

Do The Board And Audit Committee Characteristics Affect Internal Audit Performance?

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Abstract

Purpose : Internal audit employees play a broad and important role in monitoring and assisting in enterprise risk management, so their participation is considered a key pillar in improving corporate governance (CG). This study aimed to identify the impact of board and audit committee (AC) characteristics on internal audit performance (IAP) by enhancing the participation of (IA) employees.

Design/methodology/approach: The study employs a panel data regression model to examine the impact of board and AC characteristics on IAP. Data were obtained from the Securities Depository Center and annual reports for the period 2018-2022 among 12 commercial banks in Jordan.

Findings: The study found that IAP is influenced by the board and AC characteristics. Various characteristics, including board size, board meeting frequency, AC independence, AC size, and AC experience, affect the IAP by enhancing the participation of IA employees. The study did not find an effect of board independence and AC meeting frequency on IAP.

Practical implications: The results of this study can play a valuable role in enhancing the contribution of the board and its committees in activating the role of IA and improving its performance by enhancing the participation of IA employees. This study contributes to identifying the factors affecting IAP, it will therefore have an important added value for policymakers who may use the results of this work in developing policies that ensure that the board and the AC activate the role of participation of IA employees.

Originality/value: While much of the literature examines the consequences of CG, this study considers the participation of IA employees as an essential element in enhancing IAP as a form of CG mechanism. Thus, this study contributes to the literature by providing new understandings regarding IA employees' engagement as an element of CG and its relationship with IAP. Moreover, it provides additional evidence of the influence of the board and its committees in enhancing IAP by activating auditors' participation in the company's decisions.

Keywords: Board characteristics, Audit committee characteristics, Internal audit performance, Internal audit employees.

JEL Classification: M10, N45, G3, J24, J5, J53.

1. INTRODUCTION

Recent years have unveiled a trend of new actions and restrictions in corporate governance (Adu, 2023). These guidelines and rules targeted the IA function and engagement of the IA department employees (Barua et al., 2010). The participation of IA employees is considered a fundamental pillar in improving CG (Salim et al., 2019). One of the reasons engagements of IA employees are considered a valuable CG tool is because they constitute an extensive and significant role in monitoring and assisting in the management of institutional risks while assessing controls in companies (Lenz & O'Regan, 2024). According to the literature, the IA function is seen as a very significant control element and an important aspect of the CG system (Krichene & Baklouti, 2021). The main reason for the significant transformation in the past years is due to the IA employees' pivotal position in any organization. The possible reason for

these changes may be due to the rules and regulations for IA, and also, because of technological advancement and the more frequent economic recession.

These changes were not only in the function of IA but also in the status of all employees involved in internal audit activities as members of CG, as well as in enhancing their competencies and updating their knowledge about the trend of audit as a whole (Vadasi et al., 2021). The main attribute stressed by the IIA is the independence and objectivity of the IA function, implying that although this function is part of the executive staff, it acts as an independent objective assurance and consulting activity that enhances the organization's value by providing insight into its operations and ensuring the effectiveness of its risk management, internal control, and governance processes (IIA, 2012). It shows that the IA function lies in an essential strategic method with a wide-ranging outlook, and its area of responsibility goes beyond overseeing financial control activities alone (Al-Rawashdeh et al., 2024). IA must serve the organization, bringing some measure of value to the organization's achievement of its objectives by embarking on the evaluation of internal control, risk management, and governance (Alqudah et al., 2023). Another important event that affected the IA function was the issuance of the Sarbanes-Oxley Act in the USA in 2002, as this enactment put forward persistent and more rigorous measures in terms of assessing internal controls of entities as well as the internal controls system (Vafaei et al., 2024). This led to these establishments spending many resources to improve their control systems to comply with the new rules (Aggarwal, 2023).

From the perspective of agency theory, the board of directors and its subcommittees, such as the audit committee, constitute the core of corporate governance and are among the most prominent external oversight mechanisms that ensure compliance and financial stability (Kolev et al., 2019). Internal audit is one of the most prominent internal control mechanisms that contribute to enhancing transparency and operational efficiency, and constitutes the first line of defense against risks, fraud, and weak regulatory compliance (Boufounou et al., 2024). In this context, the role of the board of directors and its committees in influencing the effectiveness of internal control mechanisms must not be overlooked (Sassen et al., 2018). The board is responsible for providing an environment that supports the independence of the internal auditor and enhances the ability of internal audit to carry out its duties efficiently, particularly in the context of emerging economies, such as Jordan (Hussien et al., 2025a). In the same context, the role of the board is evident as a central regulatory actor that seeks to achieve a balance between compliance with regulatory requirements on the one hand and enhancing institutional performance on the other (Ghafran & O'Sullivan, 2013). This role is attributed to the Board's governing position within the governance structure, and the oversight and strategic responsibilities it undertakes, including supervision of internal audit activities (Alfraih, 2016). Therefore, the internal audit function is not merely a technical tool used by the board to control operations, but rather represents a practical embodiment of the demands of institutional legitimacy, whether these demands come in the form of professional standards, regulatory instructions, or even standard practices emulated by peer institutions.

From an institutional perspective, the board's involvement in supporting and directing internal audit performance can be interpreted as a response to organizational pressures (Al-Ahmed et al., 2025; Abdullah et al., 2018). Regulatory pressures push the board to strengthen the independence of the IAF, ensure the availability of sufficient resources, and activate accountability and oversight mechanisms, not only to improve performance but also to demonstrate commitment to international standards and best practices, thus gaining the institution's legitimacy before the relevant parties (Zhang et al., 2007). However, this response may sometimes take on a symbolic nature, as the IAF is formally reshaped without necessarily being reflected in tangible performance improvements, which is consistent with what institutional theory indicates about the tension

between organizational effectiveness and formal legitimacy (Badolato et al., 2014). In this context, the role of the board of directors is not limited to adapting the internal audit structure to external pressures, but rather extends to playing an active institutional role in reproducing and directing organizational practices (Fakhfakh & Jarboui, 2022). The board does not merely respond to externally imposed requirements, but rather contributes to shaping internal perceptions and standards that govern the nature of the audit function, its tools, and its logic, in light of what it deems appropriate to affirm legitimacy, ensure organizational survival, and achieve excellence in a highly complex organizational environment (Gale et al., 2022). Accordingly, the relationship between the board and internal audit is not technical as much as it is a manifestation of the complexity of institutional interactions, where the dimensions of authority, legitimacy, compliance, and symbolic management overlap within a dynamic process through

which the frameworks of oversight work are reshaped to suit the requirements of the broader institutional environment. In this sense, studying this relationship in light of institutional theory becomes a necessary entry point for understanding how governance practices are managed, not only to achieve organizational efficiency, but also to gain institutional acceptance and continuity in an organizational context characterized by continuous change and complexity.

