



Internal Auditors' Characteristics, Internal Audit Effectiveness, and Enterprise Risk Management in Jordan: A Resource-Based View

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ABSTRACT

Jordanian public-listed companies (PLCs) face significant internal, external pressures and risks that hinder their performance and survival in today's high-risk business environment. The relatively recent implementation of Enterprise Risk Management (ERM) adds to its ineffectiveness, further complicating the situation. This study aims to examine the impact of internal auditors' characteristics on ERM effectiveness and internal audit effectiveness (IAE) from the Resource-Based View (RBV) perspective. Additionally, it explores the relationship between IAE and ERM effectiveness, as well as the mediating role of IAE. A quantitative cross-sectional research design was utilised, collecting data from Jordanian PLCs via questionnaires, with 119 final responses analysed using SPSS and SmartPLS softwares. The findings indicate that internal auditors' characteristics positively impact both ERM effectiveness and IAE. Furthermore, IAE positively impacts ERM effectiveness and serves as a partial mediator in this relationship. These results align with the RBV, highlighting that internal auditors' characteristics and IAE as valuable internal resources that foster sustainable competitive advantage. Practical implications include raising companies' awareness of the critical importance of internal auditors' characteristics and IAE, thereby offering a cost-effective solution to enhance ERM effectiveness.

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INTRODUCTION

The Resource-Based View (RBV) theory emphasises the significance of internal organisational resources possessing specific and unique features in achieving sustainable competitive advantages for the company (Barney, 1991; Wernerfelt, 1984). The theory has frequently been employed in organisational research, particularly in studies evaluating company performance. Evidence suggests that when companies possess and utilise unique and valuable internal resources, such as human capital, organisational culture, and innovation, they enhance overall company performance within the competitive landscape (Hamzah et al., 2022). Moreover, in today's unpredictable and dynamic business environment, characterised by volatility, uncertainty, complexity, and ambiguity (VUCA) (Jaber and Shah, 2023), the global economy is significantly impacted, prompting companies to shift their focus from external to internal resources to maintain competitiveness (Hamzah et al., 2022; Pangestuti et al., 2023).

Jordan's economy is not spared either, particularly given its vulnerability and sensitivity, compounded by the country's strategic location in the Middle East. Additionally, challenges such as regional conflicts in neighbouring countries, fluctuating oil prices, the burden of hosting refugees, mounting debt, and the absence of abundant natural resources and industrial production pose formidable hurdles to Jordan's economic stability. As key players in the country's economy, Jordanian public-listed companies (PLCs) have demonstrated a strong interest in voluntarily implementing internal audit (IA) and Enterprise Risk Management (ERM) functions, adhering to the standards set by the Institute of Internal Auditors (IIA) and Committee of Sponsoring Organizations of the Treadway Commission (COSO), surpassing the requirements outlined in the Jordanian corporate governance code and instructions (Altanashat et al., 2019; Jordanian Securities Commission, 2017).

IA is a critical internal resource that supports the audit committee, which is now mandatory in most PLCs globally. IA resources, such as the characteristics (objectivity and competence) and effectiveness of internal auditors', represent intangible resources assets that are distinctive and difficult for competitors to replicate (Abu Kwaik et al., 2023; Grima et al., 2023). These unique IA resources, particularly in the sphere of modern corporate governance and the expanded role of the IA function, can enhance ERM effectiveness within a competitive landscape (Hamzah et al., 2022; Ismail et al., 2023). Additionally, IAE has the potential to strengthen the impact of internal auditors' characteristics on ERM effectiveness. When these characteristics are present and reinforced, the IA function becomes more effective, thereby enhancing ERM effectiveness.

An effective ERM enables companies to mitigate VUCA, reduce costs, enhance sustainable competitive advantage, and improve performance (Jaber and Shah, 2023; Pangestuti et al., 2023). Nevertheless, PLCs in Jordan still struggle to achieve ERM effectiveness. These challenges include the absence of an ERM compliance system, ERM being in its early stages without integration into company processes, the perception of ERM as a crisis-oriented approach, a lack of expertise, certifications, and training among risk management (RM) staff, resistance to change and a lack of commitment, as well as the understudied and underreported nature of ERM (Altanashat et al., 2019). Despite the growing significance of IA and ERM in contemporary business landscapes, a notable research gap remains, particularly in the context of developing countries. Most notably, limited studies have explored the nuanced impact of IA on ERM effectiveness. Furthermore, previous research has overlooked the mediating role of IAE in the relationship between internal auditors' characteristics and ERM effectiveness, as well as the utilisation of the RBV theoretical perspective. Additionally, there remains ambiguity, a lack of knowledge, and issues regarding how to enhance ERM effectiveness at a lower cost. Lastly, internal auditors in several companies still lack the appropriate characteristics that enable them to enhance IAE and ERM effectiveness.

