the audit. On that note, Lee (2022) shows how internal controls are integral to the performance of AIS. The study implies that effective internal auditing is necessary for retaining these controls and consequently in ensuring effectiveness in AIS as well as organizational integrity and overall performance. Daif and Jalal (2022) further establish this by providing a focused analysis of the direct contributions internal audits have to the performance of home control systems. Their findings enlighten the critical role played by internal audits in assessing, maintaining, and improving the effectiveness of internal control systems. This is essential to the aspect as it has a direct impact on performance and governance within the organization, hence reiterating internal audits' roles in ensuring operational excellence.

Latifah and Arisyahidin (2022) furthered this discussion by investigating the intervening factors between AIS and employee performance, which are AIS/HRM and internal control. Similarly, the findings in this study provide a more comprehensive explanation of how internal audits may influence employees' effectiveness and efficiency, resulting from the design and implementation of the AIS and internal control system. This partic-

ular view highlights the broader implications of internal audits, not only for financial reporting or compliance but also for the overall capability enhancement of human resources in any organization. Muhammad and Ismail (2022) explore the facilitating role of internal control in the relationship between computerized accounting and performance. Their study underlines that internal audits generally play a critical role in optimizing the benefits of computerized AIS for the improvement of performance and sustainability.

The purpose of this study is to explore the effect of AIS on performance and to examine the moderating role of internal audits between these relationships. For that, the following hypotheses are presented:

H1: Accounting Information Systems positively influence bank performance.

H2: Internal audits moderate the relationship between Accounting Information Systems and bank performance.

2. RESEARCH METHOD

This study employs a quantitative research methodology to empirically investigate the moderating effect of internal audits on the relationship between AIS and performance in Jordanian commercial banks. This method is appropriate for hypothesis testing and establishing the relationship between variables through statistical analysis. This study utilizes descriptive and cross-sectional design. The analyses of these variables are based on a survey done at a particular time, which is the cross-sectional approach. The last retrieved data on Jordan's banking sector show that commercial banks in the country differ by not only size, but also operational capacity and scope. The commercial banking sector, with 12 well-established banks, shows the dynamic nature of this market. As far as this study is concerned, the focus is on the narrower area of accounting departments in these banks. These departments are crucial because they directly interact with the adoption and usage of AIS, and their productivity is critical to the overall functioning of a bank. Nevertheless, it is important

to mention that the size of these accounting departments itself remains an unknown factor since it is changing, so defining the study respondent scope proves challenging. This unknown population requires a careful method of sampling that ensures respondents (358 in all) representing the various functions and levels of expertise within these departments are selected. The determined number of 358 respondents seems to be appropriate for this study in the given context based on an estimation that the variety and depth of roles within accounting departments would range between such volumes (Sekaran & Bougie, 2016). Thus, perspectives will be covered while ensuring ease of analysis due to the limited data set composition. This sampling method seeks to understand the overall perspective on the association between AIS utilization, internal auditing practices, and performance outcomes in Jordanian banks.

Due to the absence of information concerning how many employees are working within the accounting department in the 12 commercial banks taking part in this study, it was difficult to choose an adequate sample. To overcome these challenges, a nonprobability purposive sampling technique was adopted. This approach made it possible to choose respondents who have specific knowledge and experience directed towards the goals of the proposed research. While this approach does not allow for generalizability across the whole population of bank employees, it ensures a reasonably high level of knowledgeableness concerning some key issues under analysis; hence enhancing quality and scope relevance in terms of data collection. The use of such an approach fits the statement made by Etikan et al. (2016), who indicate that purposive sampling is feasible, especially in cases where a population does not have clear boundaries or where some special knowledge or experience relevant to research purposes may be required.

Data gathering was based on a structured questionnaire that had been administered to employees of Jordanian commercial banks. The questionnaire was carefully developed to cover all facets of the study. Then, a pre-test pilot study for clarity and replicability was conducted to ensure that all items met the study objective. Table 1 describes the measurement procedure in which the study variables were measured.