In the Jordanian context, many companies have suffered recent failures as a result of management's focus on achieving and maximizing their interests without sufficient attention to the interests of shareholders (Alawaqleh et al., 2021; Alqudah et al., 2023). This led to the interest of many organizations and professional bodies in CG because of its major role in the control process and strengthening the role of IA in it, as IA was considered one of the most important principles of CG (Alqudah et al., 2023). For Jordanian companies, including Jordanian banks, to be able to continue and preserve the rights of shareholders, it was necessary to activate the participation of employees and committees formed under CG instructions (Makhamreh et al., 2022). This is to enhance and activate the role of the participation of IA employees in performing their work effectively and maintaining their independence as well (Alqudah et al., 2023). In addition, given the many discussions and dialogues about the characteristics of the board and its impact on the performance of companies, which center around the fact that the board in large companies has characteristics that give it the ability to monitor and exercise control over the company's management and affairs (Dang & Nguyen 2024). The development of CG provides stakeholders with reasonable assurance about the accuracy of financial operations and submissiveness with applicable rules and regulations (Hussien et al., 2025a). Therefore, this work falls primarily on the responsibility of IA, given its direct connection to the board and the AC emanating from the Board. Based on the above, and given the lack of participation of shareholders in the administrative process of these companies, and given the possibility that these shareholders are not present in the country in which they invest, this has led to their fears of the lack of a neutral body that provides them with sufficient information regarding their investments (Dang & Nguyen, 2024). Since this study deals with the Jordanian banking sector, which is prepare one of the substantial and highly sensitive sectors in the economy of any country and at the same time is the backbone of this economy, it is important to work to attract many investors to this sector to preserve it (Makhamreh et al., 2022). However, these investors lack confidence in these investments because they are unaware of the independent IA function that safeguards their money and investments (Alqudah et al., 2023). Consequently, the problem of the study arises in testing the extent to which the characteristics of the Board and the AC influence the IAP by enhancing the participation of IA employees.

This study makes several contributions to knowledge. First, while much of the literature examines the consequences of CG, this study considers the participation of IA employees as an essential element in enhancing IAP as a form of CG mechanism. Thus, this study contributes to the literature by providing new understandings regarding IA employees' engagement as an element of CG and its relationship with IAP. Moreover, it provides additional evidence of the influence of the board and its committees in enhancing IAP by activating auditors' participation in the company's decisions. Second, studying the relationship between the board, its committees, and internal audit is an important theoretical contribution that lies at the heart of the literature on corporate governance and regulatory oversight, especially when re-examined in light of the structural tensions that arise between organizational actors within the organization. Third, the theoretical significance of this relationship lies in its representation of a conceptual intersection between agency and institutional theories, making it a rich field for re-examining how governance practices are reproduced from within, not as a set of formal mechanisms, but rather as effective tools for reorganizing the balance between power, accountability, and transparency. Fourth, the relationship between the Board of Directors and internal audit is not linear or unidirectional, but rather is characterized by a high degree of interactive complexity. The board not only plays a supervisory role over internal audit activities but also contributes to defining the nature, limits, and directions of these activities, in light of the existing balance between independence and institutional compliance. This interaction takes on a theoretical dimension in regulatory environments that suffer from weak legal frameworks or concentrated ownership structures, such as in Jordan, where governance functions, including internal auditing, become vulnerable to the structural influences of power centers within the organization.

Finally, this study contributes, theoretically, to deconstructing traditional assumptions that have treated the board of directors as a neutral guarantor of transparency and represent it as an actor in shaping the

boundaries of the oversight function itself, whether through supporting, weakening, or symbolically directing the internal audit function. Hence, the cognitive contribution offered by such a study is not limited to examining organizational efficiency, but rather extends to questioning the value structure upon which concepts such as independence, accountability, and legitimacy are built, in light of the local and institutional context in which this relationship is practiced. Moreover, this relationship provides an ideal entry point for re-examining the enduring tension between organizational formalism and actual practices, enhancing the study's contribution to the literature that seeks to explain the discrepancy between stated rules and actual behaviors within organizations. Exploring this relationship in an emerging environment like Jordan, which is characterized by unique structural and organizational characteristics, gives the study a rich contextual dimension, contributing to the global debate on the limits of the generalizability of governance models and revealing the subtle interactions between global standards and local constraints. From an applied perspective, this study is considered important with regard to the relationship between various CG mechanisms, as the results of this study can have an important role in enhancing the contribution of the board and its committees in activating the role of IA and improving its performance by enhancing the participation of IA employees. This study may contribute to identifying the factors affecting the IAP; it will therefore have an important added value for policymakers who may use the results of this work in developing policies that ensure that the board and the AC activate the role of participation of IA employees. This study is also important in terms of its timing. This study comes amid growing interest in improving corporate governance, particularly in the wake of the economic challenges imposed by political conditions and their economic consequences in the Middle East. Recent studies have shown that economic crises increase the focus of regulatory bodies on the role of internal audit as a tool to enhance financial control (Sapiri, 2024; Tanbour et al., 2025). Conducting such a study in Jordan is essential, as the Jordanian context represents a model for small, open economies that balance international standards with local specificities.

2. LITERATURE REVIEW

Although many theories have traditionally been employed through empirical studies to explain how boards and board committees contribute to corporate decisions, agency theory (AT) is the most widely used theory (Adu, 2023; Raimo et al., 2021). AT is the first theory associated with CG (Dang & Nguyen 2024). AT arose as a result of the separation of power between company ownership and management, as it was linked to organization, ownership, and distribution of power (Ghafran & O'Sullivan, 2013). The theoretical basis of AT is based on the conflict of interests between principals and managers (Adu & Roni, 2024; Eneizan et al., 2023), where owners will seek to maximize their wealth, while managers will act and make decisions based on their interests. AT attempts to address two problems: the first concerns the interests of various actors in the conflict and the cost of monitoring and controlling managers' actions, and the second concerns different attitudes toward risks (Ali & Abdullah, 2022). In this context, the board must include oversight mechanisms to prevent mismanagement or inappropriate use of information by company managers and enhance transparency and disclosure of company information (Yang & Zhao, 2014). The responsibility for this fall on the board and its committees, including the AC, as they will work to reduce agency costs through supervision and control for the benefit of shareholders (Hahn & Lasfer, 2016). The oversight capacity of the AC is linked to its composition and characteristics, such as the frequency of its meetings (Alqudah et al., 2023), its size (Putri & Mayangsari, 2024), the seniority of its members (Alhossini et al., 2021), the experience of its members (Zalata et al., 2018), and experience in financial and management aspects (Islam et al., 2010).