Accordingly, this study addresses the following research questions in the context of Jordanian PLCs and from the RBV theory perspective:

1. How do internal auditors' characteristics impact ERM effectiveness and IAE?
2. How does IAE impact ERM effectiveness?
3. How does IAE mediate the relationship between internal auditors' characteristics and ERM effectiveness?

This study is significant as it explores the dynamic interaction between internal auditors' characteristics and the influence of IAE on ERM effectiveness in Jordanian PLCs from the RBV theory perspective, a relatively under-researched context. It contributes to existing knowledge by enriching ERM effectiveness studies, uncovering the mediating impact of IAE on the relationship between internal auditors' characteristics and ERM effectiveness, and extending the application of RBV theory. Additionally, it provides valuable insights for practitioners, highlighting the importance of a company's internal valuable resources in fostering sustainable competitive advantage, offering a cost-effective solution to enhance ERM effectiveness, and raising awareness about the importance of both internal auditors possessing high-level characteristics and the effectiveness of the IA function.

The remaining sections in this study are structured as follows: Section 2 presents the literature review and hypotheses development; Section 3 outlines the study methodology; Section 4 presents the analysis and results; Section 5 offers a discussion. Finally, Sections 6 and 7 present the conclusion of the study, implications, limitations, and future research.

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Resource-Based View Theory

Literature on IA has extensively employed agency theory to explain IA as a monitoring mechanism designed to mitigate agency costs, address information asymmetry, and alleviate agency conflicts within companies (Goodwin-Stewart and Kent, 2006; Kzykeyeva, 2022). However, when discussing internal auditors' characteristics and the impact of IAE on ERM effectiveness, it is more reliable to examine these aspects from the perspective of the RBV theory, as they represent internal resources of the company. The RBV theory, originating from the management field, was developed and refined from 1984 to 1995 through the works of scholars such as Barney and Wernerfelt (Barney, 1991; Wernerfelt, 1984). This theory underscores the pivotal role of resources and capabilities in generating value for companies. It posits that sustainable competitive advantage stems from possessing and effectively leveraging resources that are valuable, rare, inimitable, and non-substitutable. Companies are viewed as entities composed of a collection of varying resources acquired, developed, and extended over time (Ahmad, 2015; Yang and Konrad, 2011). This diversity suggests the presence of rare and superior resources, granting a sustainable advantage to companies that possess them, as opposed to those that do not. Additionally, scholars generally agree that intangible resources hold more significant potential for sustainable competitive advantage because they are challenging for competitors to replicate, unlike tangible resources (Ahmad, 2015; Barney, 1991; Grant, 1991).

To date, only a few studies have utilised the RBV theory. For instance, Ismail et al. (2023); Hamzah et al. (2022); Ahmad (2015) employed the RBV theory to explore the relationship between the total costs incurred for IA functions and ERM effectiveness, the interplay between ERM, human capital, and organisational performance, and the characteristics of IA and IAE, respectively. These studies highlighted that IA represents a valuable internal resource for companies, enabling them to gain a competitive advantage. A common criticism of RBV theory is its predominant focus on internal factors while neglecting external factors such as market conditions and industry structure (Kraaijenbrink et al., 2010). However, in this study, this limitation is not an issue because the focus is solely on the internal resources of companies, including IA, IAE, and ERM effectiveness.

Enterprise Risk Management Effectiveness

In today's VUCA business environment, ERM plays a crucial role due to the limitations of traditional RM in managing evolving risks (Pangestuti et al., 2023). ERM offers substantial advantages through its comprehensive and systematic approach (Hamzah et al., 2022). According to COSO (2004:2), ERM is defined as "a process, led by the entity's board of directors, management and other personnel, integrated into strategy setting and across the enterprise, designed to identify potential events that may affect the entity, and manage risk to be within its risk appetite, to provide reasonable assurance regarding the achievement of entity objectives". Previous studies indicate that effective ERM delivers numerous benefits such as cost reduction, competitive advantage, and improved performance and value (Jaber and Shah, 2023; Hamzah et al., 2022). However, many companies in developing countries encounter significant challenges in implementing ERM,

including cultural factors, top management commitment, resource constraints, inadequate systems, and risk-related issues (Fraser and Simkins, 2016; Ui-Hameed et al., 2020). These obstacles hinder ERM effectiveness, which entails the ability of a company's RM practices to identify, assess, mitigate, and manage risks in alignment with strategic objectives (Togok et al., 2014).

Effective ERM, as outlined by COSO (2004) requires the integration of all its components: internal environment, objective setting, event identification, risk assessment, risk response, control activities, information and communication, and monitoring. This holistic approach ensures that risks are managed within the company's risk appetite. Achieving ERM effectiveness is a multifaceted process requiring resource allocation and collaboration across all internal parties. Recently, IA has emerged as a crucial determinant for the successful implementation and effectiveness of ERM (Abdurrahman et al., 2020; Ismail et al., 2023).