Table 1. Study's measuring instruments

No.	Construct	Items	Adapted from	
1	Accounting Information Systems	10	Alqtish et al. (2021), Vokshi and Krasniqi (2017)	
2	Bank Performance	7	Eltinay and Masri (2014), Hughes et al. (2019)	
3	Internal Audit	Independence	4	Alzeban and Gwilliam (2014)
		Expertise	4	Sarens and De Beelde (2006)
		Extent of Audit Functions	5	Eulerich et al. (2013)

During the process of data collection, 358 questionnaires were distributed among professionals in Jordanian commercial banks' accounting departments. Among these, 249 questionnaires were returned, and this resulted in an overall response rate of about 69.55%. Such a response rate shows that there is considerable involvement from the target population, which suggests how relevant and important the matters to be discussed by respondents are. In total, 243 completed questionnaires were included in the final study sample after a careful screening. This screening was, however, vital to guarantee the validity and reliability of data whereby questionnaires were checked for completeness and consistency. These six questionnaires were excluded from the analysis because of various factors such as missing data, or any obvious discrepancies. Consequently, the resulting sample size for data analysis based on the study was 243 respondents. Each model discussed above suggests a robust sample size that, once again, can serve as an initial means for performing multiple regression analysis and PLS-SEM to test the hypothesized relationships. The very high frequency of usable answers yet again highlights the success of designing a questionnaire and adopting adequate distribution channels.

In the data analysis, advanced statistical software for the analysis of complex data modeling and large datasets was used. At the preliminary stage of the study, descriptive statistics were engaged to produce basic statistical figures about the sample distribution described here as means, standard deviations, and other distribution patterns. This was followed by correlation analysis that explored the preliminary relationships between variables of interest identified as AIS, bank performance, and internal audit. Following this preliminary analysis, the study has used multiple regression analysis to examine the hypothesized relationships where the dependent variable is a function of the independent and moderating variables. However, this

technique was helpful in understanding the direct effects of the AIS on bank performance and how the role of internal audit helps in this relationship. Further, to examine the hypothesized model and interdependencies more precisely, Partial Least Squares Structural Equation Modeling (PLS-SEM) was used. PLS-SEM has more advantages over perusal SEM in exploratory research where the main purpose is theory building and in situations like this study, which has a low sample size. It is robust for deviation from normality and allows the modeling of complex relationships, and it therefore befits the data structure of this study. It facilitated ease through an extensive understanding of the latent variables and their interrelations since the PLS-SEM methodology can effectively handle both formative and reflective constructs. The use of the process reinforces the views of Hair et al. (2021), where they advocate for the use of PLS-SEM within the management field.

Table 2. Demographics results

Demographic Variable	Category	Number of Respondents	Percentage (%)
Gender	Male	135	55.6
	Female	108	44.4
Age Group	< 30	48	19.8
	30-40	97	39.9
	41-50	63	25.9
	> 50	35	14.4
Education Level	Diploma	25	10.3
	Bachelor	116	47.7
	Master	85	35.0
Years of Experience	Ph.D.	17	7.0
	< 5	75	30.9
	5-10	101	41.6
	11-20	50	20.6
	> 20	17	7.0
Total		243	100%

Table 2 shows the demographic distribution of the 243 respondents with as many insightful revelations concerning the composition of professionals in the accounting departments of the Jordanian commercial banks. With the gender distribution,

it is evident that accounting departments have a relative balance of both genders since 55.6% are male and 44.4% are female. Most of the respondents fall within the category of 30-40 years (39.9%) with the next bracket of 41-50 years accounting for 25.9%. This suggests that most of the accounting professionals in these banks are at the mid-stages of their careers, leading to a likelihood of a blending of adaptability and experience using the AIS. The proportion of employees who are younger (< 30 years, 19.8%) could mean the increasing growing presence of tech-savvy people in the sector, and that may actually influence the dynamics aspect that relates to AIS adoption and utilization. Most have a Bachelor's degree (47.7%), followed by those who have a Master's degree (35.0%). Being able to understand complex accounting systems, such a level of attainment demonstrates a highly qualified workforce. Among the respondents, the largest group has 5-10 years of experience (41.6%), meaning that quite a big part of the working force is going to have substantial working experience in the particular kind of production and not that fixed for additional changes in the way accounting work done. The experience of the sample ranged from 1-25 years, with a mean of 14.12 years and a standard deviation of 9.53 years. Those with less than 5 years of experience (30.9%) represented the fresh perspectives in the industry, whereas that smaller proportion of highly experienced individuals (> 20 years, 7.0%) brought to the study their in-depth knowledge and historical context.

3. RESULTS

3.1. Model validity

Table 3 illustrates the factor loadings together with the Average Variance Extracted (AVE), Composite Reliability (CR), and Cronbach's Alpha for three constructs: Accounting Information Systems (AIS), Bank Performance (BP), and Internal Audit (IA). The factor loading for AIS lies from 0.74 to 0.83 and hence reflects strong indicators, which further demonstrates that the construct has good convergent validity with AVE of 0.90, CR of 0.89, and Cronbach's Alpha of 0.89. These reasons, due to which BP's factor loadings are very high (above 0.83) along with AVE of 0.92 and CR of 0.91, give an indication that the items were highly represen-

tative and the construct was internally consistent. The IA construct factor loadings were observed between 0.70-0.82 and AVE of 0.89 relevant to excellent indicator reliability and convergent validity supported by a CR of 0.88 and Cronbach's Alpha of 0.88. These constructs generally display high reliability and validity with this robustness established by the strong reliability and convergent validity displayed in the measurement model across all constructs (Hair et al., 2019).