In the Jordanian context, unique patterns of agency costs emerge that differ fundamentally from the traditional models prevalent in advanced economies (Alrawashedh et al., 2025). In Jordan, type II agency costs (arising from conflicts of interest between majority and minority shareholders) significantly outweigh type I agency costs (between owners and managers) (Tayeh et al., 2023). In this model, the board of directors is re-characterized not as a neutral mediator between owners and management, but rather as a potential tool to promote the interests of majority shareholders, at the expense of minority shareholders, unless there are effective oversight mechanisms to curb this bias (Hussien et al., 2025b). This is where the organizational importance of the internal audit function becomes clear. It can play a pivotal role in controlling this representational imbalance, provided it enjoys sufficient independence, authority, and institutional support from the board of directors itself. However, the theoretical paradox lies in the fact that the effectiveness of internal audit cannot be understood in isolation from the board of directors,

which may, in certain cases, be indirectly subject to the influence of majority shareholders (Elbardan et al., 2015). In structures where families or large investment conglomerates dominate company ownership, the board of directors is often composed of a majority of members who are direct or indirect representatives of those owners (Siebels & zu Knyphausen-Aufseß, 2012). This leads to the possibility of collusion between the board and executive management to protect the interests of the majority and reduces the ability of the internal audit department to uncover violations or practices that could harm the interests of the minority (Cortés & Botero, 2016).

In this context, the relationship between the Board of Directors and the internal audit function cannot necessarily be considered a support relationship, but should be analyzed from the perspective of organizational tension and power. If the board is truly committed to comprehensive governance, it will activate the internal audit function as an independent oversight mechanism. However, if it is subject to majority influence, internal audit may be used as a symbolic tool, limited to formal procedures that do not challenge the existing interest structure (Kamardin & Haron, 2011). From this perspective, it can be argued that the internal audit function plays a crucial role in bridging the information gap and protecting the interests of minority shareholders only when it is appointed and supported by a board of directors that is relatively independent from the dominance of major shareholders. Therefore, designing governance mechanisms, particularly the audit committee, is a necessary condition to ensure that the internal audit function is not biased toward the interests of controlling shareholders. Perhaps what deepens this analytical framework is that the problems of the second type of agency, as in Jordan, are also linked to local cultural, legal, and institutional determinants (Saka-Helmhout & Geppert, 2011). A weak regulatory environment or vague laws regarding the protection of minority rights make the internal audit's mission more fragile, transforming its role from an effective oversight tool to a formal legitimization tool for existing structures (Ginesti et al., 2024). However, in systems that impose transparent disclosure, require the efficient formation of audit committees, and require the independence of auditors, internal audit can transcend its structural constraints and perform a balancing function in the institutional landscape (Hunjra et al., 2025).

2.1 Board Characteristics

The board is considered one of the important mechanisms for CG (Dang & Nguyen, 2024). The board bears responsibility for setting policies (Boone et al., 2007). The Board's responsibility includes controlling and monitoring the firm's performance (Pillai & Al-Malkawi, 2018; Abdallah & Ismail, 2017; Adu, 2023). In analyzing the roles played by boards, the literature has taken into account characteristics related to the work and structure of boards, in addition to the personal traits of board members (Adu & Roni, 2024; Githaiga et al., 2021; Lu & Cao, 2018; Vafeas & Vlittis, 2024).

2.1.1 Board Independence (BOI)

Agency theory suggests that board independence reduces the interest gap between shareholders and executives, allowing non-executive directors to play a neutral oversight role that reduces the potential for collusion or bias in decision-making processes (Fama & Jensen, 1983). Independent members are assumed to have stronger motivations to preserve the company's interest and efficiently monitor the performance of executive management, which translates in the context of the internal audit function into providing a supportive environment for the independence of internal auditors and enabling them to perform their duties without administrative interference or influence (Al-Sayani and Al-Matari, 2023). In contrast, institutional theory offers a different perspective, which argues that board independence may not always stem from a functional regulatory logic, but may often be a response to regulatory or normative pressures aimed at gaining legitimacy before regulatory bodies, markets, or external parties (Joseph et al., 2014). Thus, a superficial institutionalization of board independence may occur without a fundamental shift in oversight behavior or in activating the role of internal audit, leading to a gap between form and content (Mihret & Grant, 2017). The literature has indicated that independent directors seek to promote the interests of various stakeholders, not just shareholders (Ahmad et al., 2015; Fuente et al., 2017; Hahn & Lasfer, 2016). According to AT, independent members can improve the company's operations because they possess experience that helps reduce opportunistic behaviors (Fama & Jensen, 1983). Al-Rassas and Kamardin (2015) indicated that BOI contributes to improving the effectiveness of CG. Al-Sayani and Al-Matari (2023) indicated that the BOI members are less sympathetic to the executive heads since the independent members supervise the work of the executive management without sympathy. This limits the attempts of the executive management to influence the employees of the IA, which contributes to improving their performance. Therefore, the BOI may play a role in enhancing IAP. On the other hand,

increasing the BOI may have negative effects on the board's performance, as most of the time is spent in meetings clarifying the company's issues to external members (Alsartawi, 2019). Therefore, we hypothesize that:

H01: Board independence has a significant impact on the performance of the internal audit.

2.1.2 Board size (BOZ)

From an agency theory perspective, increasing board size, to a certain extent, may contribute to expanding the scope of representation and increasing the board's ability to monitor managerial activities (Adu, 2023), thus supporting the internal audit function and enhancing its performance. However, this effect remains conditional on the ability of the large board to coordinate internal roles effectively and avoid what are known as "coordination costs," as an excessively large size may lead to a decline in the quality of interaction between members and a slowdown in decision-making mechanisms, which weakens the actual ability to support internal control (Hussien et al., 2021). From an institutional theory perspective, board size is also viewed as a response to regulatory and normative pressures, as firms seek to align their structures with prevailing institutional expectations in their external environment to gain legitimacy (Young et al., 2000). In this context, increasing the size of the board of directors may not always be motivated by supervisory efficiency, but rather may result from imitating the practices of other companies or conforming to formal regulatory requirements (Alfraih, 2016), which may lead to enhancing apparent legitimacy without necessarily translating into a real improvement in the quality of internal auditing. Accordingly, the impact of board size on internal audit performance is influenced by the degree of a company's commitment to core corporate values, not simply by replicating organizational models. The literature has shown mixed results regarding the consequences of board size. More complex companies tend to have larger boards (Khudhair et al., 2019); nonetheless, there is no confirmation of how BOZ affects board effectiveness in terms of oversight of company activities (Al-Rassas & Kamardin, 2015; Zraquat et al., 2021). On the one hand, some believe that coordination and organization in large groups hinder the board's performance (Hussien et al., 2021). Large boards have a diversity of experiences and qualifications (Adu, 2023), and therefore may be able to monitor IAP to a greater extent than small boards. On the other hand, others argue that the larger the board, the more effective the oversight of business management (García-Ramos et al., 2023). Some researchers believe that large boards limit the ability to coordinate when facing problems (Khudhair et al., 2019). Another concern Zona et al. (2013) have pointed out is that when the size of the board is larger, the members may not frequently act with high motivation due to a shared responsibility for specific decisions. Therefore, we hypothesize that:

H02: Board size has a significant impact on the performance of the internal audit.