Internal Auditors' Characteristics

Researchers classify and measure IA characteristics differently, highlighting the absence of a universal standard. This study focuses primarily on characteristics related to internal auditors as individuals, specifically objectivity and competence. Objectivity was assessed based on internal auditors' ability to perform their duties without interference, their exclusion from evaluating specific operations involving friends or relatives to avoid conflicts of interest, their avoidance of non-audit functions, and their maintenance of integrity while fulfilling their responsibilities (Singh et al., 2021). Competence was evaluated based on internal auditors' academic and professional qualifications, relevant work experience in IA, and commitment to continuous professional development (Alzeban and Gwilliam, 2014).

According to RBV theory, Hamzah et al. (2022) stated that internal human capital is a valuable resource that can provide a competitive advantage. Ahmad (2015); Alkebsi and Aziz (2017) also asserted that internal auditors' characteristics are valuable resources, contributing to competitive advantages by enhancing IAE and IA performance in RM, control, and governance, and overall company performance. Thus, internal auditors' objectivity and competence are valuable and rare resources that can help achieve sustainable competitive advantage by enhancing ERM effectiveness and IAE. The IIA also emphasises the importance of internal auditors consistently maintaining specific characteristics in its International Professional Practices Framework (IPPF) standards (Standards No. 1100 and 1200) and position papers (2004 and 2009), primarily objectivity and competence, to provide professional judgment, carry out audit responsibilities effectively, and add value to company processes, particularly in enhancing ERM effectiveness (IIA, 2004, 2009, 2017).

Previous studies have highlighted the lack of research on how internal auditors' characteristics impact ERM effectiveness. However, Abu-Saleem et al. (2019); Dabari and Saidin (2016) demonstrated that the objectivity and competence of internal auditors significantly influence ERM in Jordanian PLCs and Nigerian banks. They emphasised that internal auditors' objectivity and competence are crucial for delivering impartial risk assessments, identifying risks, providing strategic recommendations, and optimising resource allocation. In contrast, Iskandar et al. (2018) found minimal impact of internal auditors' competence on ERM in Malaysian PLCs, suggesting lower levels of competence among auditors. Meanwhile, previous studies have extensively investigated the impact of internal auditors' characteristics on IAE. For example, Lien and Viet (2023); Singh et al. (2021) highlighted that internal auditors' objectivity and competence significantly influence IAE in companies across various developing countries. They emphasised that these characteristics ensure neutrality, avoid conflicts of interest, enhance task performance, and build credibility. In contrast, Tahajuddin and Kertali (2018); Yanti et al. (2022) discovered that in Indonesia and Malaysia, these characteristics do not significantly affect IAE due to their minimal presence and ineffective utilisation.

The studies indicate that internal auditors' characteristics significantly influence ERM and IAE in developing countries, similar to developed countries. They emphasise the importance of auditors exhibiting appropriate characteristics to fulfil their responsibilities and provide valuable insights. However, some studies found minimal influence in certain developing countries due to low levels and ineffective utilisation of these characteristics. Building on this discussion and the RBV theory perspective, the following hypotheses are proposed:

H1: The characteristics of internal auditors positively impact the ERM effectiveness.

H2: The characteristics of internal auditors positively impact the IAE.

Internal Audit Effectiveness

The measurement of IAE lacks standardised criteria. However, previous studies have measured IAE through questions evaluating whether IA achieves its goals as outlined in the audit charter. This study measured IAE based on the alignment of IA tasks with expectations, the IA department's awareness and adjustments to company needs, positive external auditor evaluations, clear and professional IA reports, and the impact of IA findings on management decisions (Alqaraleh et al., 2022). From the perspective of RBV theory, Alkebsi and Aziz (2017); Ismail et al. (2023) asserted that an effective IA function represents a valuable internal resource for the company. It can transform a short-term competitive advantage into a sustained one by improving the accuracy and timeliness of information. Thus, IAE is a valuable and rare resource that can contribute to achieving sustainable competitive advantage by enhancing ERM effectiveness. The IIA also emphasises the importance of maintaining an effective IA function in its IPPF standards (IIA, 2017). However, companies must recognise that merely complying with these standards is only the initial stage. Continuous investment, support, and evaluation are essential to ensure IA functions fulfil their role of providing independent and objective assurance, adding value, and helping companies achieve their objectives, particularly ERM effectiveness (Abu Kwaik et al., 2023; Ui-Hameed et al., 2020).

Previous studies have highlighted a gap in the research on how IAE impacts ERM effectiveness. However, Dabari and Saidin (2016); Ismail et al. (2023); Ui-Hameed et al. (2020) discovered that the implementation and effectiveness of ERM in Nigerian banks and Malaysian PLCs are significantly influenced by IAE. These studies demonstrate that an effective IA function can meet stakeholder expectations, enhance reputation and trust, improve risk identification and assessment, and reinforce its authority and legitimacy in enhancing ERM implementation and effectiveness. In contrast, Ludin et al. (2017) determined that IAE does not significantly impact RM implementation in the Malaysian public sector. Their finding is justified by the notion that RM in the Malaysian public sector is still in its infancy, and the IA function exhibits minimal rather than advanced levels of effectiveness. Additionally, Jaber et al. (2024) observed that internal auditors in Jordanian PLCs still focus more on core roles in ERM rather than on legitimate consulting and advisory roles, which may diminish the IAE and its impact on ERM.