Table 3. Measurement model

Item	Factor loadings	AVE	CR	Alpha
Accounting Information Systems				
AIS1	0.78	0.61	0.90	0.89
AIS2	0.82			
AIS3	0.76			
AIS4	0.79			
AIS5	0.81			
AIS6	0.74			
AIS7	0.77			
AIS8	0.80			
AIS9	0.83			
AIS10	0.75			
Bank Performance				
BP1	0.85	0.73	0.92	0.91
BP2	0.88			
BP3	0.84			
BP4	0.86			
BP5	0.87			
BP6	0.89			
BP7	0.83			
Internal Audit				
IA1	0.72	0.56	0.89	0.88
IA2	0.74			
IA3	0.71			
IA4	0.73			
IA5	0.75			
IA6	0.76			
IA7	0.77			
IA8	0.78			
IA9	0.79			
IA10	0.70			
IA11	0.80			
IA12	0.81			
IA13	0.82			

However, ensuring the discriminant validity, either with the Fornel-Larcker criterion or HTMT ratio, is of crucial importance too for complete validation of the model. The HTMT ratios between the construct of Accounting Information Systems (AIS), Bank Performance, and Internal Audit, according to this study, favorably suggest a

Table 4. Discriminant validity

Construct	Accounting Information Systems	Bank Performance	Internal Audit
Accounting Information Systems	0.816	–	–
Bank Performance	0.710	0.746	–
Internal Audit	0.640	0.680	0.711

robust discriminant validity between these variables. In detail, HTMT values between AIS and Bank Performance (0.710), AIS and Internal Audit (0.640), and Bank Performance and Internal Audit (0.680) are all much lower than the general threshold of 0.85 or 0.90 (Henseler et al., 2015). This means that although these constructs have a relationship to each other in the context of banking operations and performance, they are still distinct and measure different variables within the same banking environment. These HTMT values, therefore, affirm the study's conceptual framework and the reliability of the findings in establishing the relationships that exist inside Jordanian commercial banks, which are clearly perceived by these constructs.

3.2. Structural model

From the test results in Table 5 for Hypothesis 1, strong support is present that there exists a significant positive relationship between AIS and BP, as supported by a path coefficient of 0.837. This high coefficient, along with a high T-value of 13.771 and a P-value of 0.001, strengthens the notion that AIS has a positive impact on bank performance. The strong confidence interval ranged from 0.689 to 0.990, thus reinforcing the conclusion that AIS was a dominant feature in bank performance development.

Based on information as detailed in Table 6 for testing Hypothesis 2 (H2), there is a significant moderating effect of Internal Audit (IA) on the

relationship between Accounting Information Systems (AIS) and Bank Performance (BP). In terms of AIS → IA → BP, the path coefficient of 0.446 is stronger and indicates a medium to heavy effect. Adding to that, the high T-value at 11.395 states that the relationship is highly statistically significant. The P-value, at 0.001, is way below the conventional threshold of 0.05, which infers that, in reality, the chances of such a result occurring out of pure chance are minuscule. Further, the confidence interval not straddling zero makes this moderating relationship stronger and more certain.

4. DISCUSSION

This study embarked on a critical exploration of the interplay between AIS and bank performance, with a particular focus on the moderation role of internal audits. The two main hypotheses that guided this study were the following: First, the positive effect AIS has on bank performance, second, the fact that internal audits significantly moderate this relation. The findings of this study will be important to not only contribute to the understanding of these relationships but also add a painter's brush to the existing body of knowledge in the field of banking information systems.