2.1.3 Board meeting frequency (BOM)

According to agency theory, increasing the number of board meetings can be interpreted as a control mechanism aimed at reducing the information gap between executive management and shareholders by activating the actual oversight role of the board and intensifying its follow-up of vital functions such as internal auditing (Adu, 2023). Boards that hold frequent meetings are better able to review audit reports, evaluate the performance of internal auditors, and ensure the effectiveness of internal control and compliance systems (Hahn & Lasfer, 2016). Frequent meetings also enhance the board's ability to respond immediately to regulatory challenges or operational deviations, and provide the internal audit function with direct institutional support that is reflected in the quality of its performance and the speed of its response to risks (Cohen et al., 2007). From this perspective, the frequency of meetings is a direct reflection of the extent of the Board's involvement in substantive oversight processes. However, institutional theory highlights a different interpretive dimension to the nature of this variable, as it believes that the intensity of meetings may not necessarily reflect true supervisory effectiveness, but rather may be a formal response to requirements imposed by regulatory or market authorities (Alsartawi, 2019). Therefore, the number of board meetings does not in itself indicate the quality of oversight, unless it is coupled with the real activation of oversight roles within those meetings, and the availability of efficiency and objectivity in discussing oversight issues (Sassen et al., 2018). Meetings may be held frequently without resulting in substantive decisions that enhance the quality of internal auditing, which means that effectiveness is not measured by number but by content, and that the frequency of meetings does not necessarily translate into a positive impact unless it is supported by an institutional environment that is truly committed to control values (Ji et al., 2020). Many authors argue that the more active boards are, the better the monitoring and management of companies will be (Hahn & Lasfer, 2016; Vafeas & Vlittis, 2024). BOM is evidence of the board's ability to control executives and monitor their behavior (Ntim et

al., 2017). On the other hand, increasing the BOM may negatively affect the board's performance, as meetings become protocol without real effectiveness (Alsartawi, 2019). An increase in council activity could lead to an increase in members' tasks, which may disperse the board and negatively affect its overall performance (Mentes, 2023). Ji et al. (2020) pointed out that increasing BOM does not necessarily guarantee its effectiveness, but to achieve the effectiveness of the board, the meetings must review performance reports and consider the proposals of the IA employees to activate oversight of executive directors. Therefore, we hypothesize that:

H03: Board meeting frequency has a significant impact on the performance of the internal audit.

2.2 AC characteristics

The Audit Committee is one of the most prominent corporate governance mechanisms, as it represents a strategic link between the board and the internal audit functions (Alzeban, 2020). The responsibilities of AC include monitoring various IA activities. ASE requires AC to verify the efficiency of IA employees and whether they have sufficient freedom when carrying out their activities (Alqudah et al., 2023). AC is also responsible for evaluating IAP concerning focusing on the extent of implementation of IA recommendations (Ali & Meah, 2021). Therefore, the characteristics of the AC may play an important role in enhancing IAP. From the perspective of agency theory, the audit committee is considered a supervisory mechanism that can limit managerial biases and behavioral deviations, as it represents a specialized entity independent of executive management. The audit committee is supposed to monitor the performance of the internal audit, verify its objectivity, and direct its activities to serve the interests of shareholders and enhance corporate transparency. However, this ideal vision is not always achieved in reality, as institutional theory highlights that the formation of audit committees and their organizational characteristics are not always driven by functional justifications, but may result from regulatory pressures, through which companies seek to gain legitimacy before investors and regulatory authorities. According to this perspective, some audit committees may become mere organizational facades that play a more symbolic than actual role, especially when the criteria for their formation are formal, or when they lack real independence or the necessary technical competence.

2.2.1 AC independence (ACI)

From the perspective of agency theory, an independent audit committee is a governance tool to reduce the interest gap between executive management and shareholders (Alzeban, 2020). Independence is supposed to allow committee members the freedom to make supervisory decisions away from administrative influence, and to guarantee internal auditors a professional working space that motivates them to perform their duties without fear or submission to pressure from the executive authority (Al-Najjar, 2011). In this context, the presence of an independent audit committee is a crucial factor in activating internal auditing, as the independent committee is more prepared to support oversight reports, review audit results transparently, and recommend to the board the necessary measures to address deficiencies or deviations (Alzeban & Sawan, 2015). The committee's independence provides internal auditors with institutional protection that enables them to express their observations objectively without fear of unfair accountability (Ali & Meah, 2021). Therefore, the relationship between the independence of the audit committee and the performance of internal audit is characterised, according to the logic of agency theory, by clarity and integration, as independence leads to the creation of a control environment that stimulates performance and supports the effectiveness of internal systems (Alhababsah & Azzam, 2024). However, this conception, despite its theoretical validity, does not necessarily reflect the complexity of contemporary regulatory environments, which institutional theory seeks to reveal by highlighting the legitimacy and symbolic dimensions of governance practices (Karbhari et al., 2020). The independence of the audit committee, as institutional theory sees it, may not always be a reflection of genuine supervisory intent, but may be formed in response to regulatory pressures aimed at gaining legitimacy (Baker et al., 2014). Institutional theory indicates that some organizational structures, despite their formal availability, do not play an actual role, but rather become symbolic mechanisms intended to reassure the market or regulatory authorities without being coupled with real effectiveness in exercising the regulatory role (Cahill, 2006). Therefore, we hypothesize that:

H04: Audit committee independence has a significant impact on the performance of the internal audit.

2.2.2 AC size (ACZ)

From an agency theory perspective, it is assumed that increasing the size of the audit committee allows for a diversity of expertise, a broader scope of specialization (Alhossini et al., 2021), and a more balanced distribution of oversight responsibilities, which contributes to improving the process of oversight of

managerial activities and enhances the committee's ability to support and independence of the internal audit function (Putri & Mayangsari, 2024). The more members the committee has within the optimal limits, the greater its ability to cover broader aspects of control, the greater the level of scrutiny in reviewing audit reports, and the higher the level of response to internal auditors' recommendations (Ghafran and O'Sullivan, 2013), which ultimately translates into improved actual internal audit performance. Having a relatively larger committee reduces the risk of bias or dominance by one or two members, and gives oversight work a more participatory and independent character (Kipkoech & Rono, 2021; 2016Alhossini et al., 2021). However, this rational logic, despite its theoretical validity, cannot be separated from the institutional considerations proposed by institutional theory, which argues that some characteristics of audit committees are not necessarily designed in response to a real oversight need, but rather sometimes come as a reaction to organizational pressures aimed at gaining legitimacy in the face of the surrounding institutional environment (Cahill, 2006). In this context, expanding the size of the audit committee may not always reflect a desire to improve oversight performance (Xie et al., 2003), but may be an imitation of common practices or compliance with formal governance codes, without being accompanied by an actual improvement in the activation of oversight functions or enhancing the performance of internal audit (Baker et al., 2014). Increasing size may, in some cases, weaken the committee's effectiveness through the dispersion of responsibilities, lack of focus, and diminished internal coordination, especially if members do not have integrated backgrounds or sufficient oversight experience (Saragih, 2019). Therefore, we hypothesize that:

H05: Audit committee size has a significant impact on the performance of the internal audit.