Moreover, previous studies have overlooked the role of IAE as a mediator between internal auditors' characteristics and ERM effectiveness. However, some research has highlighted the mediating role of IAE in the relationship between corporate governance mechanisms. For example, Lonto et al. (2023); Sosthenes et al. (2022); Sulistiani et al. (2023) identified that IAE mediates the relationship between IA independence and fraud prevention, internal auditor competence and external audit reliance on IA work, and IA independence and good governance, respectively. These studies emphasised that coercive and normative pressures enhance IA effectiveness by adhering to professional norms and standards, ensuring the IA function adds value to other company processes. Additionally, they noted that high-level characteristics in internal auditors should initially reflect in IA effectiveness, ultimately bridging influence and adding value to other functions and processes. In contrast, Lonto et al. (2023) observed that IAE does not mediate the relationship between professional competence and skills and fraud prevention in Indonesian local governments. Furthermore, Teoh et al. (2017) discovered that IAE does not moderate the relationship between ERM implementation and company performance in Malaysia. These findings are attributed to internal auditors' lack of appropriate educational qualifications, particularly in accounting, which affects their ability to identify errors in accounting systems and financial reports. Furthermore, IA functions in these contexts are minimally effective due to their recent establishment as part of listing requirements, limiting their ability to add value to other company processes.

The studies indicate that IAE significantly influences ERM implementation and effectiveness, as well as mediates and moderates the relationships between various corporate governance mechanisms in developing countries, similar to developed countries. These findings underscore the importance of achieving and supporting an effective IA function to optimise resource allocation, provide valuable insights to stakeholders, and add value to other functions and processes within the company. However, some studies have identified minimal influence in certain developing countries due to low levels of effectiveness and the recent establishment of the IA function. Building on this discussion and the RBV theory perspective, the following hypotheses are proposed:

H3: The IAE positively impact the ERM effectiveness.

H4: The IAE positively mediate the relationship between internal auditors' characteristics and ERM effectiveness.

METHODOLOGY

This study employed a quantitative cross-sectional design, targeting all 170 operating PLCs in Jordan across financial, service, and industrial sectors as of 31 December 2022. A census sampling technique, as recommended by Martínez-Mesa et al. (2016), was used to minimise nonresponse impact and enhance generalisability.

A structured questionnaire, divided into introduction, demographics, and variable-related items, was used to collect primary data. The questionnaire underwent rigorous validation by practitioners and academics, followed by a pilot test. The study focused on a single respondent from each company, with PLCs as the unit of analysis and the IA head, team leader, and senior auditor as the units of observation. A total of 220 questionnaires were distributed to 170 Jordanian PLCs from April 1 to June 15, 2023, via email, Google Forms, and in-person. This yielded 119 usable responses, resulting in a 54% response rate, and a 70% coverage rate, in line with Sekaran and Bougie (2016).

The study encompassed three primary variables and three control variables. Refer to Table 1 for details on variables measurement.

Table 1 Variables Measurement

Variables	Factors	Items	Items Type	Source
Internal auditors' characteristics	Objectivity	4		Singh et al. (2021)
	Competence	4	Likert scale	Alzeban and Gwilliam (2014)
IAE	**	5	Likert scale	Alqaraleh et al. (2022)
	Internal environment	3		
	Objective setting	3		
ERM effectiveness	Event identification	3		
	Risk assessment	3	Likert scale	Togok et al. (2014)
	Risk response	3		
	Control activities	3		
	Information and communication	3		
Company size	Monitoring	3		
	**	1	Open-ended	Pangestuti et al. (2023)
Industry type	**	1	Categorical-ended	Goodwin-Stewart and Kent (2006)
Big four audit engagement	**	1	Categorical-ended	Abdurrahman et al. (2020)

Note: Likert scale, ranging from 1 (Least Extent) to 7 (Highest Extent); **= No factors

For data analysis, SPSS 26 was used for data cleaning and preparation, and SmartPLS 3 was employed to test variable relationships using Structural Equation Modelling (SEM). SEM through SmartPLS was chosen for its capacity to construct sophisticated models, its lack of data distribution assumptions, and its suitability for smaller sample sizes (Hair et al., 2019).

ANALYSIS AND RESULTS

Data Screening and Examinations

The collected data underwent rigorous screenings for missing values, outliers, linearity, homoscedasticity, common method bias, non-response bias, and response bias before proceeding to descriptive and inferential analyses (DeSimone et al., 2015; Oppenheim, 2000).