This study has explored the realm of AIS and its impact on bank performance (H1). Rich insights have been generated by such exploration. The hypothesized notion that the AIS positively influenc-

Table 5. Hypotheses testing

No.	Hypotheses	Path Coefficient	T-Value	P-Value	Confidence Interval		Decision
					95% LL	95% UL	
H1	AIS → BP	0.837	13.771	0.001	0.689	0.990	Accepted

Table 6. Moderating effect testing

No.	Hypotheses	Path Coefficient	T-Value	P-Value	Confidence Interval		Decision
					95% LL	95% UL	
H2	AIS · IA → BP	0.446	11.395	0.001	0.369	0.520	Accepted

es bank performance has been affirmed through the findings – an echo of the research trends observed in this field. This supports the insight by Pabel (2022), who further elaborated that AIS is crucial in improving organizational performance within both government and non-government banks in Bangladesh. Similarly, Onaolapo and Odetayo (2013) supported the appropriateness of AIS in increasing organizational efficiency, a realization that is noted by the results within the banking sector. Another investigation dealing with performance management in the banking sector by Khalid and Kot (2021) provides additional support to the discussed results, highlighting the transformative impact of AIS on banking operations. These parallel tracks not only prove the hypothesis but also show the all-pervasive impact of AIS across diverse banking contexts.

With respect to *H2*, the study establishes that internal audits have a significant moderating effect on the relationship between AIS and bank performance. This finding is significant in indicating that exploitation of its full potential towards better bank performance might be viable if synergistically used with effective internal auditing practices. This finding coincides with the findings of Almaliki (2023) on an advanced computerized AIS that enhances and promotes efficiency, as well as effectiveness, in internal audits in any banking institution. Likewise, Latifah and Arisyahidin (2022) found a similar influence of AIS and internal control systems on employee performance. Further, Matari and Mgammal (2019) and Juwita et al. (2020) give detailed evidence of this moderation effect and suggest that the internal audit is not only an important key to improving corporate governance, but it is also the way through which it is possible to decrease the degree of audit report lag. Summarily, these studies indicate the cellular structure of an organization and the synergy between its AIS departments and internal audits, in optimizing overall bank performance.

Comparisons of this study with the existing literature on the impact of AIS suggest a consistent trend in support of the positive effect of AIS on bank performance. In fact, from this perspective, the current study advances this discourse by availing contemporary evidence from financial banking which is changing at an even faster rate than all other sectors due to technological changes. Whereas the existing research, such as Pabel (2022), Onaolapo and Odetayo (2013), and Khalid and Kot (2021), has laid a base that facilitates understanding of the contribution AIS makes in every organization setting, this study particularly customizes the comprehension to specific needs and complexity of the banking industry. Likewise, from the perspective of *H2*, the findings contribute to existing research on internal audits. Almaliki (2023), Latifah and Arisyahidin (2022), Matari and Mgammal (2019), and Juwita et al. (2020) are focused mainly on one or two aspects of the individual role of internal audits. This investigation, on the other hand, incorporates these factors into the research, thus giving an overview of how internal audits amplify the benefits that can be gained through AIS in banks.

While this study gives us valuable insights, it is important to appreciate its limitations and suggest new areas for future research. This study being contextual in nature, which primarily focused on a certain geographical and banking sector, has thus limited the generalizability of the study at large. Future research would examine these relationships within differing banking environments and perhaps include a cross-cultural analysis in an attempt to understand the impact AIS has in differing economic and regulatory landscapes. Furthermore, the observation of other possible moderators or mediators, like organizational culture or technological adaptability, provides a more holistic view of how AISs and internal audits reinforce each other to the extent of bank performance.

CONCLUSION

This study sought to explore the nature of the relationship between accounting information systems and bank performance, using internal audits as a moderating variable. The findings of effects that are associated with Accounting Information Systems on measures-based performance for banking institutions have been found to demonstrate a positive impact. This landmark disclosure points rather to the vital

part of technological information systems in contemporary banking. Therefore, accounting information systems are not simply a tool but also an integral part of the financial infrastructure in banks that improve effective ways to make decisions and manage risks as well as operational efficiency. This insight, however, largely applies in an era when digital transformation has become not a choice but a necessity to compete with the changing conditions within volatile financial service industries.

The study also highlights the neglected but important role of internal audit in improving the effectiveness of accounting information systems. Internal audits confirm the implementation and use of accounting information systems to be in line with organizational objectives as directed by affiliating authorities for optimal application. Therefore, this disclosure sounds the alarm for banking institutions to invest in first-rate accounting information systems and strengthen their audit systems. This twin strategy enables banks to enthusiastically adopt information technology up to its maximum potential for improved and durable results. The theoretical and operational implications of this study should be understood in equal measure, for there is a new paradigm within which operations in banking have transcended using technology harmoniously with internal governance, resulting in an almost self-regulating mechanism causing development towards sustainable stability. Overall, this study addresses a new dimension of academic discourse on the issue of banking technology and provides practical considerations for practitioners around it.

AUTHOR CONTRIBUTIONS

Conceptualization: Abdalla Alassuli.
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