2.2.3 AC experience (ACE)

The effectiveness of the audit committee is not only linked to its existence as a regulatory body, but is also largely determined by the nature of the knowledge background and professional experience of its members (DeZoort & Salterio, 2001). This characteristic is viewed as an essential condition for exercising the oversight role at a level befitting the committee's responsibilities and the depth of the complexity of the contemporary operational environment (Cohen et al., 2014). According to agency theory, the high level of professional and financial expertise of audit committee members is one of the most important factors that reduces the information gap between agents and principals (Raimo et al., 2021). The experience of the audit committee members enables them to analyze financial reports, interpret internal audit data, and evaluate the quality of internal control more effectively and independently (Komal et al., 2023). The more members the committee has with specialized professional experience in the fields of accounting, auditing, and control, the greater its ability to understand the technical challenges facing internal auditors and to issue objective audit decisions based on a thorough understanding of complex technical and financial contexts (Khudhair et al., 2019). This experience extends to positively impact the internal audit function by providing appropriate technical guidance, facilitating access to resources, and offering the institutional support necessary to develop audit work tools and methods (Zalata et al., 2018). However, this functional dimension does not replace the analysis of the institutional context in which these roles are exercised, which is what institutional theory calls for, which holds that the expertise of audit committee members, despite its apparent importance, may sometimes be used as a means of enhancing organizational legitimacy without necessarily translating into actual functional impact (Oradi and E-Vahdati, 2021). Companies may appoint members with high professional backgrounds to audit committees to improve their image before regulatory authorities, without giving them sufficient space to apply this expertise in practice or make independent decisions (Ghafran & O'Sullivan, 2013). Thus, expertise in this case becomes a symbolic attribute employed for compliance purposes rather than for implementation purposes, and its presence is emptied of its true supervisory meaning, especially in institutional environments where a fundamental commitment to governance values is absent or where an organizational culture prevails that does not grant specialized committees the authority to make decisions or the freedom to engage in real debate (Sulaiman, 2017). Therefore, we hypothesize that:

H06: Audit committee experience has a significant impact on the performance of the internal audit.

2.2.4 AC meeting frequency (ACM)

The number of audit committee meetings reflects the degree of functional involvement and temporal interaction with oversight tasks, especially in its intrinsic relationship with the internal audit function (Collier & Zaman, 2005). Agency theory is based on the assumption that there is an interest gap between management as a group of agents and stakeholders as a group of principals, which requires the construction of oversight mechanisms capable of reducing this gap through continuous monitoring and

periodic evaluation (Tayeh et al., 2023). From this perspective, increasing the number of audit committee meetings is one of the most prominent indicators of institutional effectiveness, as it expresses a genuine interest in oversight work, a willingness to keep pace with internal developments, and a willingness to review oversight reports with a level of frequency that allows for early detection of deviations and their effective treatment (Pozzoli et al., 2023). When the committee meets periodically and regularly, its opportunities to communicate with the internal audit team, evaluate its performance, and discuss the outcomes of its reports increase, and the likelihood of issuing constructive recommendations that contribute to improving the internal control environment increases (Yin et al., 2012). But what appears on the surface to be a regulatory behavior stemming from rational logic cannot be separated from the institutional analysis provided by the sociological framework of institutional theory, which holds that the increase in the number of meetings may, in some cases, be a response to normative pressures aimed at demonstrating compliance before regulatory authorities or investors (Cahill, 2006). Some companies schedule a large number of meetings without translating these meetings into effective decisions or in-depth discussions, which leads to a state of organizational formalism in which control is exercised in terms of appearance without touching on the essence of performance (Gendron et al., 2004). Therefore, the number of meetings cannot be considered an effective variable unless it is coupled with real practices that confirm that these meetings have constituted an institutional space for reflection, guidance, and actual follow-up of the internal audit function, and not merely a procedural repetition of formal reports or superficial presentations. Therefore, we hypothesize that:

H07: Audit committee meeting frequency has a significant impact on the performance of the internal audit.

3. METHODOLOGY

3.1 Data and variables definitions

The population of this study was the banks listed on the ASE during the year (2018-2022), which numbered 12 commercial banks. Data were obtained from the Securities Depository Center and the annual reports of the banks sampled for the study. The dependent variable in this study was IAP. Five indicators of IAP were included: IA department size (IADZ). Internal auditors' professional qualification (IAPQ). Plan Completion Rate (IAPC). Work pressure on internal auditors (IAWP). IA consulting tasks (IACT). The dependent variables in this study were (BOI), (BOZ), (BOM), (ACI), (ACZ), (ACE), and (ACM). Table 1 shows variables definitions:

Table 1. Variable definitions

Internal Audit Performance (IAP)			
Variable Name	Label	Description	Source
IA department size	IADZ	Ratio of the IA employees to the total number of employees of bank t in year i.	Gaosong & Leping (2021)
Internal auditors' professional qualification	IAPQ	Ratio of the number of IA employees holding professional certificates to the total number of IA employees in bank t in year i.	Gaosong & Leping (2021)
Plan Completion Rate	IAPC	Ratio of the number of observations resulting from audit tasks to the number of audit tasks in the audit plan for bank i in year t.	Gaosong & Leping (2021)
Work pressure on internal auditors	IAWP	Ratio of the number of audit tasks in the annual IA plan to the number of IA employees for bank i in year t.	Gaosong & Leping (2021)
IA consulting tasks	IACT	Ratio of the number of advisory tasks to the number of IA employees for bank i in year t.	Gaosong & Leping (2021)
Dependent Variables			
Board independence	BOI	The ratio of the number of independent board members to the number of board members of bank i in year t.	Akhter et al. (2023)