Respondents and Companies Profiles

Table 2 shows the profiles of both respondents and companies. Among the respondents, the majority are Senior Auditors (62.2%), male (76.5%), hold bachelor's degrees (66.4%), and have 5-10 years of experience (57.1%), indicating a competent, experienced, and well-educated group. Regarding the companies, most are in

the financial sector (50.5%), over 20 years old (61.3%), possess assets exceeding 20 million Jordanian dinars (71.4%), and are audited by non-Big Four auditors (57.1%).

Table 2 Respondents and Companies Information

Demographic Variable	Categories	Frequency	Percent%
	Respondents		
Current Position	Head of Internal Audit	9	7.5
	Team Leader	36	30.3
	Senior Auditor	74	62.2
Gender	Total	119	100
	Male	91	76.5
	Female	28	23.5
Education Level	Total	119	100
	Bachelor	79	66.4
	Master	36	30.3
Experience as an Auditor	PhD	4	3.3
	Total	119	100
	5-10	68	57.1
Industry Type	11-15	26	21.9
	Above 15	25	21.0
	Total	119	100
Company Age	Companies		
	Financial sector	60	50.5
	Services sector	33	27.7
Company Size/ Total Assets	Industrial sector	26	21.8
	Total	119	100
	10-20	46	38.7
Company External Audit	21-30	27	22.6
	Above 30	46	38.7
	Total	119	100
Company External Audit	Below 5 M/JOD	9	7.6
	5-10 M/JOD	12	10.1
	11-20 M/JOD	13	10.9
Company External Audit	Above 20 M/JOD	85	71.4
	Total	119	100
	Big four audits	51	42.9
Company External Audit	Non-big four audits	68	57.1
	Total	119	100

Descriptive Statistics

Table 3 shows the descriptive statistics for the study variables and their factors. ERM effectiveness has the highest mean (5.66) and is ranked first, followed by IAE (4.77) in second place, and internal auditors' characteristics (4.54) in third. Most variables and factors have standard deviations between 0.59 and 1.36, averaging 0.93, indicating good consistency among the surveyed companies.

Table 3 Variables Descriptive Statistics

Variables and Factors	Min	Max	Mean	Std. D	Rank
Internal Auditors Characteristics (IAOCH)	2.88	5.88	4.54	0.70	3
Objectivity (O)	3	5.75	4.48	0.78	
Competence (C)	2.75	6	4.60	0.84	
Internal Audit Effectiveness (IAE)	2.20	6	4.77	1.28	2
Enterprise Risk Management Effectiveness (ERME)	4.17	6.83	5.66	0.73	1
Internal Environment (IE)	4.33	7	5.90	0.81	
Objective Setting (OS)	4.33	6.63	5.69	0.59	
Event Identification (EI)	4	7	5.83	0.89	
Risk Assessment (RA)	2.67	6	5.38	1.36	
Risk Response (RR)	3	7	5.46	1.07	
Control Activities (CA)	3.33	6	5.85	1.17	
Information and Communication (IC)	3	7	5.90	1.06	
Monitoring (M)	4	6.67	5.24	0.81	

Measurement Model

The study's measurement model comprises both higher-order and lower-order constructs. The higher-order constructs include internal auditors' characteristics, IAE, and ERM effectiveness. Internal auditors' characteristics consist of two lower-order constructs, while ERM effectiveness comprises eight lower-order constructs. These constructs were interconnected using a reflective-reflective approach with the repeated indicators method for specification and estimation, as proposed by Sarstedt et al. (2019).

The evaluation of the measurement model proceeded in two stages. In the first stage, factor loadings, variance inflation factor (VIF), Cronbach's alpha ($C\alpha$), composite reliability (CR), and average variance extracted (AVE) were assessed. Table 3 illustrates the results from the first stage of the measurement model evaluation. Firstly, all variable items demonstrate factor loadings above the recommended threshold of 0.50 (Hair et al., 2019), indicating strong positive effects on their respective constructs. Secondly, the table displays VIF values below the threshold of 5.00 (Hair et al., 2014), suggesting no significant issues with multicollinearity in this study. Thirdly, the table indicates that $C\alpha$ and CR values for the study variables exceed the recommended thresholds of 0.70 (Hair et al., 2014), demonstrating their reliability. Regarding AVE, two out of three variables exhibit levels above 0.50, as suggested by Hair et al. (2019). Although ERM effectiveness shows a slightly lower AVE, this is not concerning since the associated lower-order constructs achieve AVE levels exceeding 0.64. Overall, the AVE values indicate that the study items collectively explain over 50% of the variance in the constructs (Hair et al., 2019).