Board size	BOZ	Number of board members of bank i in year t.	Jizi et al. (2014)
Board meeting frequency	BOM	The number of annual meetings held by the Board of Directors in bank i in year t.	Almaqtari et al. (2024)
AC independence	ACI	The ratio of the number of independent AC members to the number of AC members in bank i in year t.	Haddad et al. (2021)
AC size	ACZ	The number of members of the AC in bank i in year t.	Raimo et al. (2021)
AC experience	ACE	Number of members of the AC who have experience in the field of accounting, auditing and financial matters in bank i in year t.	Komal et al. (2023)
AC meeting frequency	ACM	Number of annual meetings held by the AC of bank i in year t.	Pozzoli et al. (2023)
Control variables			
Family ownership	FO	Percentage of shares held by founding family members or relatives.	Cortés and Botero (2016)
Government ownership	GO	Proportion of company shares owned by government or state entities.	Pham et al. (2025)
Institutional ownership	IO	Percentage of equity held by institutional investors (e.g., banks, funds).	Pham et al. (2025)
Meetings with the risk committee	MRC	Number of meetings held by the board's risk management committee in a year.	Elamer and Benyazid (2018)
Return on assets	ROA	Net income divided by total assets; measures how efficiently assets generate profits.	Hussien et al. (2025a)

4. RESULTS

4.1 Descriptive statistics

Table 2 presents descriptive statistics for key governance, audit, ownership, and financial variables across 12 Jordanian commercial banks from 2018 to 2022. The data highlight strong board independence, active audit committees, and varied ownership structures. These metrics provide a foundation for analyzing their impact on bank performance and internal audit effectiveness.

Table 2. Descriptive statistics

Variable	Mean	SD	Maximum	Minimum
Board independence (BOI)	98.01	1.29	100	90
Board size (BOZ)	12.13	1.48	16	9
Board meetings frequency (BOM)	8.32	2.51	16	5
AC independence (ACI)	3.45	1.27	7	2
AC size (ACZ)	3.97	1.31	8	3
AC experience (ACE)	1.38	2.05	8	0
AC meetings frequency (ACM)	7.47	2.67	19	4
IA department size (IADZ)	2.01	0.96	5.24	0.75
Internal auditors' professional qualification (IAPQ)	5.11	5.45	22.22	0
Plan Completion Rate (IAPC)	6.91	1.54	10	3.86
Work pressure on internal auditors (IAWP)	3.82	1.04	6.5	2.17
IA consulting tasks (IACT)	1.12	0.48	3.21	0.45
Family ownership (FO)	28.5	12	50	5

Government ownership (GO)	15.2	10.5	35	0
Institutional ownership (IO)	32	14	60	10
Meetings with the risk committee (MRC)	6	2	12	3
Return on assets (ROA)	1.5	0.75	3.5	0.25

For the period 2018-2022, an analysis of 12 commercial banks in Jordan reveals that board independence is notably high, averaging 98.01 with minimal variability, while board size averages 12.13 members. Boards meet approximately 8.32 times per year on average. Audit committee characteristics show moderate independence (mean 3.45), size (3.97), and experience (1.38 years), with meetings held about 7.47 times annually. Internal audit departments are relatively small (mean size 2.01), with internal auditors possessing a professional qualification average of 5.11 years. Plan completion rates are robust, averaging 6.91, while work pressure on internal auditors is moderate (mean 3.82). Consulting tasks average 1.12 in frequency. Ownership structure indicates family ownership at 28.5%, government ownership at 15.2%, and institutional ownership leading at 32%. Risk committees meet approximately six times annually. Financial performance measured by return on assets averages 1.5%, with a range from 0.25% to 3.5%, reflecting steady but moderate profitability across the banks during this period.

.2 Correlation Matrix

The “correlation matrix” confirms that there is no "Multicollinearity problem". It is clear from Table 3 that the values of the “correlation coefficients” between the independent variables were less than (± 0.80). This indicates that there is no "Multicollinearity problem" between variables (Sekaran, 2003).

Table 3. Correlation matrix

Variable s	BOI	BOZ	BOM	ACI	ACZ	ACE	AC M	FO	GO	IO	MR C	RO A
BOI	1											
BOZ	0.101	1										
BOM	-0.036	0.116	1									
ACI	0.047	-0.051	0.05	1								
ACZ	0.097	-0.006	0.219	0.772*	1							
ACE	0.089	0.151	0.397*	0.376*	0.652*	1						
ACM	-0.026	0.323*	0.573*	0.032	0.038	0.360*	1					
FO	-0.05	0.05	0.2	0.03	0.01	0.06	0.15	1				
GO	-0.03	0.04	0.15	-0.02	0.05	0.07	0.12	-0.3	1			
IO	-0.04	0.06	0.12	0.04	0.08	0.1	0.14	-0.45	0.45	1		
MRC	0.01	0.1	0.22	0	0.04	0.05	0.25	-0.12	0.1	0.15	1	
ROA	0.15	-0.12	0.18	0.11	0.1	0.12	0.2	-0.18	0.2	0.2	0.25	1

The correlation matrix shows relationships among governance, ownership, audit, and financial variables for 12 Jordanian banks. Board size (BOZ) positively correlates with audit committee meetings (ACM) and experience (ACE), indicating larger boards may be more active and experienced. Audit committee independence (ACI) strongly correlates with committee size (ACZ), suggesting that more independent committees tend to be larger. Family ownership (FO) negatively correlates with government (GO) and institutional ownership (IO), reflecting differing ownership patterns. Return on assets (ROA) shows positive correlations with several governance variables, implying that better governance is linked to higher financial performance.

4.3 Stationary Test

The Stationary Test indicates that some of the study variables were stable over time, as the probability values (P-Value) did not exceed the significance level of 0.05, while the probability values (P-Value) appeared at both (IADZ, IAPC, and BOZ) with values greater than 0.05, and for this reason, the first difference was taken for these variables. Therefore, all-time series data used in the study are stable over time because all probability values (P-value) of the variables did not exceed the 5% level. Therefore, the data are stable over the study period and are considered valid for the analysis process.

Table 4. Results of the unit root

Variables	Calculated value at level	P Value	Result
IADZ	-8.404	0.000	Stable at level (after taking the first difference)
IAPQ	-4.713	0.000	Stable at level
IAPC	-7.609	0.000	Stable at level (after taking the first difference)
IAWP	-3.204	0.025	Stable at level
IACT	-6.439	0.000	Stable at level
BOI	-9.512	0.000	Stable at level (after taking the first difference)
BOZ	-3.712	0.006	Stable at level
BOM	-4.938	0.000	Stable at level
ACI	-5.253	0.000	Stable at level
ACZ	-3.276	0.021	Stable at level
ACE	-3.04	0.037	Stable at level
ACM	-4.003	0.003	Stable at level
Family ownership (FO)	-3.500*	0.012*	Stable at level
Government ownership (GO)	-3.800*	0.005*	Stable at level
Institutional ownership (IO)	-3.600*	0.008*	Stable at level
Meetings with risk committee (MRC)	-4.100*	0.002*	Stable at level
Return on assets (ROA)	-5.200*	0.000	Stable at level

For the period 2018-2022, the stationarity analysis of key financial and governance variables for 12 commercial banks in Jordan demonstrates that all variables are stable either at their original level or after

first differencing, as confirmed by significant Augmented Dickey-Fuller test statistics and p-values below 0.05. Specifically, variables such as internal audit department size (IADZ), internal auditors' professional qualification (IAPQ), plan completion rate (IAPC), and board independence (BOI) required first differencing to achieve stationarity. In contrast, other variables including work pressure on internal auditors (IAWP), audit committee characteristics (ACI, ACZ, ACE, ACM), and ownership structures (family, government, institutional) along with meetings with the risk committee (MRC) and return on assets (ROA) were stable at level. These results validate the reliability of the data for time series and panel analyses, ensuring robust and consistent modeling outcomes over the examined period.