Table 4 First Stage Evaluation

Construct	Lower Order Construct	Items	Factor Loading	VIF	$C\alpha$	CR	AVE
IAOCH	O	O1	0.88	2.90	0.88	0.91	0.55
		O2	0.91	3.62			
		O3	0.92	3.63			
		O4	0.90	3.12			
	C	C1	0.80	2.00			
		C2	0.89	2.56			
		C3	0.82	1.77			
		C4	0.63	1.25			
IAE		IAE1	0.84	2.37	0.91	0.93	0.78
		IAE2	deleted	deleted			
		IAE3	0.93	3.26			
		IAE4	0.90	3.14			
		IAE5	0.86	2.38			
ERME	IE	IE1	0.89	2.81	0.93	0.94	0.43
		IE2	0.93	3.37			
		IE3	0.93	2.84			
	OS	OS1	deleted	deleted			
		OS2	0.90	1.62			
		OS3	0.90	1.62			
	EI	EI1	0.89	2.73			
		EI2	0.90	2.81			
		EI3	0.76	1.34			
	RA	RA1	deleted	deleted			
		RA2	0.90	1.81			
		RA3	0.93	1.81			
	RR	RR1	0.78	1.77			
		RR2	0.92	2.27			
		RR3	0.68	1.39			
	CA	CA1	0.95	2.80			
		CA2	0.95	2.80			
		CA3	deleted	deleted			
	IC	IC1	0.72	1.40			
		IC2	0.92	2.60			
IC3		0.86	2.13				
M	M1	0.78	1.65				
	M2	0.93	2.81				
	M3	0.79	1.97				

In the second stage, discriminant validity is evaluated through cross-loadings, the Fornell-Larcker criterion, and the Heterotrait-Monotrait ratio (HTMT). Discriminant validity assesses the extent to which a construct is distinct from others within the structural model (Hair et al., 2019). The cross-loading results indicate that most items have stronger loadings on their intended constructs, except for four items: IAE2, CA3, OS1, and RA1, which exhibited strong loadings on different constructs. To address potential discriminant validity issues, these four items were removed (Hair et al., 2019). The Fornell and Larcker Criterion results demonstrate that the square root of AVE for each construct exceeds its correlation with other constructs, as recommended by Hair et al. (2014). Additionally, Table 5 illustrates that the HTMT ratio, which compares construct correlations, is below the recommended threshold of 0.90 by Hair et al. (2019). In summary, discriminant validity has been successfully established based on these evaluations.

Table 5 Heterotrait-Monotrait Ratio (HTMT)

	C	CA	EI	IAE	IC	IE	M	O	OS	RA	RR
C											
CA	0.50										
EI	0.68	0.66									
IAE	0.77	0.60	0.77								
IC	0.54	0.61	0.70	0.82							
IE	0.74	0.54	0.60	0.66	0.53						
M	0.60	0.57	0.77	0.72	0.64	0.55					
O	0.61	0.50	0.63	0.69	0.47	0.45	0.42				
OS	0.44	0.53	0.66	0.44	0.51	0.55	0.78	0.24			
RA	0.46	0.44	0.55	0.69	0.51	0.59	0.71	0.34	0.63		
RR	0.56	0.53	0.69	0.72	0.74	0.67	0.58	0.48	0.70	0.62	

Structural Model

After assessing the measurement model, the next step is to evaluate the structural model to measure the significance of the hypotheses. This includes examining the path coefficient (β), coefficient of determination (R^2), and predictive relevance (Q^2) following Hair et al. (2014). Subsequently, an analysis of the mediation and control variables was conducted. These analyses were performed using SmartPLS with a bootstrapping test (10,000 subsamples, two-tailed, 5% significance level).

Firstly, concerning the path coefficients, Table 6 presents the findings on this study's direct relationships (H1-H3). Internal auditors' characteristics ($\beta=0.15$, $P<0.05$) and IAE ($\beta=0.61$, $P<0.01$) show significant relationships with ERM effectiveness, supporting H1 and H3. Additionally, internal auditors' characteristics ($\beta=0.69$, $P<0.01$) show significant relationships with IAE, supporting H2.

Table 6 Path Coefficient Assessment

Hypotheses	Original Sample	T Statistics	P Values	Decision
H1: IAOCHE \rightarrow ERME	0.15	2.06	0.04**	Supported
H2: IAOCHE \rightarrow IAE	0.69	10.56	0.00*	Supported
H3: IAE \rightarrow ERME	0.61	9.19	0.00*	Supported

Note: * $p<0.01$; ** $p<0.05$

Secondly, the assessment includes R^2 and Q^2 . R^2 represents the model's power or accuracy in explaining variability in the dependent variable, with ERM effectiveness at 67% and IAE at 57%, indicating medium predictive power (Hair et al., 2019). Meanwhile, Q^2 assesses model goodness-of-fit, with ERM effectiveness at 28% and IAE at 43%, reflecting medium accuracy (Hair et al., 2019).

Thirdly, regarding mediation analysis, it consisted of two steps: (1) total effect analysis and (2) indirect effect analysis. These steps were conducted to evaluate mediation hypothesis H4. Table 7 shows that the total effect of internal auditors' characteristics on ERM effectiveness is significant ($\beta=0.57$, $P<0.01$). Importantly, the table also demonstrates that the indirect effect of internal auditors' characteristics on ERM effectiveness is significant ($\beta=0.42$, $P<0.01$). These results indicate that IAE plays a complementary partial mediating role in the relationship between internal auditors' characteristics and ERM effectiveness. Hence, H4 is supported.

Table 7 Mediation Analysis H4

	Original Sample	T-Statistics	P-Values
Total effects: IAOCHE \rightarrow ERME	0.57	9.61	0.00*
Indirect effect: IAOCHE \rightarrow IAE \rightarrow ERME	0.42	6.38	0.00*

Note: * $p<0.01$; ** $p<0.05$

Finally, regarding the control variable analysis, Table 8 demonstrates that all the study's control variables positively affect ERM effectiveness and IAE. However, only company size exhibits a positive and significant impact on ERM effectiveness ($\beta=0.17$, $P<0.01$) and IAE ($\beta=0.10$, $P<0.05$). These findings show a consistent interest in ERM effectiveness and IAE among Jordanian PLCs, regardless of their sector type or external audit provider. Nevertheless, larger companies display a heightened interest in ERM effectiveness and IAE.

Table 8 Control Variable Analysis

Relationship	Original Sample	T-Statistics	P-Values
Company size->ERME	0.17	4.06	0.00*
Industry type->ERME	0.03	0.51	0.61
BIG 4 audit->ERME	0.07	1.18	0.24
Company size->IAE	0.10	2.29	0.02**
Industry type->IAE	0.09	1.53	0.13
BIG 4 audit->ERME	0.07	1.00	0.32

Note: *p<0.01; **p<0.05

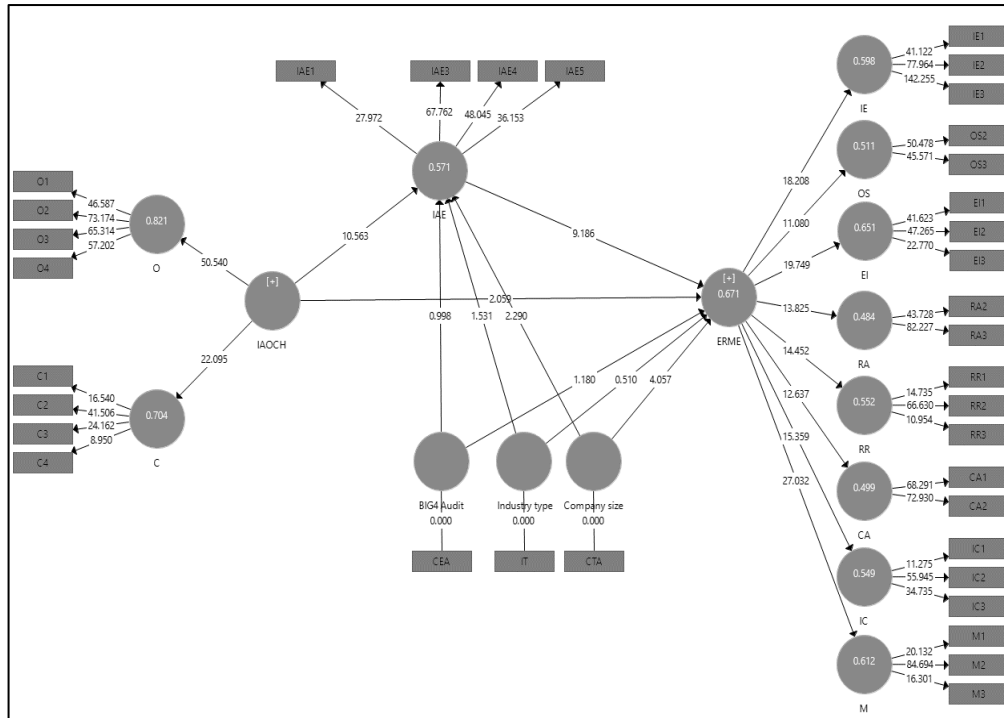


Figure 1 Measurement Model

DISCUSSION

This section discusses the findings related to the four hypotheses presented in this study. Regarding H1 and H2, as shown in Table 6, internal auditors' characteristics significantly and positively affect ERM effectiveness ($\beta = 0.15, P < 0.05$) and IAE ($\beta = 0.69, P < 0.01$) in Jordanian PLCs. These results are consistent with findings from Abu-Saleem et al. (2019); Lien and Viet (2023); Singh et al. (2021), while contrasting with findings from Iskandar et al. (2018); Yanti et al. (2022). The study indicates that internal auditors' characteristics enhance risk identification, assessment, and mitigation processes, and improve the accuracy, reliability, and insightfulness of audits, thereby strengthening ERM effectiveness and IAE. It also emphasises the pivotal role of these characteristics in empowering internal auditors to fulfil their responsibilities effectively, optimise resource allocation, and enhance ERM effectiveness. Additionally, it highlights the significance of internal auditors' characteristics as a primary determinant of ERM effectiveness and IAE.