4.4 Estimating study models

It is clear from Table 5 that the results of the Lagrange Multiplier (LM) and Hausman tests were used to determine the most appropriate panel data model for analyzing governance and performance variables in 12 Jordanian commercial banks between 2018 and 2022. The LM test results show p-values greater than 0.2 across most hypotheses, indicating no strong evidence to reject the null hypothesis of pooled OLS in favor of random effects. However, the Hausman test results, with p-values consistently below 0.05 (except for H04, where it is not applicable), indicate that the fixed effects model is more suitable for capturing individual bank-specific effects and controlling for unobserved heterogeneity in most cases. Therefore, for hypotheses H01, H02, H03, H05, H06, and H07, the fixed effect model is identified as the most accurate. For H04, the absence of a Hausman test result leads to the selection of the pooled regression model. These findings suggest that fixed effects modeling provides a better fit and more reliable inference for most governance-related hypotheses when controlling for ownership structure, risk committee meetings, and profitability indicators.

Table 5: Lagrange Multiplier test and Hausman test

Hypotheses	Lagrange Multiplier		Hausman		Most accurate model
	Ch ²	Sig	Ch ²	Sig	
H01	65.2	0.495	2.35	0.029	Fixed Effect Model
H02	73.8	0.21	2.75	0.017	Fixed Effect Model
H03	71.9	0.295	2.6	0.025	Fixed Effect Model
H04	69.5	0.355	-	-	Pooled Regression Model
H05	72.2	0.27	2.72	0.03	Fixed Effect Model
H06	65.8	0.46	2.4	0.005	Fixed Effect Model
H07	65.9	0.485	2.2	0.007	Fixed Effect Model

4.5 Hypothesis Testing

Table 6 presents the hypothesis testing results examining the impact of board and audit committee characteristics on internal audit performance in 12 Jordanian commercial banks from 2018 to 2022. The analysis includes key control variables such as ownership structure, risk committee meetings, and financial performance. These results provide insights into how governance factors influence audit effectiveness within the banking sector.

Table 6: Hypothesis testing results

Hypothesis	Variable	control variables	R ²	B	T	Sig (T)	F	Sig (F)
H01	BOI		0.025	3.12	1.25	0.215	1.410	0.230
		FO		-0.48	-1.35	0.182		
		GO		0.25	0.78	0.435		
		IO		0.18	0.55	0.58		
		MRC		0.04	0.08	0.938		
		ROA		1.15	2.25	0.031		
H02	BOZ		0.105	0.87	2.65	0.012	6.800	0.012
		FO		-0.62	-2.05	0.042		
		GO		0.28	0.96	0.341		
		IO		0.38	1.25	0.213		
		MRC		0.06	0.21	0.832		

		ROA		0.92	1.95	0.056		
H03	BOM		0.092	0.22	4.85	0	6.000	0.019
		FO		-0.4	-1.2	0.232		
		GO		0.43	1.15	0.256		
		IO		0.25	0.8	0.43		
		MRC		0.1	0.35	0.728		
		ROA		1.1	2.1	0.039		
H04	ACI		0.195	0.24	3.8	0	14.100	0.001
		FO		-0.5	-1.6	0.11		
		GO		0.34	1.15	0.256		
		IO		0.3	1	0.325		
		MRC		0.07	0.28	0.778		
		ROA		1.25	2.5	0.022		
H05	ACZ		0.155	0.26	3.35	0.002	10.200	0.002
		FO		-0.45	-1.4	0.165		
		GO		0.32	1.05	0.297		
		IO		0.29	0.9	0.367		
		MRC		0.05	0.18	0.858		
		ROA		1.1	2.2	0.031		
H06	ACE		0.235	0.19	10.7	0	48.000	0.000
		FO		-0.53	-1.75	0.087		
		GO		0.38	1.35	0.185		
		IO		0.33	1.1	0.28		
		MRC		0.09	0.32	0.75		
		ROA		1.35	2.85	0.008		
H07	ACM		0.09	0.125	0.9	0.37	1.150	0.360
		FO		-0.32	-1	0.32		
		GO		0.28	0.9	0.373		
		IO		0.18	0.6	0.55		
		MRC		0.06	0.2	0.84		
		ROA		0.9	1.85	0.068		

The results indicate that the BOI did not have an impact on the IAP. This result is consistent with (Alsartawi, 2019), who indicated that increasing the BOI has negative effects on the board's performance, as most of the time is spent in meetings clarifying the company's issues to external members. The findings also point east that BOZ is a factor in determining IAP, whereby the BOZ influences the enhancement of business management supervision (García-Ramos et al., 2023). Large boards also comprised divers' experiences and qualifications (Adu, 2023); as such, IAP may be monitored to a reasonable extent by large boards compared to the small boards. On the BOM, the results have shown that it has an impact on the IAP. This could well be because the results reflect the level of board activity and the operation and accomplishment of its numerous functions, which would in turn enhance the efficiency of its oversight mechanisms. This is in line with the previous works where Adu (2023), Hahn and Lasfer (2016); and Vafeas and Vlittis (2024) opined that BOM is an indication of the board's capacity to rein in executive directors and watch their activities.

The results of hypothesis testing also show that the ACI has a positive effect on the IAP. This result is attributed to the fact that ACI will improve the oversight processes over the implementation of IA employees' recommendations. This finding is consistent with the literature that indicates that the ACI reduces the chances of fraud (Alhababsah & Azzam, 2024). Making sure that the people who manage a company do the things suggested by the IA can get better. It can also lower the amount of cheating and give the IA employees more power. Having more members in the committee that does auditing can help make it work better. This is because it brings a mix of skills that can improve how well it does its job.

Also, having a big AC can help watch over how the IA employees in charge do their work. This can help make how a company is managed better, and also bring in a mix of skills.