Moreover, the findings of this study (H1 and H2) support the RBV theory, which asserts that a company's internal resources and capabilities are crucial for attaining competitive advantage and organisational success. The data demonstrate that internal auditors with strong professional characteristics represent valuable, rare, inimitable, and non-substitutable resources. These characteristics significantly enhance ERM effectiveness and IAE, emphasising their roles as strategic resources and valuable human capital. This highlights the imperative to invest in developing these resources to secure sustainable competitive advantage.

In terms of H3 and H4, Table 6 reveals that IAE significantly positively affects ERM effectiveness ($\beta = 0.61, P < 0.01$) and partially mediates the relationship between internal auditors' characteristics and ERM effectiveness ($\beta = 0.42, P < 0.01$) in Jordanian PLCs. These findings are consistent with Ismail et al. (2023);

Sulistiani et al. (2023); Ui-Hameed et al. (2020), yet differ from the findings of Lonto et al. (2023); Ludin et al. (2017). The study indicates that IAE enhances the function's reputation and operational trust, strengthens its ability to identify and evaluate risks effectively and proactively, and underscores its authority and legitimacy in enhancing RM, thereby bolstering ERM effectiveness. It also emphasises the pivotal role of IAE as a primary determinant of ERM effectiveness. Additionally, the study indicates that IAE acts as a mediator, linking internal auditors' characteristics with overall effectiveness of ERM. This implies that when internal auditors possess appropriate characteristics and the company maintains an effective IA function, ERM effectiveness is significantly enhanced compared to situations where the IA function is less effective.

Moreover, the findings of this study (H3 and H4) support the RBV theory, which posits that a company's internal resources and capabilities are crucial for achieving competitive advantage and organisational success. The data demonstrate that an effective IA function is a valuable, rare, inimitable, and non-substitutable resource. This function significantly enhances ERM effectiveness and the relationship between internal auditors' characteristics and ERM effectiveness, emphasising its role as a strategic resource. This highlights the importance of investing in the development of this resource to achieve sustainable competitive advantage. Additionally, it emphasises that synergies can be achieved by combining different resources (internal auditors' characteristics and IAE). This synergy is a fundamental aspect of the RBV theory, which argues that the value of resources is maximised when they are effectively integrated.

CONCLUSION

Jordan's strategic location in the Middle East combined with its limited natural resources and manufacturing capacity, renders its PLCs more vulnerable to internal and external factors in a VUCA environment. The relatively recent implementation of ERM further complicates the situation, contributing to its ineffectiveness. This study examines the impact of internal auditors' characteristics on ERM effectiveness and IAE, the relationship between IAE and ERM effectiveness, and the mediating role of IAE from the theoretical lens of RBV theory in Jordanian PLCs.

The findings reveal that internal auditors' characteristics positively impact ERM effectiveness and IAE, IAE positively impacts ERM effectiveness, and IAE serves a partial mediating role in this relationship. These findings confirm the RBV theory perspective, which suggests that a company's internal resources and capabilities, including internal auditors' characteristics and IAE, characterised by valuable, rare, inimitable, and non-substitutable qualities, are crucial for achieving a competitive advantage. The study's findings, in conjunction with RBV theory, underscore the importance of internal auditors possessing the necessary characteristics and enhancing overall IAE. By doing so, companies can significantly improve their RM practices, particularly ERM effectiveness.

IMPLICATIONS, LIMITATIONS, AND FUTURE RESEARCH

The present study provides several theoretical and practical implications. Theoretically, this study enriches the literature on ERM effectiveness and IA integration within the context of developing countries. It identifies weaknesses in ERM effectiveness in PLCs and provides novel evidence of IAE's mediating role between internal auditors' characteristics and ERM effectiveness. Furthermore, it extends the application of RBV theory in IA and RM, highlighting the importance of valuable internal resources for a company. Practically, the study raises awareness among companies about the critical significance of internal auditors' characteristics and IAE as strategic internal resources, emphasising their role in achieving a sustainable competitive advantage through enhanced ERM effectiveness. This study also underscores the necessity of integrating IA with ERM as a cost-effective solution to enhance ERM effectiveness. Additionally, it stresses the importance of maintaining an effective IA function within the company to maximise the impact of internal auditors' characteristics on ERM effectiveness. The findings can also guide policymakers and regulators in Jordan to establish regulations mandating the IA function and ensuring its effectiveness to safeguard companies, contribute to economic growth, and foster a positive investment culture.

Nevertheless, this study has certain limitations that should be acknowledged. It relies solely on quantitative methodology, measures ERM effectiveness using only the components of the COSO 2004 ERM framework, includes companies from both financial and non-financial sectors due to the small population size, and focuses on only one developing country. These limitations may affect the generalisability of the findings to other countries. Based on these limitations, the study recommends that future research should: utilise qualitative or mixed methods to gather detailed data on ERM effectiveness and IA integration; employ advanced measures such as the COSO 2017 ERM framework principles; focus on specific sectors and multiple developing countries; and explore the moderating role of audit and risk committee characteristics on the relationships in this study.

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