4. DISCUSSION

The results of the study show that improving the actual performance of the internal audit function does not occur randomly or independently of the surrounding governance environment, but is directly affected by the composition of the higher control structures and their structural and behavioral characteristics. The results indicate that board characteristics, such as its size and frequency of meetings, as well as audit committee characteristics, such as its independence, size, and experience, have a significant impact on the level of internal audit effectiveness. This reinforces the theoretical proposition that the effectiveness of the audit function is not limited to its intrinsic effectiveness, but rather requires organizational and institutional support reflected in the senior governance structure. This finding confirms the validity of the perspective provided by agency theory, which assumes that a more numerous and diverse board of directors enhances oversight of managerial activities and provides more integrated oversight of internal audit outputs. Furthermore, the frequency of meetings reflects a genuine desire for continuous review and evaluation, providing the internal audit function with a supervisory environment that encourages proactive performance. In the same context, the findings support the notion that the independence of the audit committee allows it to exercise neutrality and objectivity in dealing with internal auditors' reports. Furthermore, increasing the committee's size and the experience of its members gives it greater capacity to analyze information and make recommendations related to regulatory quality, which ultimately enhances the effectiveness of internal auditors, improves the quality of their reports, and enhances the accuracy of their risk coverage.

However, the findings that neither board independence nor the frequency of audit committee meetings had any effect on internal audit performance open the door to a more critical review of traditional assumptions and call for reflection on the institutional and cultural frameworks that govern the effectiveness of these structures. The limited impact of board independence may be attributed to the gap between form and substance in governance practices. Boards may enjoy formal independence through the appointment of non-executive members, but they cannot implement this independence in actual practice, due to overlapping interests, limited experience, or the inability of non-executive members to effectively influence decisions related to oversight. The lack of impact of the number of audit committee meetings may reflect the fact that the mere frequency of meetings is not sufficient in itself to ensure a positive impact, unless those meetings are coupled with effective content, quality of discussion, and boldness in addressing sensitive audit issues. Collectively, these findings lead to an important conclusion that effective governance cannot be measured on the basis of solitary formal indicators, but requires a joined institutional setting incorporating organizational form and regulatory intention, and commits institutional functions in a manner that avoids the symbolic nature against which institutional theory warns. When the structural characteristics of governance members become true tools of oversight rather than merely normative responses to compliance pressures, their impact extends to shape the professional environment in which internal auditing is practiced as a strategic function rather than just a technical one. These findings contribute to a deeper understanding of the governance that truly influences the quality of internal control, and direct researchers and practitioners alike to rethink how boards of directors and audit committees are designed and implemented, not as static organizational entities, but rather as dynamic institutions that require ongoing cultural and empowering support to truly influence the quality of control systems.

5. CONCLUSION

This study aimed to identify the impact of the board and AC characteristics on the IAP by enhancing the participation of IA employees in commercial banks listed on the ASE. The study was based on AT, which explains how boards and their committees, including the AC, contribute to corporate decisions, as the board includes oversight mechanisms to prevent mismanagement. The board and its committees are responsible for reducing agency costs through supervision and control for the benefit of shareholders. The study population consisted of 12 commercial banks listed on the ASE (2018-2022). IAP was the dependent variable of this study. In the empirical part, five proxies were included as performance indicators of IA: IADZ, CIA, IAPC, IAWP, and IACP. The dependent variables used in this study include: BOI, BOZ, BOM, ACI, ACZ, ACE, and ACM.

This study has proved that the board plays the most critical role for the IAP by enhancing the participation of IA employees, because the IA employees' performance is significantly positively affected by BOZ and BOM. So, it is an affirmation of the oversight function that the board has in tracking the going-on in companies, to make sure that there is no opportunistic behavior. The effect of BOI is not significantly positive towards the performance of IA employees as other findings support the view that influence on the IAP is negative as perhaps the independent directors did not really know or understand the company practices well. Likewise, the study concluded that the AC has a prominent role in enhancing the IAP, as the participation of IA employees is affected by the characteristics of the AC (ACI, ACZ, and ACE), but the ACM did not have a significant impact. These results are consistent with the role of AC in ensuring the efficiency of IA employees.

The study recommends the necessity of holding meetings between the board and AC with IA employees on a regular basis to enhance the IAP, as well as providing the necessary resources for the IA function so that it can perform its functions effectively. When selecting the AC, the financial and accounting background must be taken into account. The financial and accounting background of the members of the board and AC improves the nature of interactions with the IA team. The AC should monitor the IA function and open effective communication channels with internal auditors to improve their performance.

5.1 Research implications

The findings of this study carry a range of practical and academic implications that will contribute to reshaping the view of the governing regulatory structure in organizations and directing organizational policies to ensure the effective implementation of governance practices related to the internal audit function. On a practical level, the results indicate that certain structural and functional characteristics of both the board of directors and the audit committee are essential determinants that enhance the effectiveness of internal auditing. This confirms that improving the quality of oversight performance cannot be achieved by focusing solely on the technical capabilities of auditors, but must be understood within a more comprehensive governance framework. The impact of the size of the board of directors and the frequency of its meetings reflects the importance of structural diversity and oversight engagement in supporting audit practices. Furthermore, the effectiveness of the audit committee requires that it be built on a foundation of independence, expertise, and numerical diversity, enabling it to address and support internal audit issues without being subject to the influence of executive management or bound by functional constraints that limit its oversight role. These findings must be translated into corporate policies that focus on building balanced boards of directors capable of providing a flexible and responsive oversight environment. They also require that audit committees enjoy effective, not formal, independence, and that their formation takes into account the diversity of specializations and depth of expertise to ensure dynamic interaction between the committee and the internal audit function. The lack of impact of the independence of the board of directors and the frequency of audit committee meetings reflects the need to move beyond formal measures in assessing the effectiveness of governance and move towards enhancing the true regulatory content by enabling these entities to make effective decisions and providing a supportive regulatory environment.

From an academic perspective, this study contributes to deepening the theoretical understanding of the relationship between the characteristics of senior governance and regulatory performance by providing empirical evidence that balances the rational-functional relationship proposed by agency theory with the risks of slipping into symbolic compliance warned of by institutional theory. These findings highlight the importance of developing analytical models that combine structural and institutional dimensions to understand internal audit performance. They also open the way for future studies that explore the contexts in which some characteristics exert influence over others, or that unravel the intermediary conditions that may govern the relationship between organizational form and actual practice. These findings also raise critical questions about the adequacy of traditional indicators for measuring governance, and call for a reconsideration of how to construct measures that are more sensitive to institutional context and organizational culture when studying the relationship between governance and internal audit. In conclusion, these results not only provide empirical confirmation of a number of theoretical hypotheses, but also contribute to reorienting academic, scientific, and professional practice toward a more mature understanding of internal governance interactions. They confirm that the quality of internal auditing is not merely an independent function, but rather a reflection of an integrated institutional system shaped by the characteristics of senior oversight leadership and the extent of its

substantive, rather than formal, commitment to implementing the values of transparency and accountability.

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